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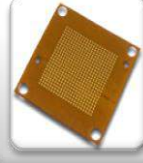
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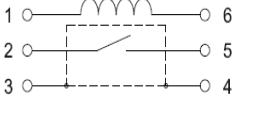
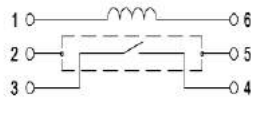
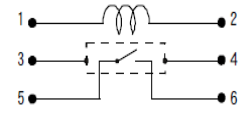
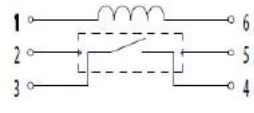
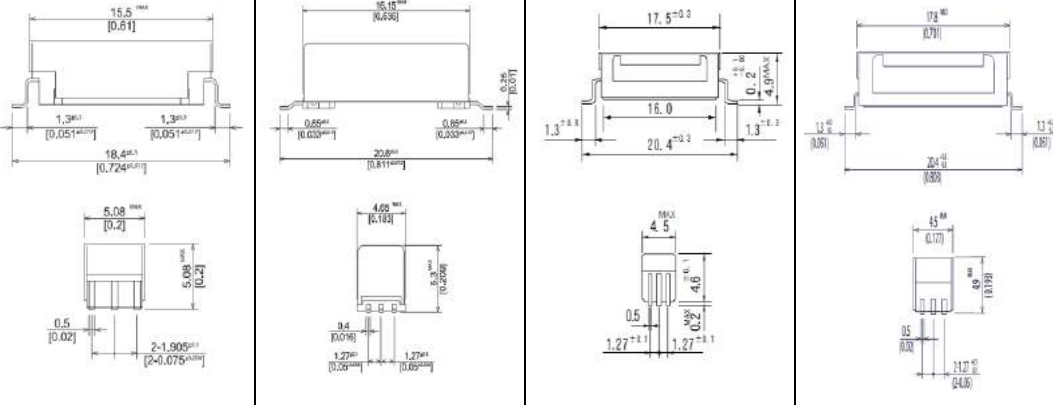
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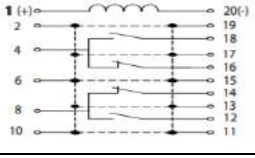
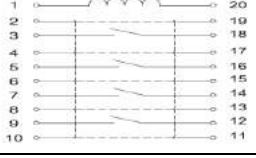
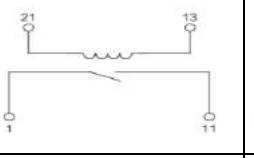
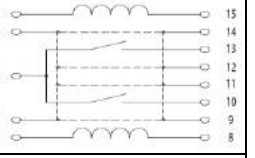
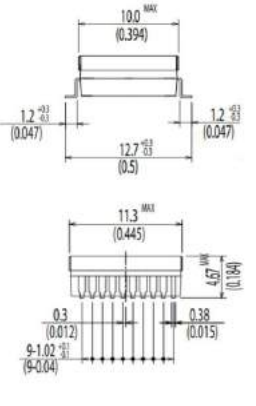
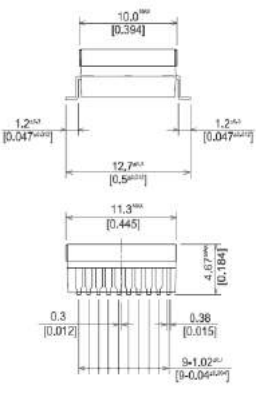
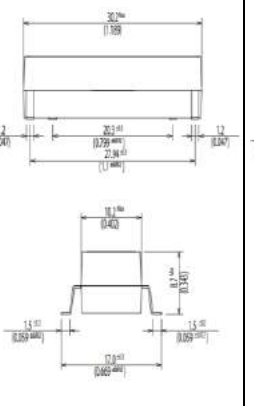
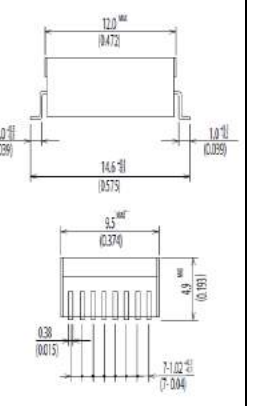
TPM Part / No.	2H-□4WJ	2R-□4G		9H-□4G	
SANYU Part / No.			CJ-E1○○RF		
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	7.9 x 3.8 x 3.6	10.1 x 4.6 x 3.6	9.1 x 4.6 x 3.6	11.1 x 3.8 x 3.6	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	3.3 V / 60Ω 5 V / 100Ω	3.3 V / 90Ω 5 V / 150Ω	3.3 V / 90Ω 5 V / 150Ω	3.3 V / 100Ω 5 V / 200Ω
	Contact Rating	3 W	3 W	10 W	10 W
	Contact Current	0.2 Amp	0.2 Amp	0.5 Amp	0.5 Amp
	Carry Current	0.2 Amp	0.2 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	100 VDC	100 VDC	100 VDC	100 VDC
	Contact Voltage	150 VDC	150 VDC	200 VDC	200 VDC
	Contact Resistance	200 mΩ	200 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ¹² Ω min.	10 ¹² Ω min.	10 ¹² Ω min.
	Operate Time	0.25 mS	0.25 mS	0.3 mS	0.3 mS
	Release Time	0.05 mS	0.05 mS	0.05 mS	0.05 mS
	Operating temperature				
Reflow temperature		260 °C max for 60sec.	260 °C max for 60sec.	260 °C max for 60sec.	
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	
High-frequency response	7.0GHz @ -2dB	8.0GHz @ -3dB	7.0GHz @ -3dB	4.0GHz @ -3dB	
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					





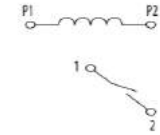
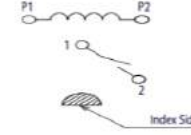
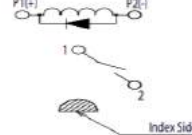
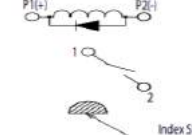
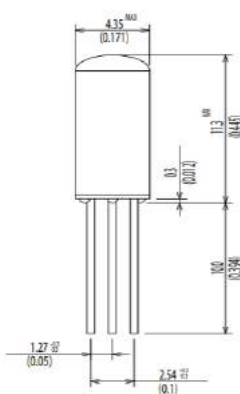
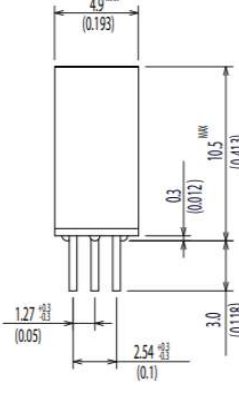
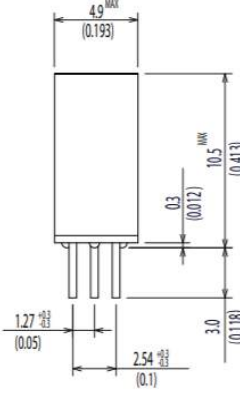
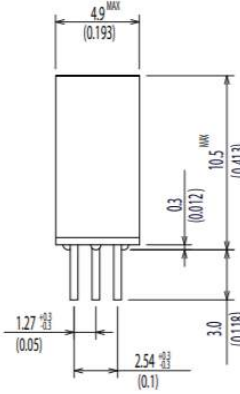
TPM Part / No.	1H-□4J	1D-14G	1EH-14G-63	1EH-12G1	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	10.1 x 4.6 x 4.5	12.7 x 4.6 x 4.5	12.7 x 4.6 x 4.5	12.7 x 4.6 x 4.5	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	3.3 V / 80Ω 5 V / 150Ω 12 V / 500Ω	5 V / 150Ω	5 V / 200Ω	5 V / 250Ω
	Contact Rating	10 W	5 W	10 W	10 W
	Contact Current	0.5 Amp	0.2 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	0.75 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	100 VDC	50 VDC	100 VDC	100 VDC
	Contact Voltage	200 VDC	150 VDC	200 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ¹¹ Ω min.	10 ¹² Ω min.	10 ¹¹ Ω min.
	Operate Time	0.3 mS	0.3 mS	0.3 mS	0.3 mS
	Release Time	0.05 mS	0.05 mS	0.05 mS	0.05 mS
	Operating temperature				
Reflow temperature	260 °C max for 60sec.	230 °C max for 10sec.	250 °C max for 40sec.	250 °C max for 40sec.	
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	
High-frequency response	4.0GHz @ -3 dB	4.0GHz @ -3 dB	6.0GHz @ -3 dB	4.0GHz @ -3 dB	
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	17EH-1A□2G-01	14E-1A12G-56		10H-1A□2G	
SANYU Part / No.		MSG-105AKE	MSG-105AK		
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	18.4 x 5.0 x 5.0	20.4 x 4.6 x 5.3	20.4 x 4.5 x 4.9	20.4 x 4.5 x 4.9	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	1 Form A
	Coil Rating Voltage	5 V / 200Ω 12 V / 825Ω	5 V / 160Ω	5 V / 160Ω	5 V / 160Ω 12 V / 600Ω
	Contact Rating	30 W	10 W	10 W	30 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.3 Amp	1.0 Amp	1.0 Amp	1.3 Amp
	Switching Voltage	200 VDC	100 VDC	100 VDC	200 VDC
	Contact Voltage	300 VDC	200 VDC	200 VDC	300 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ¹² Ω min.	10 ¹¹ Ω min.	10 ¹² Ω min.
	Operate Time	0.4 mS	0.5 mS	0.5 mS	0.5 mS
	Release Time	0.2 mS	0.2 mS	0.3 mS	0.3 mS
	Operating temperature				
Reflow temperature	245 °C max for 40sec.	230 °C max for 10sec.	230 °C max for 10sec.	260 °C max for 60sec.	
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1500×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1500×10⁶ (R負荷)	
High-frequency response	2.0GHz @ -3 dB	2.5GHz @ -3 dB	2.5GHz @ -3 dB	2.5GHz @ -3 dB	
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				





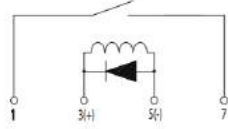
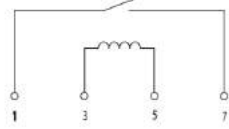
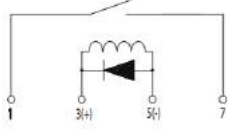
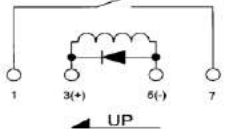
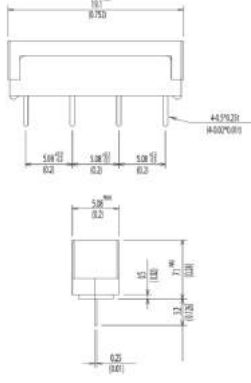
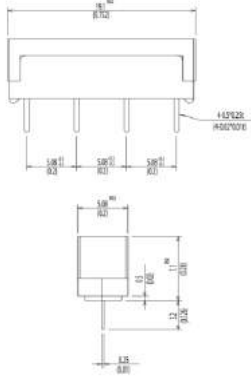
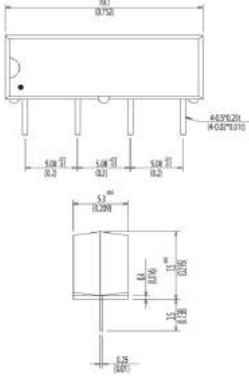
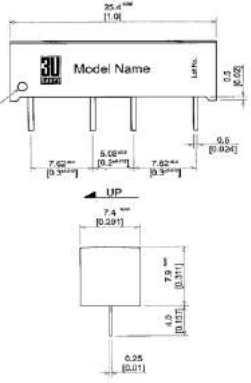
TPM Part / No.	1EH-2A□2J		3H-2A□6J	10H-2A□2G	
SANYU Part / No.			MG-E2○○AH		
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	10.1 x 5.0 x 8.2	12.7 x 6.7 x 4.9	10.8 x 6.7 x 5.1	20.4 x 7.0 x 4.9	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	2 Form A	2 Form A	2 Form A	
	Coil Rating Voltage	3.3 V / 70Ω 5 V / 110Ω 12 V / 550Ω	3.3 V / 70Ω 5 V / 110Ω 12 V / 550Ω	3.3 V / 70Ω 5 V / 110Ω 12 V / 550Ω	5 V / 140Ω 12 V / 600Ω
	Contact Rating	10 W	10 W	10 W	30 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	1.0 Amp	1.0 Amp	1.3 Amp
	Switching Voltage	100 VDC	100 VDC	100 VDC	200 VDC
	Contact Voltage	200 VDC	200 VDC	200 VDC	300 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹¹ Ω min.	10 ¹² Ω min.	10 ¹² Ω min.
	Operate Time	0.5 mS	0.5 mS	0.5 mS	0.5 mS
	Release Time	0.5 mS	0.5 mS	0.5 mS	0.5 mS
	Operating temperature				
Reflow temperature	245 °C max for 40sec.	260 °C max for 60sec.	260 °C max for 60sec.	260 °C max for 60sec.	
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 1500x10⁶ (R負荷)	
High-frequency response	3.0GHz @ -3 dB	4.5GHz @ -3 dB	5.0GHz @ -3 dB	2.5GHz @ -3 dB	
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	190H-2A□2J-80	1H-1T□3G	3H-□5G	190H-1T□2J	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	27.0 x 11.5 x 8.9	12.7 x 5.0 x 7.9	12.7 x 7.6 x 4.9	27.0 x 11.5 x 8.9	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	2 Form A	1 Form C (1A+1B)	1 Form C (1A+1B)	
	Coil Rating Voltage	5 V / 150Ω	3.3 V / 70Ω 5 V / 110Ω 12 V / 550Ω	3.3 V / 70Ω 5 V / 110Ω 12 V / 550Ω	5 V / 150Ω 12 V / 800Ω 24 V / 3000Ω
	Contact Rating	50 W	10 W	10 W	50 W
	Contact Current	1.0 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	2.8 Amp	1.0 Amp	1.0 Amp	2.8 Amp
	Switching Voltage	350 VDC	100 VDC	100 VDC	350 VDC
	Contact Voltage	400 VDC	200 VDC	200 VDC	400 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹² Ω min.	10 ¹² Ω min.	10 ¹¹ Ω min.
	Operate Time	1.5 mS	0.5 mS	0.5 mS	1.5 mS
	Release Time	1.0 mS	0.5 mS	0.5 mS	1.5 mS
	Operating temperature				
Reflow temperature	260 °C max for 60sec.	260 °C max for 60sec.	260 °C max for 60sec.	260 °C max for 60sec.	
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 300×10 ⁶ (R負荷)	DC.1.0V,10mA 300×10 ⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	
High-frequency response	1.0GHz @ -3dB	3.0GHz @ -3 dB	3.5GHz @ -3 dB	1.0GHz @ -3dB	
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	1H-2T□8G	1H-4A□8G	113D-1A□0N2G	1H-2M□2G	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	12.7 x 11.3 x 4.6	12.7 x 11.3 x 4.6	30.2 x 17.0 x 8.7	14.6 x 9.5 x 4.9	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	2 Form C (A+B)	4 Form A	2 Form A	
	Coil Rating Voltage	5 V / 110Ω 12 V / 550Ω	5 V / 110Ω 12 V / 550Ω	5 V / 80Ω 12 V / 500Ω	5 V / 150Ω 12 V / 500Ω
	Contact Rating	10 W	10 W	100 W	10 W
	Contact Current	0.5 Amp	0.5 Amp	1.0 Amp	0.5 Amp
	Carry Current	1.0 Amp	1.0 Amp	2.8 Amp	1.0 Amp
	Switching Voltage	100 VDC	100 VDC	1000 VDC	100 VDC
	Contact Voltage	200 VDC	200 VDC	3000 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ¹¹ Ω min.	10 ¹² Ω min.	10 ¹² Ω min.
	Operate Time	0.3 mS	0.3 mS	1.5 mS	0.5 mS
	Release Time	0.2 mS	0.2 mS	1.5 mS	0.5 mS
	Operating temperature				
Reflow temperature	260 °C max for 60sec.	260 °C max for 60sec.	260 °C max for 60sec.	260 °C max for 60sec.	
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	
High-frequency response	4.0GHz @ -3 dB	8.0GHz @ -3dB		2.0GHz @ -3dB	
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	5D-1A10N0	6D-1A□0N0	6D-1A□0D0		
SANYU Part / No.	MF-105NL	MFS-1○○N	MFS-1○○D	MFS-E1○○D	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	4.3 x 4.3 x 11.3	4.9 x 4.9 x 10.5	4.9 x 4.9 x 10.5	4.9 x 4.9 x 10.5	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	5 V / 150Ω	5 V / 150Ω 12 V / 600Ω	5 V / 150Ω 12 V / 600Ω	5 V / 150Ω 12 V / 600Ω
	Contact Rating	5 W	5 W	5 W	10 W
	Contact Current	0.2 Amp	0.2 Amp	0.2 Amp	0.5 Amp
	Carry Current	0.75 Amp	0.75 Amp	0.75 Amp	1.0 Amp
	Switching Voltage	50 VDC	50 VDC	50 VDC	100 VDC
	Contact Voltage	150 VDC	150 VDC	150 VDC	250 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	0.3 mS	0.3 mS	0.3 mS	0.3 mS
	Release Time	0.3 mS	0.3 mS	0.3 mS	0.3 mS
	Operating temperature				
	Reflow temperature				
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	
High-frequency response		2.0GHz @ -3dB	2.0GHz @ -3dB	2.0GHz @ -3dB	
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				





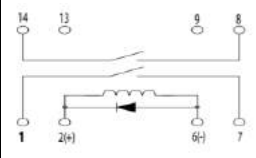
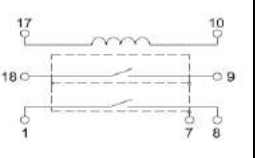
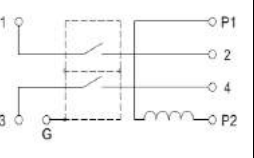
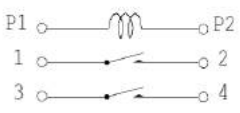
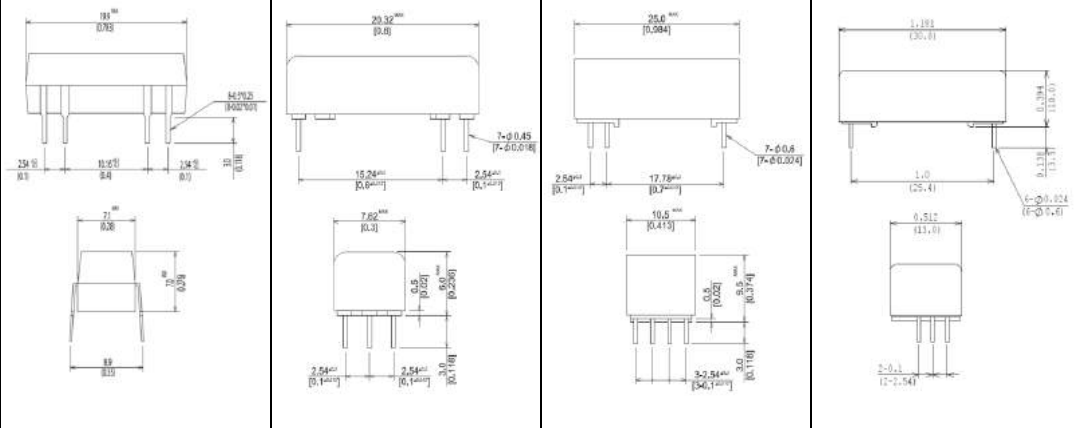
TPM Part / No.		7D-1A□2N0	101E-1A□0N2		
SANYU Part / No.		MFS-E1○○G	JS-105S-02	SU-1○○S	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm		4.9 x 4.9 x 10.5	12.7 x 5.0 x 6.4	15.2 x 3.8 x 7.0	17.7 x 5.0 x 5.0
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	1 Form A
	Coil Rating Voltage	5 V / 150Ω 12 V / 600Ω	5 V / 160Ω 12 V / 600Ω	5 V / 500Ω 12 V / 800Ω	5 V / 160Ω 12 V / 600Ω
	Contact Rating	10 W	5 W	30 W	10 W
	Contact Current	0.5 Amp	0.2 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	0.75 Amp	1.3 Amp	1.0 Amp
	Switching Voltage	100 VDC	50 VDC	200 VDC	100 VDC
	Contact Voltage	250 VDC	150 VDC	250 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	100 mΩ	150 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹² Ω min.	10 ¹¹ Ω min.
	Operate Time	0.3 mS	0.3 mS	0.3 mS	0.35 mS
	Release Time	0.3 mS	0.1 mS	0.15 mS	0.25 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life		DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 1500x10⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)
High-frequency response		2.0GHz @ -3dB			
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	102R-1A20D2-40	102E-1A□0N2			
SANYU Part / No.			J-105XD	J-14324YAD	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	19.1 x 5.0 x 7.1	19.1 x 5.0 x 7.1	19.1 x 5.3 x 7.0	25.4 x 7.4 x 7.9	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	12 V / 1000Ω	5 V / 500Ω 12 V / 1000Ω	5 V / 500Ω	24 V / 1440Ω
	Contact Rating	10 W	30 W	10 W	50 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	1.0 Amp
	Carry Current	1.6 Amp	1.3 Amp	1.0 Amp	5.2 Amp
	Switching Voltage	200 VDC	200 VDC	100 VDC	500 VDC
	Contact Voltage	300 VDC	300 VDC	200 VDC	2000 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	100 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ¹² Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	0.35 mS	0.3 mS	0.5 mS	2.0 mS
	Release Time	0.25 mS	0.2 mS	0.5 mS	2.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1500×10⁶ (R負荷)	DC.1.0V,10mA 1500×10⁶ (R負荷)	DC.1.0V,10mA 100×10 ⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	20R-1A□1N1		20H-1A□1N1-60	110D-1A□0D0	
SANYU Part / No.		S-E1○○○			
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	20.3 x 5.0 x 6.1	20.3 x 5.0 x 6.1	20.3 x 5.0 x 6.1	19.9 x 7.1 x 7.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	5 V / 160Ω 12 V / 600Ω 24 V / 1800Ω	5 V / 160Ω 12 V / 600Ω	5 V / 160Ω 12 V / 600Ω	5 V / 500Ω 12 V / 1000Ω
	Contact Rating	10 W	30 W	10 W	10 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	1.3 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	200 VDC	200 VDC	500 VDC	100 VDC
	Contact Voltage	300 VDC	300 VDC	1500 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	200 mΩ	150 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹¹ Ω min.	10 ¹¹ Ω min.	10 ¹⁰ Ω min.
	Operate Time	0.35 mS	0.35 mS	0.5 mS	1.0 mS
	Release Time	0.25 mS	0.2 mS	0.2 mS	1.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1500×10⁶ (R負荷)	DC.1.0V,10mA 500×10 ⁶ (R負荷)	DC.1.0V,10mA 100×10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				





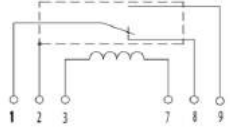
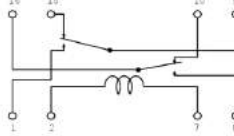
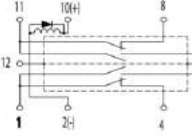
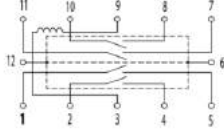
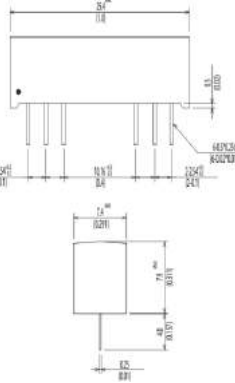
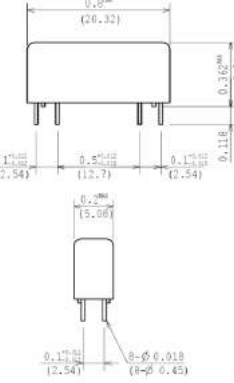
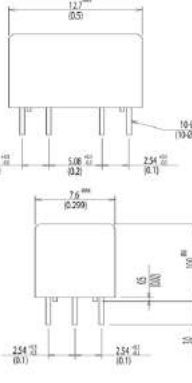
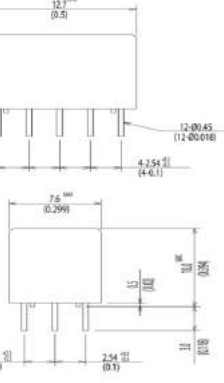
TPM Part / No.	100D-1A□0N2-60				
SANYU Part / No.	J-16205YK	SL-162○○	SL-162○○GB	UPM-162○○YHL	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	25.8 x 7.8 x 7.9	35.5 x 6.3 x 6.8	35.5 x 6.3 x 6.8	30.2 x 9.5 x 10.2	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	5 V / 220Ω 12 V / 800Ω 24 V / 3000Ω	5 V / 180Ω 12 V / 1050Ω	5 V / 180Ω 12 V / 1050Ω	5 V / 120Ω 12 V / 600Ω 24 V / 1800Ω
	Contact Rating	100 W	100W	100W	100 W
	Contact Current	1.0 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Carry Current	2.8 Amp	2.5 Amp	2.5 Amp	2.8 Amp
	Switching Voltage	1000 VDC	1000 VDC	1000 VDC	1000 VDC
	Contact Voltage	2500 VDC	1500 VDC	1500 VDC	2500 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹⁰ Ω min.	10 ¹² Ω min.	10 ¹⁰ Ω min.
	Operate Time	1.0 mS	1.0 mS	1.0 mS	1.5 mS
	Release Time	1.0 mS	1.0 mS	1.0 mS	1.5 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.				23R-2A□0N2	
SANYU Part / No.	MFS-E2A○○○	UF-2A○○	SU-2○○S		
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	7.6 x 4.9 x 11.0	10.1 x 5.0 x 15.5	17.7 x 7.6 x 5.5	20.3 x 5.0 x 9.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	2 Form A	2 Form A	2 Form A	
	Coil Rating Voltage	5 V / 110Ω 12 V / 550Ω	5 V / 180Ω 12 V / 680Ω	5 V / 150Ω 12 V / 600Ω	5 V / 175Ω 12 V / 1000Ω
	Contact Rating	10 W	10 W	10 W	10 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	100 VDC	200 VDC	100 VDC	200 VDC
	Contact Voltage	200 VDC	200 VDC	200 VDC	250 VDC
	Contact Resistance	170 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹¹ Ω min.	10 ¹² Ω min.
	Operate Time	0.5 mS	0.5 mS	0.35 mS	0.5 mS
	Release Time	0.5 mS	0.5 mS	0.25 mS	0.15 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10⁶ (R負荷)	
High-frequency response	2.0GHz @ -3dB				
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	110D-2A□0D0	20R-2A□1N1		51D-2A□0N2	
SANYU Part / No.			UPM-2○○CSA		
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	19.9 x 7.1 x 7.0	20.3 x 7.6 x 6.0	25.0 x 10.5 x 9.5	30.48 x 13.0 x 10.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	2 Form A	2 Form A	2 Form A	2 Form A
	Coil Rating Voltage	5 V / 140Ω 12 V / 500Ω	5 V / 150Ω 12 V / 600Ω 24 V / 2000Ω	5 V / 125Ω 12 V / 500Ω 24 V / 2000Ω	5 V / 150Ω 12 V / 750Ω 24 V / 3000Ω
	Contact Rating	10 W	10 W	50 W	50 W
	Contact Current	0.5 Amp	0.5 Amp	1.0 Amp	1.0 Amp
	Carry Current	1.0 Amp	1.6 Amp	2.8 Amp	2.0 Amp
	Switching Voltage	100 VDC	200 VDC	350 VDC	350 VDC
	Contact Voltage	200 VDC	300 VDC	400 VDC	500 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹¹ Ω min.	10 ¹⁰ Ω min.	10 ¹² Ω min.
	Operate Time	1.0 mS	0.5 mS	1.5 mS	1.0 mS
	Release Time	1.0 mS	0.3 mS	1.0 mS	1.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 1500x10⁶ (R負荷)	DC.1.0V,10mA 1000x10⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.		6D-1C□0N0			
SANYU Part / No.		UFM-284○○FD		MFS-E1T○○G	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm		12.7 x 10.16 x 30.0	5.0 x 5.0 x 19.5	7.6 x 4.9 x 11.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	2 Form A	1 Form C	1 Form C (1A+1B)	
	Coil Rating Voltage	5 V / 100Ω 12 V / 550Ω 24 V / 2200Ω	5 V / 150Ω 12 V / 500Ω	5 V / 110Ω 12 V / 550Ω	5 V / 130Ω 12 V / 680Ω
	Contact Rating	50 W	3 W	10 W	10 W
	Contact Current	2.0 Amp	0.2 Amp	0.5 Amp	0.5 Amp
	Carry Current	5.0 Amp	0.5 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	400 VDC	100 VDC	100 VDC	200 VDC
	Contact Voltage	1000 VDC	200 VDC	200 VDC	200 VDC
	Contact Resistance	100 mΩ	150 mΩ	170 mΩ	150 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	1.0 mS	1.0 mS	0.5 mS	1.0 mS
	Release Time	0.5 mS	2.0 mS	0.5 mS	1.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life		DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 50x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	
High-frequency response				2.0GHz @ -3dB	
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	20D-1C□0N1		21D-1E□2E0	110D-1C□0D0	
SANYU Part / No.		ST-E1T○○BD-40	ST-1○○LDA		
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	20.3 x 5.0 x 6.0	20.3 x 5.0 x 9.0	20.3 x 5.0 x 9.5	19.9 x 7.6 x 7.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form C	1 Form C (1A+1B)	1 Form C	
	Coil Rating Voltage	5 V / 150Ω 12 V / 900Ω	5 V / 230Ω 12 V / 1000Ω	5 V / 90Ω 12 V / 600Ω 24 V / 1800Ω	5 V / 200Ω 12 V / 500Ω
	Contact Rating	3 W	10 W	10 W	3 W
	Contact Current	0.25 Amp	0.5 Amp	0.5 Amp	0.2 Amp
	Carry Current	0.5 Amp	1.3 Amp	1.0 Amp	0.5 Amp
	Switching Voltage	100 VDC	200 VDC	100 VDC	30 VDC
	Contact Voltage	200 VDC	300 VDC	200 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹² Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	1.0 mS	0.5 mS	1.0 mS	2.0 mS
	Release Time	2.0 mS	0.5 mS	1.0 mS	2.2 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 100×10 ⁶ (R負荷)	DC.1.0V,10mA 1500×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 50×10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	100D-1C11N0	22D-2C□0N0	7E-2E□2D1-01	7E-4A□2N1-01	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	25.4 x 7.4 x 7.9	20.3 x 5.0 x 9.2	12.7 x 7.6 x 10.0	12.7 x 7.6 x 10.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form C	2 Form C (A+B)	4 Form A	
	Coil Rating Voltage	5 V / 230Ω	5 V / 175Ω 12 V / 1000Ω	5 V / 150Ω 12 V / 600Ω	5 V / 150Ω 12 V / 600Ω
	Contact Rating	3 W	3 W	10 W	10 W
	Contact Current	0.2 Amp	0.2 Amp	0.5 Amp	0.5 Amp
	Carry Current	0.5 Amp	0.5 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	100 VDC	100 VDC	100 VDC	100 VDC
	Contact Voltage	200 VDC	200 VDC	200 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹¹ Ω min.	10 ¹¹ Ω min.
	Operate Time	1.0 mS	1.5 mS	0.5 mS	0.5 mS
	Release Time	2.0 mS	2.0 mS	0.5 mS	0.5 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 50×10 ⁶ (R負荷)	DC.1.0V,10mA 50×10 ⁶ (R負荷)	DC.1.0V,10mA 300×10 ⁶ (R負荷)	DC.1.0V,10mA 300×10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.			23E-3A20N2-52	
SANYU Part / No.	SU-B205S	UPM-184○○YG		
外觀形狀 Appearance				
尺寸 Size (LxWxH) mm	17.7 x 7.6 x 5.5	30.4 x 9.5 x 10.0	20.3 x 5.0 x 9.0	
回路接續圖 Figure.(TOP VIEW)				
電氣規格	Contact Form	2 Form B	1 Form A	3 Form A
	Coil Rating Voltage	5 V / 150Ω	5 V / 100Ω 12 V / 400Ω 24 V / 1600Ω	12 V / 700Ω
	Contact Rating	10 W	50 W	10 W
	Contact Current	0.5 Amp	2.0 Amp	0.5 Amp
	Carry Current	1.0 Amp	5.0 Amp	1.0 Amp
	Switching Voltage	100 VDC	400 VDC	100 VDC
	Contact Voltage	200 VDC	1000 VDC	250 VDC
	Contact Resistance	150 mΩ	100 mΩ	150 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹² Ω min.	10 ¹² Ω min.
	Operate Time	0.5 mS	1.0 mS	0.5 mS
	Release Time	0.5 mS	1.0 mS	0.25 mS
	Operating temperature			-40 °C to +125 °C
Reflow temperature				
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000x10⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	
High-frequency response				
外觀尺寸 DIMENSION				
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)				
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)				

TPM Part / No.	104E-1A□0N2	104E-2A□0N2	104E-1T□2N1	104E-1T□0N2 (DC Performance)	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	10.16 x 3.81 x 7.0	11.43 x 3.81 x 9.1	11.43 x 3.81 x 9.1	11.43 x 3.81 x 9.1	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	2 Form A	1 Form C (1A+1B)	
	Coil Rating Voltage	5 V / 250Ω 12 V / 800Ω	5 V / 100Ω 12 V / 600Ω	5 V / 80Ω 12 V / 500Ω	5 V / 80Ω 12 V / 500Ω
	Contact Rating	10 W	10 W	10 W	10 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	100 VDC	100 VDC	100 VDC	100 VDC
	Contact Voltage	250 VDC	200 VDC	200 VDC	200 VDC
	Contact Resistance	200 mΩ	200 mΩ	200 mΩ	200 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ¹² Ω min.	10 ¹¹ Ω min.	10 ¹² Ω min.
	Operate Time	0.35 mS	0.35 mS	0.5 mS	0.5 mS
	Release Time	0.25 mS	0.25 mS	0.5 mS	0.5 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	40D-4A□2N1	42D-4A□2N1	40D-6A□2N1	43D-6A□2N1	
SANYU Part / No.	SSP-1412RFA				
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	17.7 x 12.7 x 9.8	17.7 x 12.7 x 9.8	17.7 x 17.7 x 9.8	17.7 x 17.7 x 9.8	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	4 Form A (1-4, 4Drives)	4 Form A (4-4, 4Drives)	6 Form A (1-6, 6Drives)	
	Coil Rating Voltage	5 V / 120Ω 12 V / 600Ω	5 V / 120Ω 12 V / 600Ω	5 V / 120Ω 12 V / 600Ω	5 V / 120Ω 12 V / 600Ω
	Contact Rating	10 W	10 W	10 W	10 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	100 VDC	100 VDC	100 VDC	100 VDC
	Contact Voltage	200 VDC	200 VDC	200 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹¹ Ω min.	10 ¹¹ Ω min.	10 ¹¹ Ω min.
	Operate Time	0.35 mS	0.35 mS	0.35 mS	0.35 mS
	Release Time	0.25 mS	0.25 mS	0.25 mS	0.25 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000×10 ⁶ (R負荷)	DC.1.0V,10mA 1000×10 ⁶ (R負荷)	DC.1.0V,10mA 1000×10 ⁶ (R負荷)	DC.1.0V,10mA 1000×10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	26D-1A□1N0	53D-1A□0N3-60	57W-1A□1N0-01	57W-2A□1N0	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	20.3 x 5.0 x 9.5	30.0 x 13.0 x 14.0	22.5 x 10.7 x 8.1	22.5 x 10.7 x 8.1	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	2 Form A
	Coil Rating Voltage	5 V / 330Ω 12 V / 1800Ω	5 V / 400Ω 12 V / 2250Ω	5 V / 60Ω 12 V / 300Ω 24 V / 1200Ω	5 V / 60Ω 12 V / 300Ω 24 V / 1200Ω
	Contact Rating	10 W	100 W	50 W	50 W
	Contact Current	0.5 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Carry Current	1.0 Amp	2.8 Amp	5.2 Amp	5.2 Amp
	Switching Voltage	100 VDC	1000 VDC	1000 VDC	1000 VDC
	Contact Voltage	200 VDC	2000 VDC	1000 VDC	1000 VDC
	Contact Resistance	150 mΩ	150 mΩ	50 mΩ	50 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10¹³Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	1.0 mS	1.5 mS	2.5 mS	2.5 mS
	Release Time	1.0 mS	1.0 mS	2.0 mS	2.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 100×10 ⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	58D-3A□1N0-04	92D-1A□1N0	92D-2A□1N0	92D-3A□1N0	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	30.0 x 16.0 x 13.5	29.0 x 11.8 x 16.0	29.0 x 14.5 x 16.0	29.0 x 17.5 x 16.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	3 Form A	1 Form A	2 Form A	3 Form A
	Coil Rating Voltage	5 V / 350Ω 12 V / 1500Ω 24 V / 5000Ω	5 V / 600Ω 12 V / 2400Ω 24 V / 9000Ω	5 V / 500Ω 12 V / 2500Ω 24 V / 10000Ω	5 V / 250Ω 12 V / 1500Ω 24 V / 5000Ω
	Contact Rating	50 W	10 W	10 W	10 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	2.8 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	350 VDC	100 VDC	100 VDC	100 VDC
	Contact Voltage	400 VDC	200 VDC	200 VDC	200 VDC
	Contact Resistance	200 mΩ	200 mΩ	200 mΩ	200 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	1.5 mS	1.0 mS	1.0 mS	1.0 mS
	Release Time	1.0 mS	1.0 mS	1.0 mS	1.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	92D-1C□1N0	92D-2C□1N0	54D-2E21N2	53D-4A□1N0	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	29.0 x 11.8 x 16.0	29.0 x 14.5 x 16.0	20.3 x 10.1 x 11.0	30.4 x 17.7 x 13.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form C	2 Form C	2 Form C (A+B)	4 Form A
	Coil Rating Voltage	5 V / 300Ω 12 V / 1600Ω 24 V / 4500Ω	5 V / 250Ω 12 V / 1200Ω 24 V / 4800Ω	12 V / 500Ω	5 V / 200Ω 12 V / 1100Ω 24 V / 3700Ω
	Contact Rating	3 W	3 W	10 W	10 W
	Contact Current	0.25 Amp	0.25 Amp	0.5 Amp	0.5 Amp
	Carry Current	0.5 Amp	0.5 Amp	1.0 Amp	1.0 Amp
	Switching Voltage	100 VDC	100 VDC	100 VDC	100 VDC
	Contact Voltage	200 VDC	200 VDC	200 VDC	200 VDC
	Contact Resistance	200 mΩ	200 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹² Ω min.	10 ¹⁰ Ω min.
	Operate Time	2.0 mS	2.0 mS	1.0 mS	1.0 mS
	Release Time	2.5 mS	2.5 mS	1.0 mS	1.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 50x10 ⁶ (R負荷)	DC.1.0V,10mA 50x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10⁶ (R負荷)	DC.1.0V,10mA 1000x10⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	105W-1A□0D3-01	20W-1A□2N0			
SANYU Part / No.			J-14324YAD	S-212MGA-01	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	19.6 x 7.0 x 7.1	20.3 x 5.0 x 6.1	25.4 x 7.4 x 7.9	20.3 x 7.6 x 6.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	2 Form A	
	Coil Rating Voltage	5 V / 150Ω 12 V / 500Ω	5 V / 70Ω 12 V / 330Ω 24 V / 1200Ω	24 V / 1440Ω	12 V / 300Ω
	Contact Rating	50 W	50 W	50 W	50 W
	Contact Current	1.0 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Carry Current	5.2 Amp	5.2 Amp	5.2 Amp	5.2 Amp
	Switching Voltage	1300 VDC	1000 VDC	500 VDC	1000 VDC
	Contact Voltage	2000 VDC	1000 VDC	2000 VDC	1000 VDC
	Contact Resistance	80 mΩ	80 mΩ	100 mΩ	80 mΩ
	Insulation Resistance	10 ¹³ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	3.0 mS	2.5 mS	2.0 mS	2.5 mS
	Release Time	3.0 mS	2.5 mS	2.0 mS	2.5 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	50W-1A□N	50W-2A□N	57W-1A□1N0-01	57W-2A□1N0	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	30.4 x 9.5 x 10.0	30.4 x 13.0 x 10.0	22.5 x 10.7 x 8.1	22.5 x 10.7 x 8.1	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	2 Form A	1 Form A	2 Form A
	Coil Rating Voltage	5 V / 100Ω 12 V / 400Ω 24 V / 1600Ω	5 V / 80Ω 12 V / 300Ω 24 V / 1200Ω	5 V / 60Ω 12 V / 300Ω 24 V / 1200Ω	5 V / 60Ω 12 V / 300Ω 24 V / 1200Ω
	Contact Rating	50 W	50 W	50 W	50 W
	Contact Current	1.0 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Carry Current	5.2 Amp	5.2 Amp	5.2 Amp	5.2 Amp
	Switching Voltage	1000 VDC	1000 VDC	1000 VDC	1000 VDC
	Contact Voltage	1000 VDC	1000 VDC	1000 VDC	1000 VDC
	Contact Resistance	100 mΩ	100 mΩ	50 mΩ	50 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	3.0 mS	3.0 mS	2.5 mS	2.5 mS
	Release Time	3.0 mS	3.0 mS	2.0 mS	2.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	59W-2A21N2	60W-1C□0N0	60W-2C□0N0	61W-1C□1L0	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	27.5 x 10.5 x 9.5	35.3 x 13.3 x 11.3	40.9 x 26.0 x 10.9	41.7 x 14.7 x 11.3	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	2 Form A	1 Form C	2 Form C	
	Coil Rating Voltage	12 V / 300Ω	5 V / 130Ω 12 V / 400Ω	5 V / 55Ω 12 V / 370Ω	5 V / 100Ω 12 V / 500Ω 24 V / 2000Ω
	Contact Rating	50 W	100 W	100 W	100 W
	Contact Current	1.0 Amp	2.0 Amp	2.0 Amp	2.0 Amp
	Carry Current	5.2 Amp	8.5 Amp	8.5 Amp	8.5 Amp
	Switching Voltage	1000 VDC	500 VDC	500 VDC	500 VDC
	Contact Voltage	2000 VDC	1000 VDC	1000 VDC	1000 VDC
	Contact Resistance	80 mΩ	30 mΩ	30 mΩ	30 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ⁹ Ω min.	10 ⁹ Ω min.	10 ⁹ Ω min.
	Operate Time	2.0 mS	2.0 mS	2.0 mS	2.0 mS
	Release Time	2.0 mS	2.0 mS	2.0 mS	2.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 10000x10⁶ (R負荷)	DC.1.0V,10mA 10000x10⁶ (R負荷)	DC.1.0V,10mA 10000x10⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	80W-4A□0E0	80W-12A□0E0	80W-12A□1E0	85W-1A□0E0	
SANYU Part / No.	UPH-449○○	UPH-1249○○			
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	45.0 x 35.0 x 70.0	81.5 x 46.5 x 70.0	81.5 x 46.5 x 70.0	110.0 x 47.0 x 48.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	2 Form A	2 Form A	2 Form A	1 Form A
	Coil Rating Voltage	5 V / 30Ω 12 V / 150Ω 24 V / 600Ω	5 V / 10Ω 12 V / 50Ω 24 V / 200Ω	5 V / 10Ω 12 V / 50Ω 24 V / 200Ω	12 V / 35Ω 24 V / 135Ω
	Contact Rating	100 W	100 W	100 W	3600 W
	Contact Current	2.0 Amp	2.0 Amp	2.0 Amp	50.0 Amp
	Carry Current	16.4 Amp	49.2 Amp	49.2 Amp	50.0 Amp
	Switching Voltage	500 VDC	500 VDC	500 VDC	240 VDC
	Contact Voltage	3000 VDC	3000 VDC	3000 VDC	2500 VDC
	Contact Resistance	40 mΩ	15 mΩ	15 mΩ	20 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	3.0 mS	3.0 mS	3.0 mS	80 mS
	Release Time	3.0 mS	3.0 mS	3.0 mS	80 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 10000×10⁶ (R負荷)	DC.1.0V,10mA 10000×10⁶ (R負荷)	DC.1.0V,10mA 10000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	90W-1A□1N3-43	90W-2A□1N3-43	90W-3A□1N3-43	91W-3A□1N3-60	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	28 x 8.5 x 8.5	28 x 12.2 x 8.5	28 x 15.5 x 9.1	28 x 9.1 x 15.5	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	2 Form A	3 Form A	
	Coil Rating Voltage	5 V / 100Ω 12 V / 400Ω	5 V / 100Ω 12 V / 400Ω 24 V / 1600Ω	5 V / 60Ω 12 V / 300Ω	5 V / 80Ω 12 V / 300Ω 24 V / 1200Ω
	Contact Rating	50 W	50 W	50 W	50 W
	Contact Current	1.0 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Carry Current	5.2 Amp	5.2 Amp	5.2 Amp	5.2 Amp
	Switching Voltage	2000 VDC	2000 VDC	2000 VDC	2000 VDC
	Contact Voltage	3000 VDC	3000 VDC	3000 VDC	2500 VDC
	Contact Resistance	80 mΩ	80 mΩ	80 mΩ	80 mΩ
	Insulation Resistance	10 ¹³ Ω min.	10 ¹³ Ω min.	10 ¹³ Ω min.	10 ¹³ Ω min.
	Operate Time	2.5 mS	2.5 mS	2.5 mS	3.0 mS
	Release Time	2.0 mS	2.0 mS	2.0 mS	3.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	94W-1A□1N0	94W-2A□1N0	94W-3A□1N0	94W-4A□1N0	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	22 x 8.5 x 8.5	22 x 12.2 x 8.5	22 x 15.5 x 9.1	22 x 19.0 x 9.1	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	2 Form A	3 Form A	4 Form A
	Coil Rating Voltage	5 V / 150Ω 12 V / 800Ω 24 V / 2000Ω	5 V / 130Ω 12 V / 600Ω 24 V / 2000Ω	5 V / 80Ω 12 V / 400Ω 24 V / 1600Ω	5 V / 60Ω 12 V / 300Ω 24 V / 1200Ω
	Contact Rating	50 W	50 W	50 W	50 W
	Contact Current	1.0 Amp	1.0 Amp	1.0 Amp	1.0 Amp
	Carry Current	5.2 Amp	5.2 Amp	5.2 Amp	5.2 Amp
	Switching Voltage	1000 VDC	1000 VDC	1000 VDC	1000 VDC
	Contact Voltage	1500 VDC	1500 VDC	1500 VDC	1500 VDC
	Contact Resistance	80 mΩ	80 mΩ	80 mΩ	80 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	3.0 mS	3.0 mS	3.0 mS	3.0 mS
	Release Time	3.0 mS	3.0 mS	3.0 mS	3.0 mS
	Operating temperature				
	Reflow temperature				
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	98W-1A□1N2-60	98W-1C□1N0	135W-1A30N0		
SANYU Part / No.			HA708-109○○	USM-P130○○V-90	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	37.0 x 12.5 x 12.5	37.0 x 12.5 x 12.5	85.7 x 19.7 x 18.2	70.6 x 24.0 x 25.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form C	1 Form A	
	Coil Rating Voltage	5 V / 70Ω 12 V / 400Ω 24 V / 1600Ω	5 V / 70Ω 12 V / 400Ω 24 V / 1600Ω	5 V / 20Ω 12 V / 100Ω 24 V / 300Ω	12 V / 180Ω 24 V / 720Ω
	Contact Rating	100 W	100 W	250 W	250 W
	Contact Current	2.0 Amp	2.0 Amp	5.0 Amp	5.0 Amp
	Carry Current	8.5 Amp	8.5 Amp	10.0 Amp	10.0 Amp
	Switching Voltage	2000 VDC	2000 VDC	9000 VDC	9000 VDC
	Contact Voltage	4000 VDC	3000 VDC	10000 VDC	9000 VDC
	Contact Resistance	50 mΩ	50 mΩ	50 mΩ	50 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	2.0 mS	2.0 mS	10.0 mS	10.0 mS
	Release Time	2.0 mS	2.0 mS	6.0 mS	10.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 10000×10⁶ (R負荷)	DC.1.0V,10mA 10000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10 ⁶ (R負荷)	DC.1.0V,10mA 1000×10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	25D-1A□1N3	25D-2A□1D3	90D-1A□1N3-60	90D-2A□1N3-60	
SANYU Part / No.			URM-162○○GTNB	URM-262○○GTNB	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	20.3 x 5.0 x 6.5	20.3 x 7.8 x 6.2	28.0 x 8.5 x 8.5	32.0 x 12.2 x 8.5	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	2 Form A	1 Form A	
	Coil Rating Voltage	5 V / 160Ω 12 V / 600Ω 24 V / 1800Ω	5 V / 150Ω 12 V / 600Ω 24 V / 2000Ω	5 V / 250Ω 12 V / 1000Ω 24 V / 4000Ω	5 V / 160Ω 12 V / 800Ω 24 V / 3200Ω
	Contact Rating	10 W	10 W	100 W	100 W
	Contact Current	0.5 Amp	0.5 Amp	1.0 Amp	1.0 Amp
	Carry Current	1.0 Amp	1.0 Amp	2.8 Amp	2.8 Amp
	Switching Voltage	100 VDC	100 VDC	1000 VDC	1000 VDC
	Contact Voltage	200 VDC	200 VDC	2000 VDC	3000 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹³ Ω min.	10 ¹³ Ω min.	10 ¹³ Ω min.	10 ¹³ Ω min.
	Operate Time	0.5 mS	0.5 mS	1.0 mS	1.0 mS
	Release Time	0.5 mS	0.5 mS	1.0 mS	1.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000x10⁶ (R負荷)	DC.1.0V,10mA 1000x10⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	95D-1A□4N4	95D-2A□4N4	95D-3A□4N4	95D-1E□4N4	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	29.0 x 10.2 x 8.3	29.0 x 12.8 x 8.3	29.0 x 16.6 x 8.6	32.0 x 12.8 x 8.3	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	2 Form A	3 Form A	1 Form C(1A+1B)
	Coil Rating Voltage	5 V / 450Ω 12 V / 2500Ω 24 V / 8000Ω	5 V / 260Ω 12 V / 1500Ω 24 V / 6000Ω	5 V / 180Ω 12 V / 1000Ω 24 V / 4000Ω	5 V / 250Ω 12 V / 1200Ω 24 V / 6000Ω
	Contact Rating	50 W	50 W	50 W	50 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	2.8 Amp	2.8 Amp	2.8 Amp	2.8 Amp
	Switching Voltage	350 VDC	350 VDC	350 VDC	350 VDC
	Contact Voltage	500 VDC	500 VDC	500 VDC	400 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10¹⁴Ω min.	10¹⁴Ω min.	10¹⁴Ω min.	10¹⁴Ω min.
	Operate Time	1.0 mS	1.0 mS	1.0 mS	1.0 mS
	Release Time	1.0 mS	1.0 mS	1.0 mS	1.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	90D-1A21K32	90D-2A21K32	90D-3A□1K32	137D-1A□1N2	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	28.0 x 8.5 x 8.5	28.0 x 12.3 x 8.5	28.0 x 15.5 x 8.8	62.0 x 20.0 x 20.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	2 Form A	3 Form A	1 Form A
	Coil Rating Voltage	12 V / 1000Ω	12 V / 1200Ω	5 V / 125Ω 12 V / 800Ω 24 V / 2400Ω	5 V / 30Ω 12 V / 180Ω 24 V / 700Ω
	Contact Rating	50 W	50 W	50 W	50 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	3.0 Amp
	Carry Current	2.8 Amp	2.8 Amp	2.8 Amp	4.0 Amp
	Switching Voltage	350 VDC	350 VDC	350 VDC	3500 VDC
	Contact Voltage	500 VDC	500 VDC	500 VDC	5000 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	200 mΩ
	Insulation Resistance	10 ¹³ Ω min.	10 ¹³ Ω min.	10 ¹³ Ω min.	10 ¹² Ω min.
	Operate Time	1.0 mS	1.0 mS	1.0 mS	4.0 mS
	Release Time	1.0 mS	1.0 mS	1.0 mS	3.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 1000×10⁶ (R負荷)	DC.1.0V,10mA 100×10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					





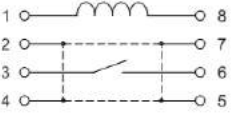
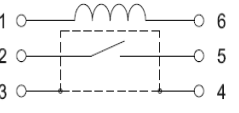
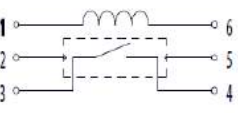
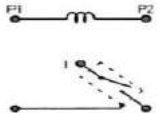
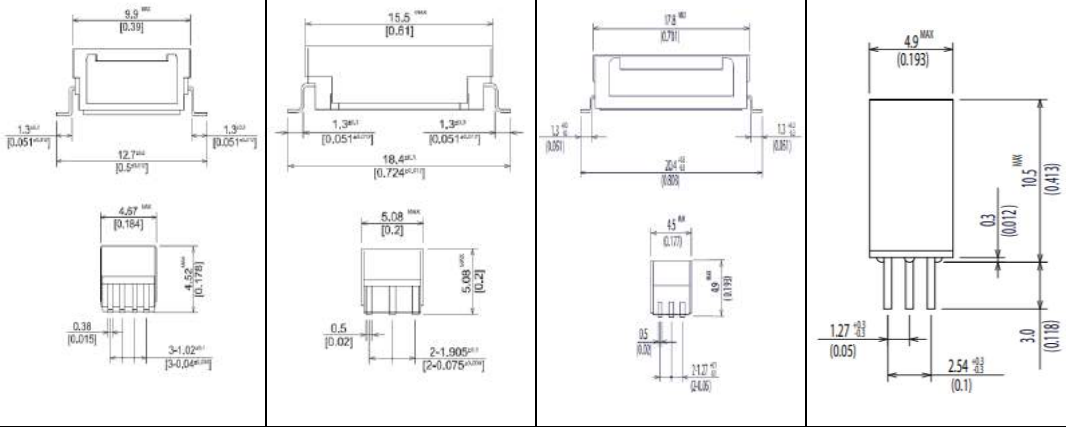
TPM Part / No.					
SANYU Part / No.	USM-127 ○○(H)	USM-227 ○○(H)	USM-115 ○○(H)	USM-215 ○○(H)	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	60.0 x 13.0 x 13.0	60.0 x 20.0 x 13.0	45.0 x 13.0 x 13.0	45.0 x 21.0 x 14.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	2 Form A	1 Form A	2 Form A
	Coil Rating Voltage	5 V / 90Ω 12 V / 300Ω 24 V / 1200Ω	5 V / 70Ω 12 V / 250Ω 24 V / 900Ω	5 V / 60Ω 12 V / 200Ω 24 V / 800Ω	5 V / 45Ω 12 V / 160Ω 24 V / 600Ω
	Contact Rating	15 W	15 W	50 W	50 W
	Contact Current	3.0 Amp	3.0 Amp	3.0 Amp	3.0 Amp
	Carry Current	5.0 Amp	5.0 Amp	4.0 Amp	4.0 Amp
	Switching Voltage	1000 VDC	1000 VDC	3500 VDC	3500 VDC
	Contact Voltage	3000 VDC	3000 VDC	5000 VDC	5000 VDC
	Contact Resistance	200 mΩ	200 mΩ	200 mΩ	200 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	5.0 mS	5.0 mS	4.0 mS	4.0 mS
	Release Time	5.0 mS	5.0 mS	3.0 mS	3.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸	DIMENSION				
		<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>			

TPM Part / No.					
SANYU Part / No.	HA702-115○○	HA702-118○○	HA703-110○○	HA703-115○○	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	68.5 x 19.5 x 20.0	68.5 x 19.5 x 20.0	65.5 x 15.0 x 15.5	65.5 x 15.0 x 15.5	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	5 V / 30Ω 12 V / 150Ω 24 V / 600Ω	5 V / 30Ω 12 V / 150Ω 24 V / 600Ω	5 V / 45Ω 12 V / 250Ω 24 V / 1000Ω	5 V / 30Ω 12 V / 120Ω 24 V / 465Ω
	Contact Rating	50 W	50 W	50 W	50 W
	Contact Current	3.0 Amp	3.0 Amp	3.0 Amp	3.0 Amp
	Carry Current	4.0 Amp	4.0 Amp	4.0 Amp	4.0 Amp
	Switching Voltage	10000 VDC	12000 VDC	7500 VDC	10000 VDC
	Contact Voltage	15000 VDC	18000 VDC	10000 VDC	15000 VDC
	Contact Resistance	200 mΩ	200 mΩ	200 mΩ	200 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10¹³Ω min.	10¹³Ω min.
	Operate Time	3.0 mS	3.0 mS	3.0 mS	3.0 mS
	Release Time	1.5 mS	1.5 mS	1.5 mS	1.5 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION	<p>UL 3239 AWG22 Silicone High-Voltage wire</p>				
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					




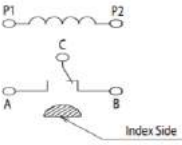
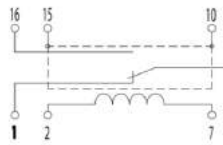
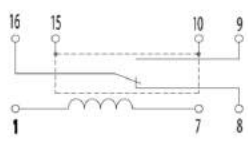
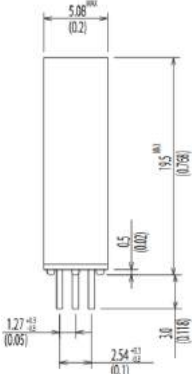
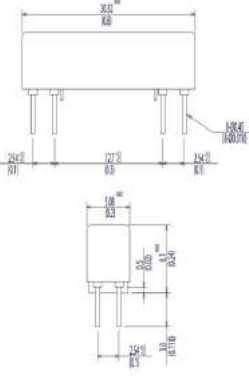
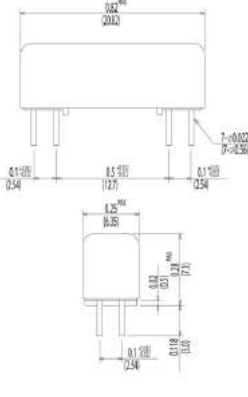
TPM Part / No.					
SANYU Part / No.	HA705-110○○	HA705-115○○	HA706-110○○	HA706-115○○	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	68.5 x 19.5 x 20.0	68.5 x 19.5 x 20.0	68.5 x 19.5 x 20.0	68.5 x 19.5 x 20.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	5 V / 45Ω 12 V / 250Ω 24 V / 1000Ω	5 V / 30Ω 12 V / 150Ω 24 V / 600Ω	5 V / 45Ω 12 V / 250Ω 24 V / 1000Ω	5 V / 30Ω 12 V / 150Ω 24 V / 600Ω
	Contact Rating	50 W	50 W	50 W	50 W
	Contact Current	3.0 Amp	3.0 Amp	3.0 Amp	3.0 Amp
	Carry Current	4.0 Amp	4.0 Amp	4.0 Amp	4.0 Amp
	Switching Voltage	7500 VDC	10000 VDC	7500 VDC	10000 VDC
	Contact Voltage	10000 VDC	15000 VDC	10000 VDC	15000 VDC
	Contact Resistance	200 mΩ	200 mΩ	200 mΩ	200 mΩ
	Insulation Resistance	10¹³Ω min.	10¹³Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	3.0 mS	3.0 mS	3.0 mS	3.0 mS
	Release Time	1.5 mS	1.5 mS	1.5 mS	1.5 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	130D-1A□0N0	133D-1A30N0	135W-1A30N0		
SANYU Part / No.	HA707-110○○	HA707-115○○	HA708-109○○	USM-P130○○V-90	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	85.7 x 19.7 x 18.2	85.7 x 19.7 x 18.2	85.7 x 19.7 x 18.2	70.6 x 24.0 x 25.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	5 V / 80Ω 12 V / 250Ω 24 V / 600Ω	5 V / 30Ω 12 V / 120Ω 24 V / 400Ω	5 V / 20Ω 12 V / 100Ω 24 V / 300Ω	12 V / 180Ω 24 V / 720Ω
	Contact Rating	50 W	50 W	250 W	250 W
	Contact Current	3.0 Amp	3.0 Amp	5.0 Amp	5.0 Amp
	Carry Current	4.0 Amp	4.0 Amp	10.0 Amp	10.0 Amp
	Switching Voltage	7500 VDC	10000 VDC	9000 VDC	9000 VDC
	Contact Voltage	10000 VDC	15000 VDC	10000 VDC	9000 VDC
	Contact Resistance	500 mΩ	500 mΩ	50 mΩ	50 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.	10 ¹⁰ Ω min.
	Operate Time	5.0 mS	5.0 mS	10.0 mS	10.0 mS
	Release Time	5.0 mS	5.0 mS	6.0 mS	10.0 mS
	Operating temperature				
Reflow temperature					
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	DC.1.0V,10mA 1000x10 ⁶ (R負荷)	
High-frequency response					
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	131D-1A□0N1	132D-1A□0N0	137D-1A□1N2	
SANYU Part / No.	UPM-136○○SV			
外觀形狀 Appearance				
尺寸 Size (LxWxH) mm	70.0 x 17.0 x 19.0	70.0 x 17.0 x 19.0	62.0 x 20.0 x 20.0	
回路接續圖 Figure.(TOP VIEW)				
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A
	Coil Rating Voltage	5 V / 35Ω 12 V / 180Ω 24 V / 650Ω	5 V / 35Ω 12 V / 180Ω 24 V / 650Ω	5 V / 30Ω 12 V / 180Ω 24 V / 700Ω
	Contact Rating	50 W	50 W	50 W
	Contact Current	3.0 Amp	3.0 Amp	3.0 Amp
	Carry Current	4.0 Amp	4.0 Amp	4.0 Amp
	Switching Voltage	7500 VDC	3500 VDC	3500 VDC
	Contact Voltage	10000 VDC	5000 VDC	5000 VDC
	Contact Resistance	500 mΩ	500 mΩ	200 mΩ
	Insulation Resistance	10 ¹¹ Ω min.	10 ¹⁰ Ω min.	10 ¹² Ω min.
	Operate Time	5.0 mS	5.0 mS	4.0 mS
	Release Time	5.0 mS	5.0 mS	3.0 mS
	Operating temperature			
Reflow temperature				
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	DC.1.0V,10mA 100x10 ⁶ (R負荷)	
High-frequency response				
外觀尺寸 DIMENSION				
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)				
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)				

TPM Part / No.	1H-□4G-53	17H-1A□2G-53	10H-1A□2G-53	6E-1A11D0-54	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	12.7 x 4.6 x 4.5	18.4 x 5.0 x 5.0	20.4 x 4.5 x 4.9	4.9 x 4.9 x 10.5	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	1 Form A	
	Coil Rating Voltage	5 V / 100Ω 12 V / 500Ω	5 V / 80Ω 12 V / 450Ω	5 V / 100Ω 12 V / 500Ω	5 V / 200Ω
	Contact Rating	10 W	30 W	30 W	10 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	1.3 Amp	1.3 Amp	1.0 Amp
	Switching Voltage	100 VDC	200 VDC	200 VDC	100 VDC
	Contact Voltage	200 VDC	300 VDC	300 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹² Ω min.	10 ¹² Ω min.	10 ¹² Ω min.	10 ¹⁰ Ω min.
	Operate Time	0.3 mS	0.4 mS	0.5 mS	0.3 mS
	Release Time	0.05 mS	0.2 mS	0.3 mS	0.3 mS
	Operating temperature	-20°C to +155°C	-20°C to +155°C	-20°C to +155°C	-40°C to +140°C
Reflow temperature	260°C max for 60sec.	260°C max for 60sec.	260°C max for 60sec.		
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 1500x10 ⁶ (R負荷)	DC.1.0V,10mA 1500x10 ⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	
High-frequency response	4.0GHz @ -3dB	2.5GHz @ -3dB	3.0GHz @ -3dB	2.0GHz @ -3dB	
外觀尺寸 DIMENSION					
	<p>TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)</p> <p>SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)</p>				

TPM Part / No.	6E-1A□1N0-53	20E-1A□2N1-53	27E-1A□2N1-53	23E-3A20N2-52	
SANYU Part / No.					
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	4.9 x 4.9 x 10.5	20.3 x 5.0 x 6.1	20.8 x 6.3 x 7.1	20.3 x 5.0 x 9.0	
回路接續圖 Figure.(TOP VIEW)					
電氣規格	Contact Form	1 Form A	1 Form A	3 Form A	
	Coil Rating Voltage	5 V / 100Ω 12 V / 450Ω	5 V / 160Ω 12 V / 900Ω	5 V / 230Ω 12 V / 1500Ω	12 V / 700Ω
	Contact Rating	10 W	30 W	30 W	10 W
	Contact Current	0.5 Amp	0.5 Amp	0.5 Amp	0.5 Amp
	Carry Current	1.0 Amp	1.3 Amp	1.3 Amp	1.0 Amp
	Switching Voltage	100 VDC	200 VDC	200 VDC	100 VDC
	Contact Voltage	200 VDC	300 VDC	300 VDC	250 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹¹ Ω min.	10 ¹¹ Ω min.	10 ¹² Ω min.
	Operate Time	0.3 mS	0.35 mS	0.35 mS	0.5 mS
	Release Time	0.3 mS	0.2 mS	0.25 mS	0.25 mS
	Operating temperature	-20°C to +155°C	-20°C to +155°C	-20°C to +155°C	-40°C to +125°C
	Reflow temperature				
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 300x10 ⁶ (R負荷)	DC.1.0V,10mA 1500x10⁶ (R負荷)	DC.1.0V,10mA 1500x10⁶ (R負荷)	DC.1.0V,10mA 300x10 ⁶ (R負荷)	
High-frequency response	2.0GHz @ -2dB				
外觀尺寸 DIMENSION					
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)					
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)					

TPM Part / No.	6D-1C□0N0-52	20D-1C□2N1-53	27D-1C□2N1-53	
SANYU Part / No.				
外觀形狀 Appearance				
尺寸 Size (LxWxH) mm	5.0 x 5.0 x 19.5	20.3 x 5.0 x 6.1	20.8 x 6.3 x 7.1	
回路接續圖 Figure.(TOP VIEW)				
電氣規格	Contact Form	1 Form C	1 Form C	1 Form C
	Coil Rating Voltage	5 V / 120Ω 12 V / 500Ω	5 V / 120Ω 12 V / 700Ω	5 V / 200Ω 12 V / 1100Ω
	Contact Rating	3 W	3 W	3 W
	Contact Current	0.25 Amp	0.25 Amp	0.25 Amp
	Carry Current	0.5 Amp	0.5 Amp	0.5 Amp
	Switching Voltage	100 VDC	100 VDC	100 VDC
	Contact Voltage	200 VDC	200 VDC	200 VDC
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ¹⁰ Ω min.	10 ¹¹ Ω min.	10 ¹¹ Ω min.
	Operate Time	1.0 mS	1.0 mS	1.0 mS
	Release Time	2.0 mS	2.0 mS	2.0 mS
	Operating temperature	-40°C to +125°C	-20°C to +155°C	-20°C to +155°C
Reflow temperature				
電氣壽命 (代表例) Electrical Life	DC.1.0V,10mA 50x10 ⁶ (R負荷)	DC.1.0V,10mA 50x10 ⁶ (R負荷)	DC.1.0V,10mA 50x10 ⁶ (R負荷)	
High-frequency response				
外觀尺寸 DIMENSION				
TPM Part Ordering Code : □ = 1 (5VDC); 2 (12VDC); 3 (24VDC); 5 (3.3VDC)				
SANYU Part Ordering Code: ○○ = 03 (3.3VDC); 05 (5VDC); 12 (12VDC); 24 (24VDC)				



宜技科技有限公司

IC-HI TECHNOLOGY CO., LTD.

OPTO MOSFET OUTPUT PHOTO-RELAY SELECTION GUIDE



光電繼電器選購指南

SINCE 1993

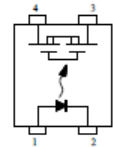
APPLICATIONS

- 蓄電系統 (充放電力,絕緣檢測,電池監控)
- 智慧電錶 (主要繼電器驅動,數據通信設備)
- 自動檢針 (測量儀器,醫療儀器)
- 工業控制 (工廠自動化,工業電腦,OA設備)
- 一般應用 (掃描器應用,防範/防災機具,通信設備)

	20V	40V	60V	80V	100V	200V	350V	400V	600V
5000mA	HY311DGS HW311DGS								
4000mA		HY311DG2S HW311DG2S							
2000mA		HY311G2S HW311G2S HY311G2(A) HW311G2(A)							
1700mA	HY311GS HW311GS								
1300mA			HY312G2S HW312G2S		HY315G2S HW315G2S				
1100mA		S703S	HY312G2(A) HV312G2(A) HW312G2(A)						
800mA			HY312GS HW312GS						
500mA			HY312S HY512S HW312S HY512(A) HV312(A) HV512(A) HW512(A)						
400mA			HY322RS HW512S HW712S HY312(A) HW312(A) HW712(A)		HY315GS				
250mA							HY310GS HW310GS	HY314GS HW314GS	
200mA			HY312ES HW312ES			HY317(A) HV317(A) HW317(A)			
180mA						HY317S HW317S			
120mA				HY315(A) HV315(A) HW315(A)			HY310S HW310S HY310(A) HV310(A) HW310(A)	HY514S HW514S HW714S HY314(A) HY514(A) HV314(A) HV514(A) HW314(A) HW514(A) HW714(A)	
100mA								HY314S HW314S	
80mA									HY316S HW316S
30mA				HY325NS HW325NS					

SOP 4

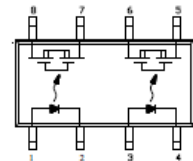
Isolation V: 1500 VAC



ichitech	Contact	Load Voltage (V)	Load Current (mA)	On Resistance (Typ. Ω)	Capacitance (Typ. pF)	Leakage Current (Max. nA)
HY311GS	1a	20	1700	0.2	500	200
HY311DGS	1a	20 (DC Only)	5000	0.2	500	500
HY311G2S	1a	40	2500	0.06	190	500
HY311DG2S	1a	40 (DC Only)	3500	0.05	240	100
HY312ES	1a	60	200	2	115	500
HY322RS	1a	60	400	0.8 (Low C*R)	28	10
HY312S	1a	60	500	0.8	28	500
HY312GS	1a	60	800	0.3	115	500
HY312G2S	1a	60	1300	0.13	115	500
HY325NS	1a	80	30	20	6 (Low C*R)	10
HY315GS	1a	100	400	2	110	500
HY315G2S	1a	100	1250	0.13	170	500
HY317S	1a	200	180	5	115	500
HY310S	1a	350	120	17	115	500
HY310GS	1a	350	250	12	330	500
HY314S	1a	400	100	20	115	500
HY314GS	1a	400	250	8	20	500
HY316S	1a	600	80	35	115	500
HY512S	1b	60	500	1	165	1000
HY514S	1b	400	120	20	165	10000

SOP 8

Isolation V: 1500 VAC



ichitech	Contact	Load Voltage (V)	Load Current (mA)	On Resistance (Typ. Ω)	Capacitance (Typ. pF)	Leakage Current (Max. nA)
HW311GS	2a	20	1700	0.2	500	200
HW311DGS	2a	20 (DC Only)	5000	0.2	500	1000
HW311G2S	2a	40	2500	0.06	190	1000
HW311DG2S	2a	40 (DC Only)	3500	0.05	240	1000
HW312S	2a	60	500	0.8	28	1000
HW312GS	2a	60	800	0.3	115	1000
HW312G2S	2a	60	1300	0.13	115	1000
HW315G2S	2a	100	1250	0.13	170	500
HW317S	2a	200	180	5	115	1000
HW310S	2a	350	120	17	115	1000
HW310GS	2a	350	250	12	330	1000
HW314S	2a	400	100	20	115	1000
HW314GS	2a	400	250	8	20	1000
HW316S	2a	600	80	35	115	1000
HW512S	2b	60	400	1	165	1000
HW514S	2b	400	120	20	165	10000
HW712S	1a + 1b	60	400	NO: 1 ; NC: 3	165	NO: 500 ; NC: 10000
HW714S	1a + 1b	400	120	NO: 20 ; NC: 20	165	NO: 500 ; NC: 10000

SMD / DIP 4

Isolation V: 3500 VAC



ichitech	Contact	Load Voltage (V)	Load Current (mA)	On Resistance (Typ. Ω)	Capacitance (Typ. pF)	Leakage Current (Max. nA)
HY311G2(A)	1a	40	2000	0.06	190	1000
HY312(A)	1a	60	400	1	115	1000
HY312G2(A)	1a	60	1100	0.27	115	1000
HY317(A)	1a	200	200	5	115	1000
HY314(A)	1a	400	130	20	115	500
HY512(A)	1b	60	500	1	115	1000
HY514(A)	1b	400	120	20	115	10000

SMD / DIP 6

Isolation V: 3500 VAC



ichitech	Contact	Load Voltage (V)	Load Current (mA)	On Resistance (Typ. Ω)	Capacitance (Typ. pF)	Leakage Current (Max. nA)
HV312(A)	1a	60	500	1	115	500
HV312G2(A)	1a	60	1100	0.3	115	1000
HV315(A)	1a	80	120	8	115	500
HV317(A)	1a	200	200	5	115	500
HV314(A)	1a	400	130	20	115	500
HV512(A)	1b	60	500	1	115	1000
HV514(A)	1b	400	120	20	115	10000

SMD / DIP 8

Isolation V: 3500 VAC



ichitech	Contact	Load Voltage (V)	Load Current (mA)	On Resistance (Typ. Ω)	Capacitance (Typ. pF)	Leakage Current (Max. nA)
HW311G2(A)	2a	40	2000	0.06	190	1000
HW312(A)	2a	60	400	1	115	1000
HW312G2(A)	2a	60	1100	0.27	115	1000
HW317(A)	2a	200	200	5	115	1000
HW314(A)	2a	400	130	20	115	1000
HW512(A)	2b	60	500	1	115	1000
HW514(A)	2b	400	120	20	115	10000
HW712(A)	1a + 1b	60	400	NO: 1 ; NC: 3	115	NO: 500 ; NC: 10000
HW714(A)	1a + 1b	400	120	NO: 20 ; NC: 20	115	NO: 500 ; NC: 10000

H

Y

3

1

1

G

S

Y : 1-CH (4pin)
V : 1-CH (6pin)
W : 2-CH (8pin)

"3"
1FormA(AC/DC)
2FormA(AC/DC)
"5"
1FormB(AC/DC)
2FormB(AC/DC)
"7"
1FormA & 1FormB
(AC/DC)

1: General type
2: RF type (New)





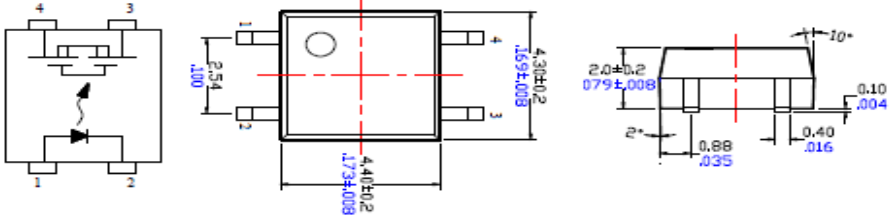
0: 350V
1: 20 to 40V
2: 50 to 60V
3: 250V
4: 400V
5: 80V to 100V
6: 600V
7: 200V
9: 1000V

Blank: Standard
DG: DC only
E: Economical
G: Highcapacity
N: Low C
R: Low R





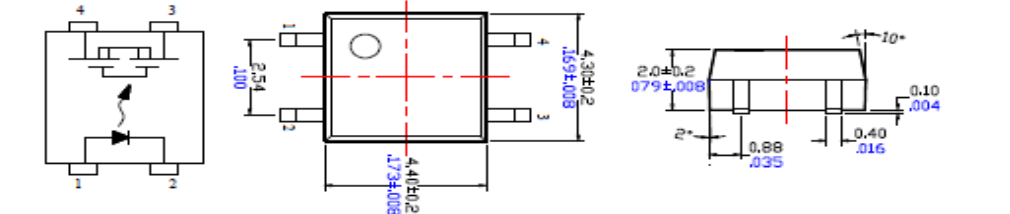
Blank: DIP (through hole)
A: SMD (Surface mount)
S: SOP
V: SSOP (New)

BRAND		TPM	IC-HI	IC-HI	IC-HI	
Part / No.		S703S	HY311G2S	HY312S	HY312GS	
Photographs						
回路接續圖 Figure.(TOP VIEW)						
Output Type		1 Form A	1 Form A	1 Form A	1 Form A	
Package		SOP 4	SOP 4	SOP 4	SOP 4	
Size (L xW xH) mm		4.4 x 4.7 x 2.0	4.4 x 4.3 x 2.0	4.4 x 4.3 x 2.0	4.4 x 4.3 x 2.0	
Break Down Voltage	V_L	30 V	40V	60V	60V	
Continuous Load Current	I_L	1100 mA	2500 mA	500 mA	800 mA	
Pulse Load Current	I_{Peak}	2000 mA	4.0 A	1.5 A	4.0 A	
Total power Dissipation	P_T	350 mW	500 mW	500 mW	450 mW	
Isolation Voltage	V_{Iso}	1,500 VAC	1,500 VAC	1,500 VAC	1,500 VAC	
ELECTRICAL CHARACTERISTICS						
Input	LED operate current	I_{Fon}	5.0 mA / min	5.0 mA / min	5.0 mA / min	5.0 mA / min
	LED turn off current	I_{Foff}	0.2 mA / max	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.
	LED dropout voltage	V_F	1.4 V / max @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA
Output	On resistance	R_{on}	0.25 Ω / Typ.	0.06 Ω / Typ.	0.8 Ω / Typ.	0.3 Ω / Typ.
	Output Capacitance	C_{out}	150 pF / Typ.	190 pF / Typ.	28 pF / Typ.	115 pF / max.
	Off state leakage current	I_{Leak}	0.1 μ A / max.	0.1 μ A / max.	0.5 μ A / max.	0.5 μ A / max.
Transfer Characteristics	Turn-on Time	T_{on}	0.2 mS / Typ.	0.8 mS / Typ.	0.35 mS / Typ.	1.0 mS / Typ.
	Turn-off Time	T_{off}	0.05 mS / Typ.	0.02 mS / Typ.	0.2 mS / Typ.	0.6 mS / Typ.
	I/O capacitance	C_{Iso}	1 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.
	Initial I/O isolation resistance	R_{Iso}	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min





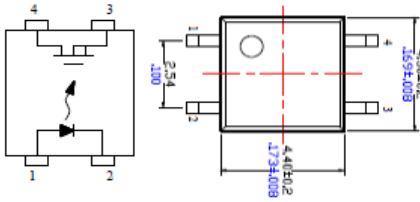
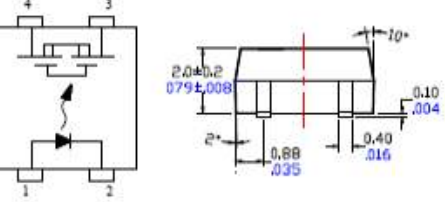
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BRAND		IC-HI	IC-HI	IC-HI	IC-HI	
Part / No.		HY312G2S	HY315G2S	HY317S	HY310S	
Photographs						
回路接續圖 Figure.(TOP VIEW)						
Output Type		1 Form A	1 Form A	1 Form A	1 Form A	
Package		SOP 4	SOP 4	SOP 4	SOP 4	
Size (L xW xH) mm		4.4 x 4.3 x 2.0	4.4 x 4.3 x 2.0	4.4 x 4.3 x 2.0	4.4 x 4.3 x 2.0	
Break Down Voltage	V_L	60V	100V	200V	350V	
Continuous Load Current	I_L	1300 mA	1250 mA	180 mA	120 mA	
Pulse Load Current	I_{Peak}	4.0 A	3.0 A	1.0 A	0.6 A	
Total power Dissipation	P_T	400 mW	400 mW	500 mW	350 mW	
Isolation Voltage	V_{Iso}	1,500 VAC	1,500 VAC	1,500 VAC	1,500 VAC	
ELECTRICAL CHARACTERISTICS						
Input	LED operate current	I_{Fon}	5.0 mA / min	5.0 mA / min	5.0 mA / min	5.0 mA / min
	LED turn off current	I_{Foff}	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.
	LED dropout voltage	V_F	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA
Output	On resistance	R_{on}	0.13 Ω / Typ.	0.13 Ω / Typ.	5 Ω / Typ.	17 Ω / Typ.
	Output Capacitance	C_{out}	115 pF / max.	115 pF / Typ.	115 pF / Typ.	115 pF / Typ.
	Off state leakage current	I_{Leak}	0.5 uA / max.	0.5 uA / max.	0.5 uA / max.	0.5 uA / max.
Transfer Characteristics	Turn-on Time	T_{on}	1.0 mS / Typ.	1.0 mS / Typ.	0.4 mS / Typ.	0.23 mS / Typ.
	Turn-off Time	T_{off}	0.6 mS / Typ.	0.06 mS / Typ.	0.05 mS / Typ.	0.05 mS / Typ.
	I/O capacitance	C_{Iso}	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.
	Initial I/O isolation resistance	R_{Iso}	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min

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BRAND		IC-HI	IC-HI	IC-HI	IC-HI	
Part / No.		HY310GS	HY314S	HY314GS	HY316S	
Photographs						
回路接續圖 Figure.(TOP VIEW)						
Output Type		1 Form A	1 Form A	1 Form A	1 Form A	
Package		SOP 4	SOP 4	SOP 4	SOP 4	
Size (L xW xH) mm		4.4 x 4.3 x 2.0	4.4 x 4.3 x 2.0	4.4 x 4.3 x 2.0	4.4 x 4.3 x 2.0	
Break Down Voltage	V_L	350V	400V	400V	600V	
Continuous Load Current	I_L	250 mA	100 mA	250 mA	80 mA	
Pulse Load Current	I_{Peak}	0.7 A	0.6 A	0.8 A	1.0 A	
Total power Dissipation	P_T	200 mW	350 mW	210 mW	500 mW	
Isolation Voltage	V_{Iso}	1,500 VAC	1,500 VAC	1,500 VAC	1,500 VAC	
ELECTRICAL CHARACTERISTICS						
Input	LED operate current	I_{Fon}	5.0 mA / min	5.0 mA / min	5.0 mA / min	5.0 mA / min
	LED turn off current	I_{Foff}	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.
	LED dropout voltage	V_F	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA
Output	On resistance	R_{on}	12 Ω / Typ.	20 Ω / Typ.	8 Ω / Typ.	35 Ω / Typ.
	Output Capacitance	C_{out}	330 pF / Typ.	115 pF / Typ.	20 pF / Typ.	115 pF / Typ.
	Off state leakage current	I_{Leak}	0.5 μ A / max.	0.5 μ A / max.	0.5 μ A / max.	0.5 μ A / max.
Transfer Characteristics	Turn-on Time	T_{on}	0.6 mS / Typ.	0.23 mS / Typ.	0.6 mS / Typ.	0.3 mS / Typ.
	Turn-off Time	T_{off}	0.03 mS / Typ.	0.03 mS / Typ.	0.03 mS / Typ.	0.02 mS / Typ.
	I/O capacitance	C_{Iso}	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.
	Initial I/O isolation resistance	R_{Iso}	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min

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<u>BRAND</u>		<u>IC-HI</u>	<u>IC-HI</u>	<u>IC-HI</u>	<u>IC-HI</u>	
<u>Part / No.</u>		HY311DGS	HY311DG2S	HY322RS	HY325NS	
Photographs						
回路接續圖 Figure.(TOP VIEW)						
Output Type		1 Form A	1 Form A	1 Form A	1 Form A	
Package		SOP 4	SOP 4	SOP 4	SOP 4	
Size (L xW xH) mm		4.4 × 4.3 × 2.0	4.4 × 4.3 × 2.0	4.4 × 4.3 × 2.0	4.4 × 4.3 × 2.0	
Break Down Voltage	V_L	20V (DC only)	40V (DC only)	60V	80V	
Continuous Load Current	I_L	5000 mA	3500 mA	400 mA	30 mA	
Pulse Load Current	I_{Peak}	35.0 A	5.0 A	1.0 A	0.1 A	
Total power Dissipation	P_T	2 W	600 mW	350 mW	300 mW	
Isolation Voltage	V_{Iso}	1,500 VAC	1,500 VAC	1,500 VAC	1,500 VAC	
ELECTRICAL CHARACTERISTICS						
Input	LED operate current	I_{Fon}	5.0 mA / min	5.0 mA / min	5.0 mA / min	5.0 mA / min
	LED turn off current	I_{Foff}	0.35 mA / Typ.	-	0.35 mA / Typ.	0.35 mA / Typ.
	LED dropout voltage	V_F	1.2 V / Typ. @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA
Output	On resistance	R_{on}	0.2 Ω / Typ.	0.05 Ω / Typ.	0.8 Ω / Typ.	20 Ω / Typ.
	Output Capacitance	C_{out}	500 pF / Typ.	240 pF / Typ.	28 pF / Typ.	6 pF / Typ.
	Off state leakage current	I_{Leak}	0.5 μ A / max.	0.1 μ A / max.	10 nA / max.	10 nA / max.
Transfer Characteristics	Turn-on Time	T_{on}	0.5 mS / Typ.	0.4 mS / Typ.	0.25 mS / Typ.	0.03 mS / Typ.
	Turn-off Time	T_{off}	0.03 mS / Typ.	0.03 mS / Typ.	0.02 mS / Typ.	0.05 mS / Typ.
	I/O capacitance	C_{Iso}	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.
	Initial I/O isolation resistance	R_{Iso}	$10^9 \Omega$ / min	$10^{10} \Omega$ / min	$10^{10} \Omega$ / min	$10^{10} \Omega$ / min

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BRAND		IC-HI	IC-HI	IC-HI	IC-HI	
Part / No.		HW311G2S	HW312G2S	HW315G2S	HW714GS	
Photographs						
回路接續圖 Figure.(TOP VIEW)						
Output Type		2 Form A	2 Form A	2 Form A	1 Form A + 1 Form B	
Package		SOP 8	SOP 8	SOP 8	SOP 8	
Size (L xW xH) mm		4.4 x 9.4 x 2.0	4.4 x 9.4 x 2.0	4.4 x 9.4 x 2.0	4.4 x 9.4 x 2.0	
Break Down Voltage	V_L	40V	60V	100V	400V	
Continuous Load Current	I_L	2500 mA	1100 mA	1100 mA	120 mA	
Pulse Load Current	I_{Peak}	4.0 A	4.0 A	3.0 A	0.6 A	
Total power Dissipation	P_T	500 mW	450 mW	400 mW	500 mW	
Isolation Voltage	V_{Iso}	1,500 VAC	1,500 VAC	1,500 VAC	1,500 VAC	
ELECTRICAL CHARACTERISTICS						
Input	LED operate current	I_{Fon}	5.0 mA / min	5.0 mA / min	5.0 mA / min	5.0 mA / min
	LED turn off current	I_{Foff}	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.
	LED dropout voltage	V_F	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA
Output	On resistance	R_{on}	0.06 Ω / Typ.	0.13 Ω / Typ.	0.13 Ω / Typ.	20 (NO) Ω / Typ. 20 (NC) Ω / Typ.
	Output Capacitance	C_{out}	190 pF / Typ.	115 pF / Typ.	115 pF / Typ.	165 pF / Typ.
	Off state leakage current	I_{Leak}	0.1 μ A / max.	1.0 μ A / max.	1.0 μ A / max.	1(NO) μ A / max. 1(NC) μ A / max.
Transfer Characteristics	Turn-on Time	T_{on}	0.8 mS / Typ.	1.0 mS / Typ.	1.0 mS / Typ.	0.23 (N.O.) mS / Typ. 0.5 (N.C.) mS / Typ.
	Turn-off Time	T_{off}	0.02 mS / Typ.	0.6 mS / Typ.	0.06 mS / Typ.	0.03 (N.O.) mS / Typ. 0.5 (N.C.) mS / Typ.
	I/O capacitance	C_{Iso}	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.
	Initial I/O isolation resistance	R_{Iso}	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min

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BRAND		IC-HI	IC-HI	IC-HI	IC-HI	
Part / No.		HY311G2(A)	HY312G2(A)	HY314(A)	HY512(A)	
Photographs						
回路接續圖 Figure.(TOP VIEW)						
Output Type		1 Form A	1 Form A	1 Form A	1 Form B	
Package		DIP 4 / SMD 4	DIP 4 / SMD 4	DIP 4 / SMD 4	DIP 4 / SMD 4	
Size (L xW xH) mm		4.7 x 6.4 x 3.4	4.7 x 6.4 x 3.4	4.7 x 6.4 x 3.4	4.7 x 6.4 x 3.4	
Break Down Voltage	V_L	40V	60V	400V	60V	
Continuous Load Current	I_L	2000 mA	1100 mA	130 mA	500 mA	
Pulse Load Current	I_{Peak}	2.5 A	4.0 A	0.6 A	0.6 A	
Total power Dissipation	P_T	2 W	450 mW	350 mW	350 mW	
Isolation Voltage	V_{Iso}	3750 VAC	3750 VAC	3750 VAC	3750 VAC	
ELECTRICAL CHARACTERISTICS						
Input	LED operate current	I_{Fon}	5.0 mA / min	5.0 mA / min	5.0 mA / min	5.0 mA / min
	LED turn off current	I_{Foff}	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.	0.4 mA / Typ.
	LED dropout voltage	V_F	1.2 V / Typ. @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA	1.2 V / Typ. @ $I_F = 10$ mA
Output	On resistance	R_{on}	0.06 Ω / Typ.	0.27 Ω / Typ.	20 Ω / Typ.	1 Ω / Typ.
	Output Capacitance	C_{out}	150 pF / Typ.	115 pF / Typ.	110 pF / Typ.	165 pF / Typ.
	Off state leakage current	I_{Leak}	1.0 μ A / max.	1.0 μ A / max.	1.0 μ A / max.	1.0 μ A / max.
Transfer Characteristics	Turn-on Time	T_{on}	0.8 mS / Typ.	1.5 mS / Typ.	0.5 mS / Typ.	0.5 mS / Typ.
	Turn-off Time	T_{off}	0.02 mS / Typ.	0.05 mS / Typ.	0.03 mS / Typ.	0.25 mS / Typ.
	I/O capacitance	C_{Iso}	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.
	Initial I/O isolation resistance	R_{Iso}	10^{10} Ω / min	10^9 Ω / min	10^{10} Ω / min	10^{10} Ω / min

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BRAND		IC-HI	IC-HI	IC-HI	IC-HI	
Part / No.		HV312(A)	HV312G2(A)	HV316(A)	HV514(A)	
Photographs						
回路接續圖 Figure.(TOP VIEW)						
Output Type		1 Form A	1 Form A	1 Form A	1 Form B	
Package		DIP 6 / SMD 6	DIP 6 / SMD 6	DIP 6 / SMD 6	DIP 6 / SMD 6	
Size (L xW xH) mm		8.8 x 6.4 x 3.4	8.8 x 6.4 x 3.4	8.8 x 6.4 x 3.4	8.8 x 6.4 x 3.4	
Break Down Voltage	V_L	60V	60V	600V	400V	
Continuous Load Current	I_L	400 mA	1100 mA	80 mA	120 mA	
Pulse Load Current	I_{Peak}	1.0 A	4.0 A	1.0 A	0.3 A	
Total power Dissipation	P_T	500 mW	450 mW	500 mW	550 mW	
Isolation Voltage	V_{Iso}	3750 VAC	3750 VAC	3750 VAC	3750 VAC	
ELECTRICAL CHARACTERISTICS						
Input	LED operate current	I_{Fon}	5.0 mA / min	5.0 mA / min	5.0 mA / min	5.0 mA / min
	LED turn off current	I_{Foff}	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.
	LED dropout voltage	V_F	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA
Output	On resistance	R_{on}	1 Ω / Typ.	0.27 Ω / Typ.	35 Ω / Typ.	20 Ω / Typ.
	Output Capacitance	C_{out}	115 pF / Typ.	115 pF / Typ.	115 pF / Typ.	165 pF / Typ.
	Off state leakage current	I_{Leak}	1.0 μ A / max.	1.0 μ A / max.	1.0 μ A / max.	10 μ A / max.
Transfer Characteristics	Turn-on Time	T_{on}	0.5 mS / Typ.	1.5 mS / Typ.	0.3 mS / Typ.	0.02 mS / Typ.
	Turn-off Time	T_{off}	0.35 mS / Typ.	0.05 mS / Typ.	0.02 mS / Typ.	0.5 mS / Typ.
	I/O capacitance	C_{Iso}	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.
	Initial I/O isolation resistance	R_{Iso}	10^{10} Ω / min	10^{10} Ω / min	10^9 Ω / min	10^{10} Ω / min



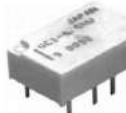

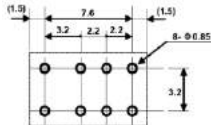
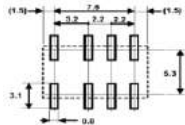
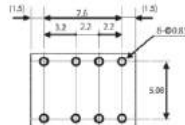
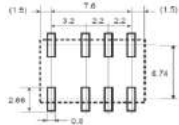
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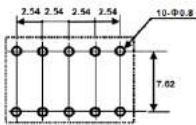
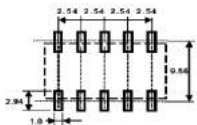
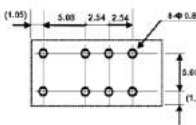
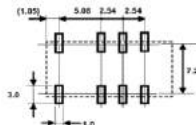
BRAND		IC-HI	IC-HI	IC-HI	IC-HI	
Part / No.		HW311G2(A)	HW312G2(A)	HW314(A)	HW712(A)	
Photographs						
回路接續圖 Figure.(TOP VIEW)						
Output Type		2 Form A	2 Form A	2 Form A	1 Form A + 1 Form B	
Package		DIP 8 / SMD 8	DIP 8 / SMD 8	DIP 8 / SMD 8	DIP 8 / SMD 8	
Size (L xW xH) mm		9.8 x 6.4 x 3.4	9.8 x 6.4 x 3.4	9.8 x 6.4 x 3.4	9.8 x 6.4 x 3.4	
Break Down Voltage	V_L	40V	60V	400V	60V	
Continuous Load Current	I_L	2000 mA	1100 mA	130 mA	400 mA	
Pulse Load Current	I_{Peak}	2.5 A	2.5 A	0.6 A	700 mA	
Total power Dissipation	P_T	2 W	450 mW	350 mW	500 mW	
Isolation Voltage	V_{Iso}	3750 VAC	3750 VAC	3750 VAC	3750 VAC	
ELECTRICAL CHARACTERISTICS						
Input	LED operate current	I_{Fon}	5.0 mA / min	5.0 mA / min	5.0 mA / min	5.0 mA / min
	LED turn off current	I_{Foff}	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.	0.35 mA / Typ.
	LED dropout voltage	V_F	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA	1.2 V / Typ. @ $I_F= 10$ mA
Output	On resistance	R_{on}	0.06 Ω / Typ.	0.27 Ω / Typ.	20 Ω / Typ.	1 (NO) Ω / Typ. 6 (NC) Ω / Typ.
	Output Capacitance	C_{out}	190 pF / Typ.	115 pF / Typ.	110 pF / Typ.	150 pF / Typ.
	Off state leakage current	I_{Leak}	1.0 μ A / max.	1.0 μ A / max.	1 μ A / max.	1 μ A / max.
Transfer Characteristics	Turn-on Time	T_{on}	0.8 mS / Typ.	1.5 mS / Typ.	0.23 mS / Typ.	0.23 (N.O.) mS / Typ. 0.2 (N.C.) mS / Typ.
	Turn-off Time	T_{off}	0.02 mS / Typ.	0.05 mS / Typ.	0.03 mS / Typ.	0.03 (N.O.) mS / Typ. 0.5 (N.C.) mS / Typ.
	I/O capacitance	C_{Iso}	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.	0.8 pF / Typ.
	Initial I/O isolation resistance	R_{Iso}	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min	10^{10} Ω / min

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	Panasonic	TOSHIBA	OMRON	IXYS/ CP Clare	OKITA	SSO	VISHAY	COSMO
HY311G2S	AQY211G2S	TLP3123	G3VM-41GR6	CPC1020N	AB26S			
HY311DG2S								
HY312ES		TLP3111	G3VM-61VY1	CPC1017N/ CPC1117NTR	AB45S	M271/M272	VO1400AEF	
HY322RS	AQY222R1S							
HY312S	AQY212S	TLP172A	G3VM-61G1	CPC1014N	AB37S	M261		KAQY212S
HY312GS	AQY212GS			CPC1019N/ CPC1002NTR		M251		
HY312G2S	AQY212G2S	TLP3122		CPC1020NTR		M281		
HY325NS			G3VM-81G1		AB46S			
HY315GS					AB48S			
HY315G2S					AB47S			
HY317S		TLP179D	G3VM-S5		AB34S	M241		KAQY217S
HY310S	AQY210S	TLP174G	G3VM-351G	CPC1030N	AB31S	M221	LH1546AEF	KAQY210S
HY310GS						M231		KAQY213S
HY314S	AQY214S/ AQY284	TLP174GA	G3VM-401G	CPC1025N/ CPC1225N	AB30S	M211	VOR1142M4	KAQY214S
HY314GS								
HY316S		TLP170J			AB38S			KAQY216S
HY512S	AQY412S			CPC1117N	AG70S	M272		KAQY416S
HY514S	AQY414S	TLP4176G	G3VM-353G	CPC1125N	AG74S,AG71S	M212		KAQY414S
HW311G2S					AC26S			
HW311DG2S								
HW312ES				CPC2017N	AC45S			
HW312S	AQW212S	TLP206A		CPC2014N	AC37S			KAQW212S
HW315S					AC46S			
HW317S	AQW223R2S	TLP200D			AC34S			KAQW217S
HW310S	AQW210S	TLP206G		CPC2030N	AC31S			KAQW210S
HW310GS								KAQW213S
HW314S	AQW214S	TLP206GA		CPC2025N	AC30S			KAQW214S
HW314GS		TLP3215						
HW316S	AQW216							KAQW216S
HW512S								
HW514S								
HW712S	AQW612S		G3VM-63G	CPC2317N	AK70S			KAQW612S
HW714S	AQW610S	TLP4026G	G3VM-355JR	CPC2230N	AK74S,AK71S			KAQW614S





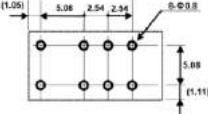
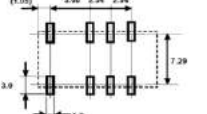
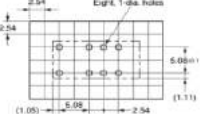
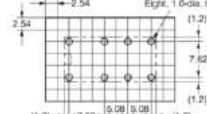
Telecom Relay





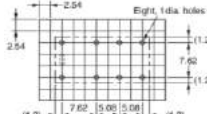
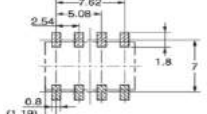
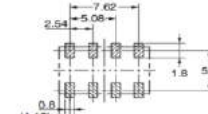
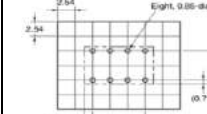
BRAND	NEC	NEC	NEC	NEC	
Type	UA2	UB2	UC2	UD2	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	10.9 x 6.0 x 8.3	10.9 x 7.4 x 8.8	10.9 x 6.8 x 5.6	10.9 x 8.4 x 5.4	
Terminal Layout dimension Bottom view (PCB layout)					
Contact Form	2 Form C	2 Form C	2 Form C	2 Form C	
Contact Rating Resistive Load	1A 30W / 37.5VA		1A 30W / 37.5VA		
Coil Voltage	3 / 4.5 / 5 / 9 / 12 / 24 VDC		3 / 4.5 / 5 / 9 / 12 VDC		
Feature	• super-compact size	• super-compact size	• super-compact size	• super-compact size	
	• dual-inline leads (small mounting space)	• surface mount (small mounting space)	• dual-inline leads (low profile type)	• surface mount (low profile type)	
	• 2500V surge (2 x 10 μs)	• 2500V surge (2 x 10 μs)	• 2500V surge (2 x 10 μs)	• 2500V surge (2 x 10 μs)	
	• latching type available	• latching type available	• latching type available	• latching type available	
	• Low power consumption type available	• Low power consumption type available			
Operate / Release Time (typ.)	2mS / 1mS		2mS / 1mS		
Running Specifications	Load	1x10 ⁵ (30 VDC , 1A at 20°C) 1x10 ⁵ (125 VAC , 0.3A at 20°C)		1x10 ⁵ (30 VDC , 1A at 20°C) 1x10 ⁵ (125 VAC , 0.3A at 20°C)	
	Nonload	5x10 ⁷ operations (Non-latch type) *4		5x10 ⁷ operations (Non-latch type) *4	

BRAND	NEC	NEC	NEC	NEC	
Type	EA2	EB2	EC2	EE2	
外觀形狀 Appearance					
尺寸 Size (LxWxH) mm	14.2 x 9.2 x 5.4	14.3 x 9.3 x 7.5	15.0 x 7.5 x 9.4	15.0 x 9.5 x 10.0	
Terminal Layout dimension Bottom view (PCB layout)					
Contact Form	2 Form C	2 Form C	2 Form C	2 Form C	
Contact Rating Resistive Load	1A 30W / 62.5VA		2A 60W / 125VA (UL/CSA Rating)		
Coil Voltage	3 / 4.5 / 5 / 12 / 24 VDC		3 / 4.5 / 5 / 9 / 12 / 24 VDC		
Feature	• Low power consumption	• surface mount	• Low power consumption	• Low power consumption	
	• Low magnetic interference	• Low power consumption	• dual-inline leads (small mounting space)	• surface mount (reduced mounting space)	
	• 1500V FCC surge 1000VAC FCC	• Low magnetic interference 1500V FCC surge	• 2500V surge (2x10 μs)	• 2500V surge (2x10 μs)	
	• compact, light weight	1000VAC FCC	coil to contacts	coil to contacts	
	• latching type available	• compact, light weight	• latching type available	• latching type available	
		• latching type available	• high-insulation, high-voltage type is line up.	• high-insulation, high-voltage type is line up.	
Operate / Release Time (typ.)	2mS / 1mS		2mS / 1mS		
Running Specifications	Load	1x10 ⁶ (50 VDC , 0.1A at 85°C, 5Hz) 1x10 ⁶ (10 VDC , 10 mA at 85°C, 2Hz)		1x10 ⁶ (50 VDC , 0.1A at 85°C, 5Hz) 1x10 ⁶ (10 VDC , 10 mA at 85°C, 2Hz)	
	Nonload	1x10 ⁸ operations (Non-latch type) *3		1x10 ⁸ operations (Non-latch type) *4	




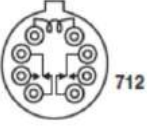
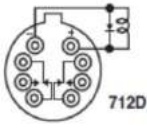
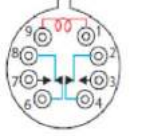
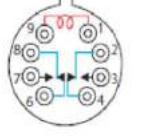
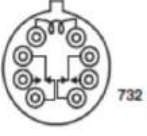
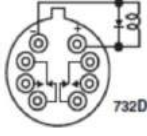
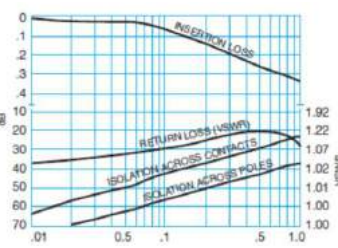
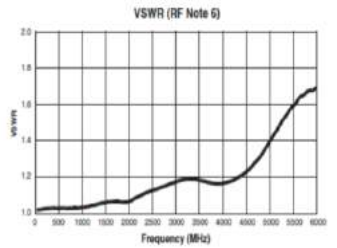
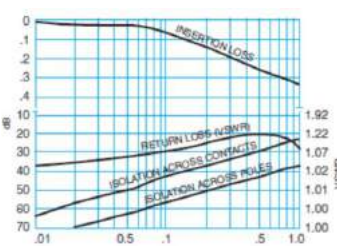
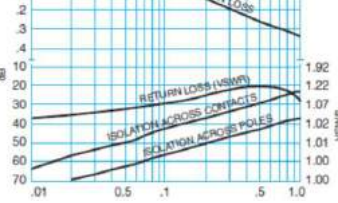
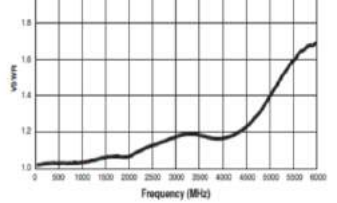
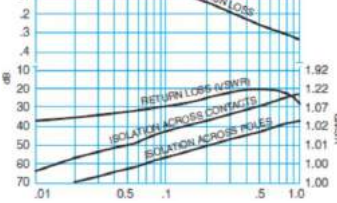
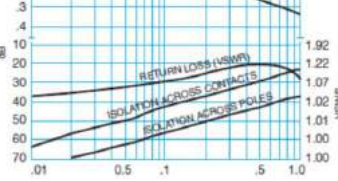
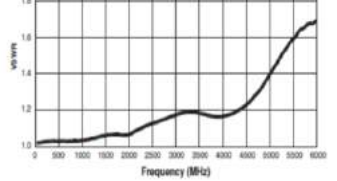
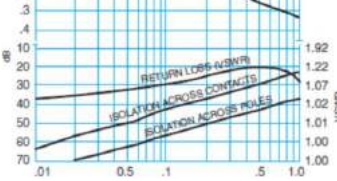
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Telecom Relay

BRAND	NEC	NEC	OMRON	OMRON
Type	ED2	EF2	G6S-2	G6A-274P
外觀形狀 Appearance				
尺寸 Size (LxWxH) mm	15.0 x 7.5 x 9.4	15.0 x 9.5 x 10.0	14.8 x 7.3 x 9.2	20.2 x 10.1 x 8.4
Terminal Layout dimension Bottom view (PCB layout)				
Contact Form	2 Form C	2 Form C	2 Form C	2 Form C
Contact Rating Resistive Load	1A 30W / 62.5VA		0.5A at 125VAC / 2A at 30VDC	
Coil Voltage	1.5 / 3 / 4.5 / 5 / 6 / 9 / 12 / 24 VDC		3 / 4.5 / 5 / 12 / 24 VDC	3 to 48 VDC
Feature	• ultra-low power consumption	• ultra-low power consumption	• High dielectric strength	• Resistant to electromagnetic
	• dual-inline leads (small mounting space)	• surface mount (reduced mounting space)	(2,000 VAC)	interference
	• 2500V surge (2 x 10 μs)	• 2500V surge (2 x 10 μs)	• 2500V surge (2 x 10 μs)	• Impulse withstand voltage
	coil to contacts	coil to contacts	coil to contacts	of 1,500V
	• latching type available	• latching type available	• Ultra-miniature	• Gold-clad twin-contacts
Operate / Release Time (typ.)	3mS / 2mS		4mS / 4mS	5mS / 3mS
Running Specifications	Load	1x10 ⁶ (50 VDC , 0.1A at 70°C, 5Hz) 1x10 ⁶ (10 VDC , 10mA at 70°C, 2Hz)	1 x 10 ⁸	1 x 10 ⁸
	Nonload	1x10 ⁸ operations *4	1 x 10 ⁵	5 x 10 ⁵

BRAND	OMRON	OMRON	OMRON	OMRON
Type	G5V-2	G6K-2F	G6K-2G	G6K-2P
外觀形狀 Appearance				
尺寸 Size (LxWxH) mm	15.0 x 7.5 x 9.4	10.0 x 6.5 x 5.2	10.0 x 6.5 x 5.4	10.0 x 6.5 x 5.0
Terminal Layout dimension Bottom view (PCB layout)				
Contact Form	2 Form C	2 Form C	2 Form C	2 Form C
Contact Rating Resistive Load	0.5A at 125VAC / 1A at 30VDC	0.3A at 125VAC / 1A at 30VDC		
Coil Voltage	3 to 48 VDC	3 to 24 VDC		
Feature	• Wide switching power of 10 μA to 2 A.	• Ensuring excellent soldering.		
	• Fully-sealed type Relays.	• impulse withstand voltage of 1,500 V for 10 × 160 μs.		
	• 1500V surge (10 x 160 μs)	• Standard model conforms to UL/CSA standards.		
	coil to contacts	• Models available with a 2.54-mm terminal pitch.		
		• Rated carry current: 2A.		
Operate / Release Time (typ.)	7mS / 3mS	3mS / 3mS		
Running Specifications	Load	15 x 10 ⁶	5 x 10 ⁷	
	Nonload	1 x 10 ⁵	1 x 10 ⁵	





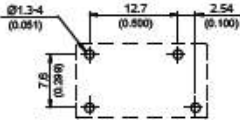
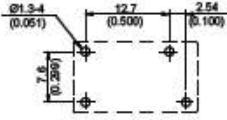
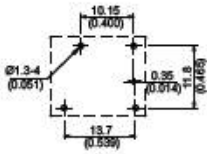
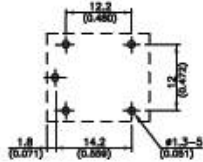




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TELEDYNE Part / No.		712	712D	RF300	RF303	732	732D
外觀形狀 Appearance							
尺寸 Size (LxWxH) mm		ψ9.4 x 6.99			ψ9.4 x 9.78	ψ9.4 x 9.76	
回路接續圖 Figure.(TOP VIEW)							
電氣規格	Contact Form	2 Form C	2 Form C	2 Form C	2 Form C	2 Form C	2 Form C
	Coil Rating Voltage	5 V / 50Ω 12 V / 390Ω	5 V / 50Ω 12 V / 390Ω	5 V / 50Ω 12 V / 390Ω	5 V / 100Ω 12 V / 850Ω	5 V / 100Ω 12 V / 850Ω	5 V / 100Ω 12 V / 850Ω
	Contact Rating	1Amp / 28VDC	1Amp / 28VDC	1Amp / 28VDC	1Amp / 28VDC	1Amp / 28VDC	1Amp / 28VDC
	Contact Current	1 Amp	1 Amp	1 Amp	1 Amp	1 Amp	1 Amp
	Carry Current	2 Amp	2 Amp	2 Amp	2 Amp	2 Amp	2 Amp
	Contact Resistance	150 mΩ	150 mΩ	150 mΩ	150 mΩ	150 mΩ	150 mΩ
	Insulation Resistance	10 ⁹ Ω	10 ⁹ Ω	10 ⁹ Ω	10 ⁹ Ω	10 ⁹ Ω	10 ⁹ Ω
	Operate Time	4.0 ms. Max.	4.0 ms. Max.	4.0 ms. Max.	6.0 ms. Max.	6.0 ms. Max.	6.0 ms. Max.
	Release Time	3.0 ms. Max.	6.0 ms. Max.	3.0 ms. Max.	3.0 ms. Max.	3.0 ms. Max.	7.5 ms. Max.
	機械壽命 (min) Mechanical Life	DC.1.0V,10mA 1.0×10 ⁷	DC.1.0V,10mA 1.0×10 ⁷	DC.1.0V,10mA 1.0×10 ⁷	DC.1.0V,10mA 1.0×10 ⁷	DC.1.0V,10mA 1.0×10 ⁷	DC.1.0V,10mA 1.0×10 ⁷
高周波特性	Band width	DC ~ 1GHz UHF		DC ~ 3GHz		DC ~ 1GHz UHF	
	Return Loss (Typ)						
	Insertion Loss (Typ)						
	Isolation Loss (Typ)						
	Capacitance (Open Contact)	0.4 pf. Typicac		0.4 pf. Typicac		0.4 pf. Typicac	











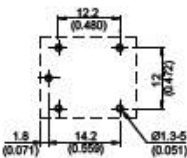
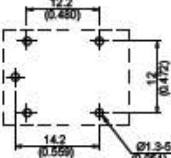
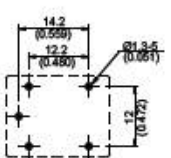
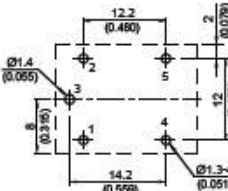
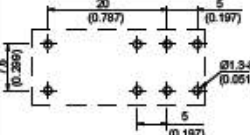





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Relays Selection Chart





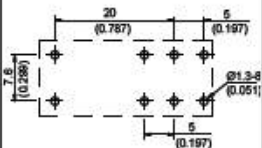
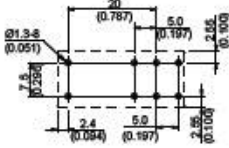
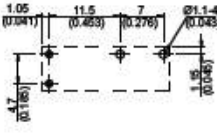
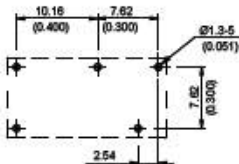




Type	307	835	834	899
Photo				
Description				
Outline (L×W×H) mm No including terminals	18.8 × 10.6 × 15.6	18.8 × 10.6 × 15.6	19 × 15.8 × 10.8	19 × 15.5 × 15
Contact configuration	1A	1A	1A	1A · 1B · 1C
Max. Allowable Contact current (A)	45			
	40			
	35			
	30			
	25			
	20			
	15	8A	10A	10A
	10			
5				
3				
Contact rating Resistive load	307 : 5A 240VAC 307H : 8A 240VAC 10A 240VAC (※) 12A 125VAC (※)	835 : 10A 240VAC 835L : 8A 240VAC 835NL : 5A 240VAC	10A 125VAC 8A 277VAC 10A 30VDC	NO : 7A 240VAC 10A 120VAC NC : 7A 240VAC
Coil voltage	DC	5~24V	3~24V	3~24V
	AC	—	—	—
Power consumption	DC	0.45W · 0.2W	0.45W · 0.2W	0.45W
	AC	—	—	—
Life expectancy Mechanical (Min.)		1×10 ⁷	1×10 ⁷	1×10 ⁷
	Electrical (Min.)	1×10 ⁵ · (※) 3×10 ⁴	1×10 ⁵	1×10 ⁵
Dielectric strength	Open contact	1000VAC	1000VAC	1000VAC
	Contact and coil	2500VAC	2500VAC	2500VAC
	Contact circuits	—	—	—
Terminal layout				
mm (inch) Bottom view (PCB layout)				
Terminal type				
Safety approval	UL TUV VDE	UL CSA TUV VDE	UL CSA TUV	UL VDE
Page no.	28~30	31~34	35~37	38~40

Relays Selection Chart





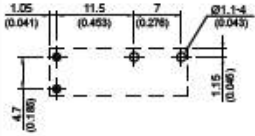
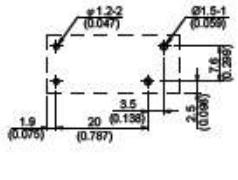
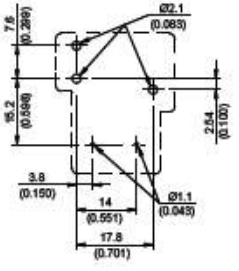
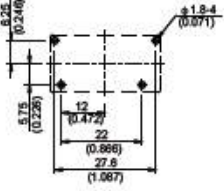




833H	801H	812H/BH	207	507
				
19 × 15.5 × 15	22.5 × 16.5 × 20.3	21 × 16 × 16.3	21 × 16 × 20.6	29 × 12.5 × 15.7
1A · 1B · 1C	1A · 1B · 1C	1A · 1B · 1C	1A	1A · 1C · 2A · 2C
				
NO : 10A 125VAC 7A 250VAC 7A 30VDC NC : 7A 250VAC	10A 250VAC 10A 30VDC	NO : 10A 240VAC 12A 120VAC NC : 8A 240VAC 10A 120VAC	NO : 17A 240VAC	12A 240VAC (507/N 1P) 8A 240VAC (507/N 2P) 10A 240VAC (N1) 16A 240VAC(H/HN)
3~48V	3~60V	3~48V	3~48V	3~48V
---	---	---	---	6~240V
0.36W · 0.45W	0.36W	0.36W	0.4W	0.53W · 0.40W · 0.25W
---	---	---	---	0.75VA
1 × 10 ⁷	1 × 10 ⁷	1 × 10 ⁷	1 × 10 ⁷	DC: 3 × 10 ⁷ AC: (1P)1 × 10 ⁷ · (2P)5 × 10 ⁶
1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵
750VAC	750VAC	750VAC	1000VAC	1000VAC
1500VAC	1500VAC	1500VAC	2500VAC	5000VAC
---	---	---	---	2P:(DC)3000 · (AC)2500VAC
				
				
UL TUV	UL CSA TUV	UL CSA TUV VDE	UL VDE	UL VDE
41~43	44~46	47~50	55~58	66~71



Relays Selection Chart

Type	507HT	894	202	892
Photo				
Description				
Outline (L×W×H) mm No including terminals	29 × 12.5 × 15.7	29 × 12.5 × 25.1	20.5 × 7 × 15.3	20 × 10.3 × 16
Contact configuration	1A · 1C	2A · 2B · 2C	1A	1A · 1B · 1C
Max. Allowable Contact current (A)	45			
	40			
	35			
	30			
	25			
	20	16A	12A	7A
	15			
	10			
5				
3				
Contact rating Resistive load	16A 240VAC 10A 240VAC	894 : 8A 240VAC 894H : NO/12A NC/ 10A 240VAC	202 : 5A 240VAC 202N : 3A 240VAC 202H : 7A 240VAC	892 : NO/NC: 5A/3A 240VAC 892H : NO/NC: 7A/5A 240VAC
Coil voltage	DC	3~48V	3~110V	5~24V
	AC	----	----	----
Power consumption	DC	0.53W · 0.4W	0.8W · 1.4W · 0.53W	0.36W · 0.2W
	AC	----	----	----
Life expectancy Mechanical (Min.)		3×10^7	3×10^6	5×10^6
	Electrical (Min.)	See inside page	3×10^4	1×10^5
Dielectric strength	Open contact	1000VAC	2500VAC	750VAC
	Contact and coil	5000VAC	5000VAC	4000VAC
	Contact circuits	----	2500VAC	----
Terminal layout				
mm (inch) Bottom view (PCB layout)				
Terminal type				
Safety approval	UL VDE	UL CSA TUV VDE	UL VDE	CSA UL TUV VDE
Page no.	72~74	91~96	101~104	105~109






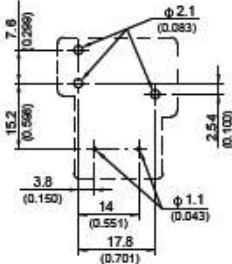
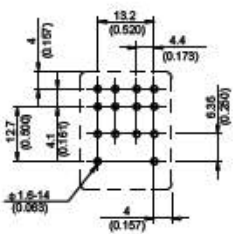
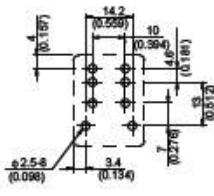
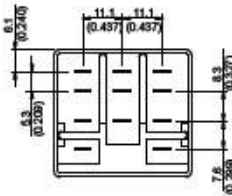
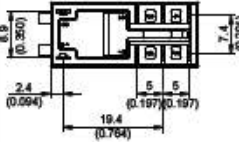





Relays Selection Chart

Type	202HT	302	805	891	
Photo					
Description					
Outline (L×W×H) mm No including terminals	20.5 × 7 × 15.3	29 × 12.6 × 24.8	32.2 × 27.5 × 20.4	30 × 16 × 23.5	
Contact configuration	1A	1A	1A、1C	1A	
Max. Allowable Contact current (A)	45	17A	20 A	25A	
	40				
	35				
	30				
	25				
	20				
	15				
	10				
5					
3					
Contact rating Resistive load	10A 240VAC	17A 240VAC	20A 240VAC	25A 250VAC	
Coil voltage	DC	5~24V	3~110V	5~110V	5~48V
	AC	----	----	----	----
Power consumption	DC	0.36W	0.53W、0.4W	0.7W	0.9W
	AC	----	----	----	----
Life expectancy	Mechanical (Min.)	5×10 ⁶	1×10 ⁷	1×10 ⁷	5×10 ⁶
	Electrical (Min.)	1×10 ⁵	1×10 ⁵	1×10 ⁵	1×10 ⁵
Dielectric strength	Open contact	750VAC	1000VAC	1000VAC	1000VAC
	Contact and coil	4000VAC	5000VAC	2500VAC	4500VAC
	Contact circuits	----	----	----	----
Terminal layout					
mm (inch) Bottom view (PCB layout)					
Terminal type					
Safety approval	UL VDE	UL TUV	UL / CUL	CSA TUV UL	
Page no.	110~112	118~123	124~128	133~136	

Relays Selection Chart





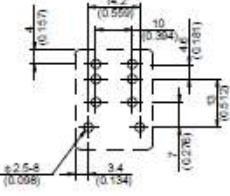
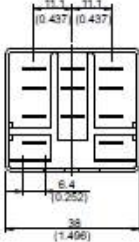
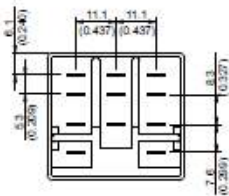
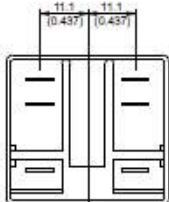


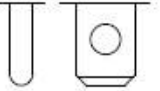

855A	832/832A -OPEN	832/832A -C	832A (W · WP)	841
32.5 × 28 × 28	29 × 24.1 × 17.3	32.2 × 27.5 × 20.4	50 × 28 × 28.2	51.5 × 34.9 × 36.8
1A · 1B · 1C	1A · 1B · 1C	1A · 1B · 1C	1A · 1B · 1C	1A · 2A
1A: 30A 240VAC 1B: 15A 240VAC 1C: NO/20A NC/10A 240VAC	1A: 30A 240VAC 1B: 15A 240VAC 1C: NO/20A NC/10A 240VAC	1A: 30A 240VAC 1B: 15A 240VAC 1C: NO/20A NC/10A 240VAC	1A: 30A 240VAC 1B: 15A 240VAC 1C: NO/20A NC/10A 240VAC	1A: 30A 220VAC 2A: 25A 220VAC
5~110V	5~110V	5~110V	5~110V	3~200V
—	—	—	—	6~240V
0.93W	0.93W	0.93W / 1.1W	0.93W	1.92W
—	—	—	—	1.7VA~2.7VA
1×10 ⁷	1×10 ⁷	1×10 ⁷	1×10 ⁷	5×10 ⁶
1×10 ⁵	1×10 ⁵	1×10 ⁵	1×10 ⁵	1×10 ⁵
1500VAC	1500VAC	1500VAC	1500VAC	2000VAC
2500VAC	2500VAC	2500VAC	2500VAC	4000VAC
—	—	—	—	2000VAC
UL TUV	UL CSA VDE	UL CSA VDE	UL CSA VDE	UL TUV
137~142	143~151	143~151	143~151	152~158

Relays Selection Chart



832HA	SCLD、LB	SCL	731	607
				
32.2 × 27.5 × 20.4	27.5 × 21.5 × 36	27.5 × 21.5 × 35.2	38 × 35 × 47.6	28.7 × 12.5 × 34.5
1A、1B、1C	2C、4C	2A、2C	1C~3C	2C
40A	5A	10A	10A	10A
NC:40A 240VAC NO:40A 240VAC	5A 250VAC 5A 28VDC	10A 240VAC 10A 28VDC	10A 240VAC 10A 28VDC	10A 250VAC 10A 30VDC
5~48V	6~120V	6~120V	6~120V	5~125V
---	12~240V	12~240V	12~240V	12~240V
0.93W	0.9W	0.9W	1.2W	0.53W
---	1.2VA	1.2VA	2.0VA、2.7VA	0.9VA
2×10 ⁶	1×10 ⁷	1×10 ⁷	1×10 ⁷	2×10 ⁷ (DC)、1×10 ⁷ (AC)
NO:3×10 ⁴ , NC:1×10 ⁴	1×10 ⁵	1×10 ⁵	1×10 ⁵	1×10 ⁵
1500VAC	500VAC	1000VAC	500VAC	1000VAC
2500VAC	1500VAC	1500VAC	1500VAC	5000VAC
---	1500VAC	1500VAC	1500VAC	3000VAC
				
				
UL	UL CSA TUV CE	UL CSA TUV CE	UL CSA	UL CE
159~162	163~170	171~176	177~183	184~186



Relays Selection Chart

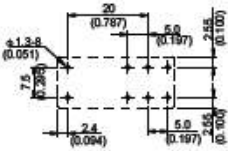

Type	SCLA	735	731 (H)	737
Photo				
Description				
Outline (L×W×H) mm No including terminals	27.5 × 21.5 × 35.2	38 × 34.8 × 47.5	38 × 35 × 47.6	38 × 34.8 × 47.5
Contact configuration	1A · 1B · 1C	1C ~ 3C	1C ~ 3C	DM-DB
Max. Allowable Contact current (A)	15A	20A	25A	30A
Contact rating Resistive load	15A 240VAC 15A 28VDC	1,2 form C 20A 240VAC 3 form C 20A 120VAC	1C, 2C: 20A 300VAC 25A 277VAC 3C: 16A 300VAC 20A 277VAC	30A 300VAC 15A 600VAC 30A 28VDC 1.5HP 200~600VAC
Coil voltage	DC 6~120V AC 12~240V	DC 6~125V AC 6~240V	DC 6~120V AC 12~240V	DC 6~125V AC 6~240V
Power consumption	DC 0.9W AC 1.2VA	DC 1.2W · 1.5W AC 3.0VA · 3.4VA	DC 1.2W AC 2.0VA · 2.7VA	DC 1.2W · 1.5W AC 3.0VA
Life expectancy				
Mechanical (Min.)	1×10 ⁷	1×10 ⁷	1×10 ⁷	1×10 ⁷
Electrical (Min.)	1×10 ⁵	1×10 ⁵	5×10 ⁴	1×10 ⁵
Dielectric strength				
Open contact	1000VAC	1000VAC	1000VAC	1000VAC
Contact and coil	1500VAC	1600VAC	2500VAC	2200VAC
Contact circuits	1500VAC	1600VAC	2500VAC	1600VAC
Terminal layout				
mm (inch) Bottom view (PCB layout)				
Terminal type				
Safety approval	UL CSA TUV CE	UL CSA CE	UL	UL CSA TUV
Page no.	187~192	193~199	177~183	200~205

Relays Selection Chart

S01	
	
29 × 12.5 × 26.4	
2C · 2D	
<div style="text-align: center;">8A</div> 	
8A 240VAC	
3~110V	

0.7W	

5×10 ⁶	
1×10 ⁵	
2000VAC	
4000VAC	






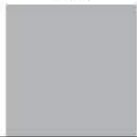
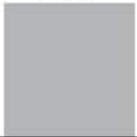
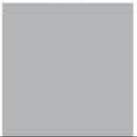


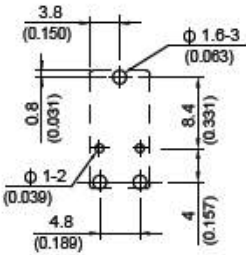
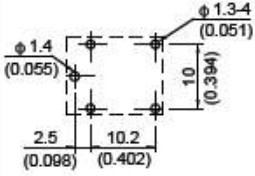
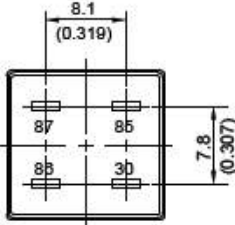
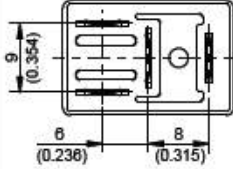
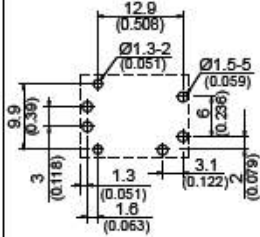
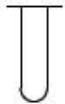


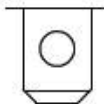

	
	
UL	TUV
206~208	



Relays Selection Chart





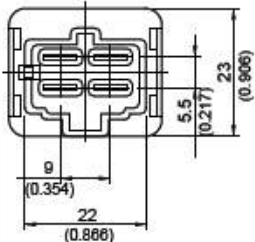
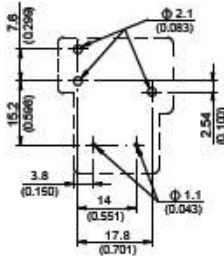
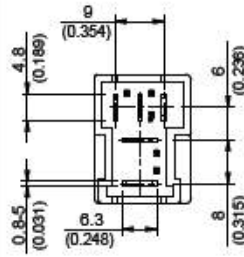
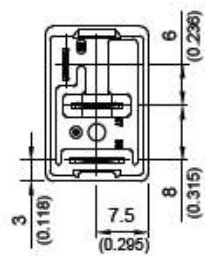
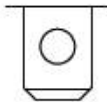
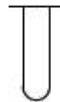
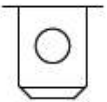
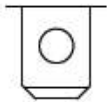
Type	812HM	833HM	861	102	
Photo					
Description					
Outline (L×W×H) mm No including terminals	21 × 16 × 16.3	19 × 15.5 × 15	17.5 × 15 × 19.5	14.2 × 13.2 × 9.7	
Contact configuration	1A · 1C	1A · 1B · 1C	SP DM-DB	1A · 1C	
Max. Allowable Contact current (A)	45				
	40				
	35				
	30				
	25	15A	15A	15A	20A
	20				
	15				
10					
5					
3					
Contact rating Resistive load	15A 14VDC	15A 14VDC	15A 14VDC SPDM : 10A×2 14VDC	NO : 20A 14VDC NC : 10A 14VDC	
Coil voltage	DC	9 · 12 · 24V	9 · 12 · 24V	6 · 9 · 12 · 24V	
	AC	-----	-----	-----	
Power consumption	DC	0.64W	0.45W	1.1W	
	AC	-----	-----	-----	
Life expectancy Mechanical (Min.)		1×10 ⁷	1×10 ⁷	1×10 ⁷	
	Electrical (Min.)	1×10 ⁵	3×10 ⁴	1×10 ⁵	
Dielectric strength	Open contact	500VAC	500VAC	500VAC	
	Contact and coil	500VAC	500VAC	500VAC	
	Contact circuits	-----	-----	-----	
Terminal layout					
mm (inch) Bottom view (PCB layout)					
Terminal type					
Page no.	209~211	212~214	215~218	219~221	

Relays Selection Chart











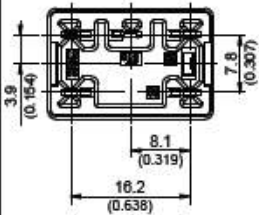
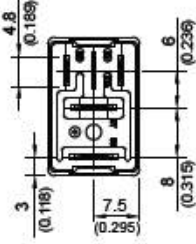
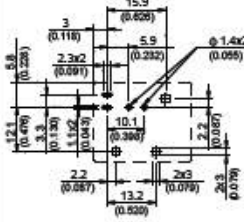
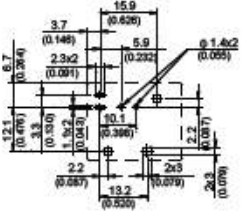
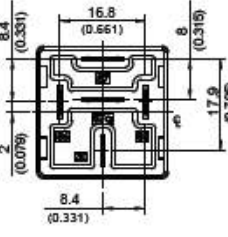

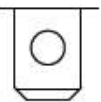



103	895	303	108	905
				
14.4 × 7.6 × 13.7	15.5 × 12 × 13.8	16 × 15 × 23.7	22.5 × 15 × 16	16.6 × 12.6 × 17
1A · 1C	1A · 1C · 2A	1A	1A	1A · 1C
				
NO : 20A 14VDC NC : 10A 14VDC	NO : 20A 14VDC NC : 10A 14VDC	20A 14VDC 10A 28VDC	25A 14VDC	NO : 30A 14VDC NC : 20A 14VDC
6 · 9 · 12 · 24V	5 · 9 · 12 · 24V	12 · 24V	12V	12V
-----	-----	-----	-----	-----
0.64W	0.64W · 1.0W · 0.8W	0.96W	0.8W	0.72W
-----	-----	-----	-----	-----
1 × 10 ⁷	1 × 10 ⁷	1 × 10 ⁷	1 × 10 ⁶	1 × 10 ⁷
1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵
500VAC	500VAC	500VAC	500VAC	500VAC
500VAC	500VAC	500VAC	500VAC	500VAC
-----	-----	-----	-----	-----
				
		280 		
222~224	225~228	229~231	232~233	234~235



Relays Selection Chart




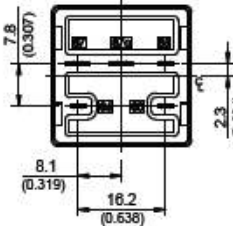
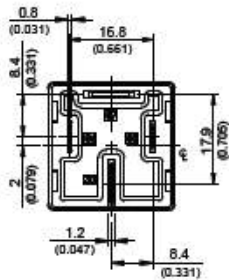
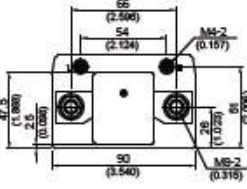


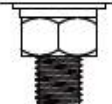
Type	804	832AM	871	871A
Photo				
Description				
Outline (L×W×H) mm No including terminals	27.7 × 23 × 29.3	32.2 × 27.5 × 20.4	23 × 15.5 × 25.4	22.5 × 15 × 25.4
Contact configuration	1A	1A · 1C	1A · 1C	1A
Max. Allowable Contact current (A)	30A	30A	35A	35A
45				
40				
35				
30				
25				
20				
15				
10				
5				
3				
Contact rating Resistive load	30A 12VDC 15A 24VDC	1A : 30A 14VDC 1C : NO 20A/NC 10A 14VDC	NO : 35A 14VDC 15A 28VDC NC : 20A 14VDC 10A 28VDC	35A 14VDC
Coil voltage	DC 12 · 24V AC -----	9 · 12 · 24V -----	6 · 12 · 24V -----	12V -----
Power consumption	DC 1.4W AC -----	0.93W -----	1.2W -----	1.2W -----
Life expectancy				
Mechanical (Min.)	5×10 ⁶	1×10 ⁷	1×10 ⁷	1×10 ⁶
Electrical (Min.)	1×10 ⁵	1×10 ⁵	1×10 ⁵	1×10 ⁵
Dielectric strength				
Open contact	500VAC	500VAC	500VAC	500VAC
Contact and coil	500VAC	500VAC	500VAC	500VAC
Contact circuits	-----	-----	-----	-----
Terminal layout				
mm (inch) Bottom view (PCB layout)				
Terminal type				
Page no.	236~238	239~241	242~245	246~247

Relays Selection Chart

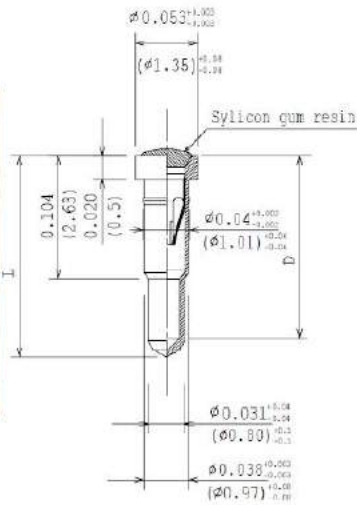
301	611	822E OPEN	822E Cover	896
				
22.5 × 15 × 25	22.5 × 15 × 25.4	25 × 21 × 20	26.6 × 21.4 × 21.8	25.8 × 25.8 × 25
1A · 1C	1A	1A · 1B · 1C	1A · 1B · 1C	1A · 1B · 1C · 2A
				
NO : 35A 14VDC 15A 28VDC NC : 20A 14VDC 10A 28VDC	35A 14VDC	1A : 40A 14VDC 1B : 30A 14VDC 1C : NO 40A/NC 20A 14VDC	1A : 40A 14VDC 1B : 30A 14VDC 1C : NO 40A/NC 20A 14VDC	896H : 50A 14VDC 20A 28VDC 896 : 40A 14VDC
6 · 12 · 24V	12V	6 · 9 · 12 · 24V	6 · 9 · 12 · 24V	12 · 24V
-----	-----	-----	-----	-----
1.2W	1.2W	1.6W · 1.2W	1.6W · 1.2W	1.6W
-----	-----	-----	-----	-----
1 × 10 ⁷	1 × 10 ⁶	1 × 10 ⁷	1 × 10 ⁷	1 × 10 ⁷
1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵	1 × 10 ⁵
500VAC	500VAC	500VAC	500VAC	500VAC
500VAC	500VAC	500VAC	500VAC	500VAC
-----	-----	-----	-----	-----
				
280 				
248~250	251~252	253~257	253~257	258~263



Relays Selection Chart

Type	898	897	409
Photo			
Description			
Outline (L×W×H) mm No including terminals	25.8 × 25.8 × 25	25.8 × 25.8 × 25	90 × 58 × 49.5
Contact configuration	1A · 1B · 1C	1A	1A
Max. Allowable Contact current (A)	45	70A	200A
	40		
	35		
	30		
	25		
	20		
	15		
	10		
5			
3			
Contact rating Resistive load	898H: 50A 14VDC 20A 28VDC 898: 40A 14VDC	70A 14VDC 25A 28VDC	200A 24VDC
Coil voltage	DC	12 · 24V	12 · 24V
	AC	-----	-----
Power consumption	DC	1.6W	1.6W
	AC	-----	-----
Life expectancy Mechanical (Min.)	1×10 ⁷	1×10 ⁷	1×10 ⁶
Electrical (Min.)	1×10 ⁵	1×10 ⁵	5×10 ⁴
Dielectric strength	Open contact	500VAC	500VAC
	Contact and coil	500VAC	500VAC
	Contact circuits	-----	-----
Terminal layout			
mm (inch) Bottom view (PCB layout)			
Terminal type	280 		
Page no.	264~268	269~274	275~276

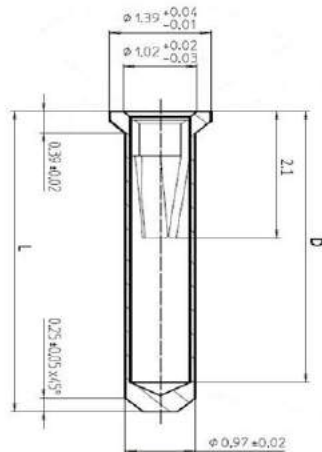
*內外材質：鍍金；頂部內鑲矽膠。適用於：高頻特性產品。



Model Number (TYPE)		
SPIN-A-*		
	MATERIAL	FINISH
SHELL	Brass	Au
CONTACT	Beryllium Copper	Au
Type	L $\pm 0.004 (+0.1)$	D $\pm 0.004 (+0.1)$
SPIN-A-1.6	0.169 (4.3)	0.154 (3.9)
SPIN-A-3.2	0.197 (5.0)	0.161 (4.1)
SPIN-A-4.8	0.248 (6.3)	0.154 (3.9)
SPIN-A-6.5	0.295 (7.5)	0.154 (3.9)

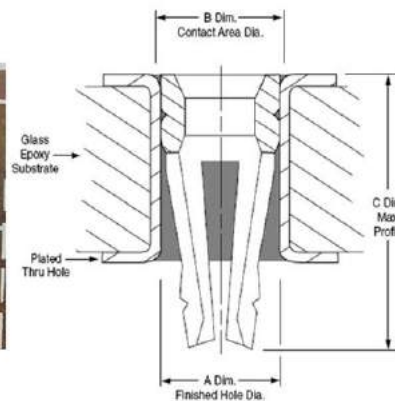
dimensions are measured in inches (millimeters)

*內外材質：鍍錫。適用於：低頻產品。



Model Number (TYPE)		
01412 / 01418 / 01650		
Type	L ± 0.05 mm	D ± 0.05 mm
01412	3.45 mm	3.15 mm
01418	4.27 mm	3.75 mm
01650	6.50 mm	5.98 mm

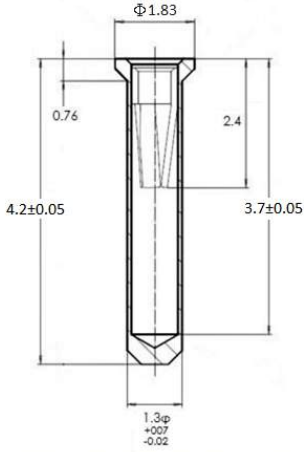
*免焊系列



Type	8134-HC-5P2 (Gold)
	8134-HC-5P3 (Tin/Lead)
Recommended Lead size	Rectangular Lead .011x.018 ± 0.002 (0.28x0.46 ± 0.05) Or Round Lead .016-.021 (0.406-0.553) Diameter
Recommended Primary Drill Size	.0453 (1.15)
A Dim. Finished Plated-Thru Hole Size	.041 ± 0.002 (1.04 ± 0.05)
B Dim. Contact Diameter	.044 ± 0.0005 (1.12 ± 0.01)
C Dim. Maximum Profile	0.1 (2.54)
Board Thickness	0.030 (0.75) Minimum
Plated-Thru Hole Finish	.0003-.0005 (0.0076-0.0127) Electro-deposited Tin/Lead over .001 (0.0254) Minimum Thick Electro Deposited Copper Plate

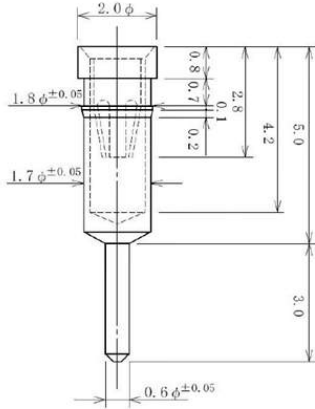
* 寬孔徑系列：適合 $\Phi 0.45 \sim \Phi 1.0$

O1417



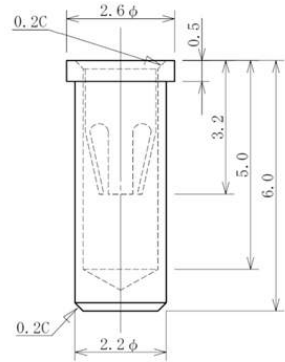
Mating pin diameter range: $\Phi 0.45 \sim \Phi 0.65$

O1461



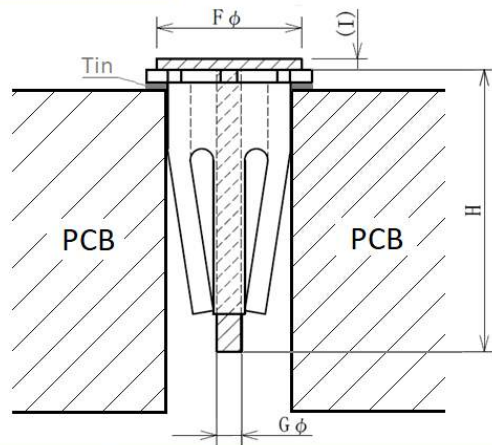
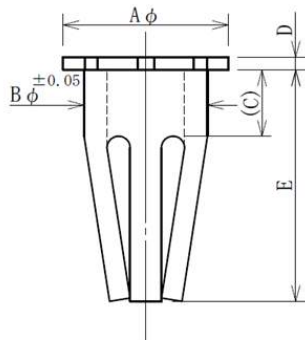
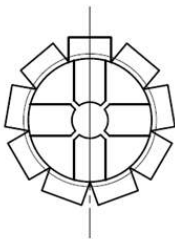
Mating pin diameter range: $\Phi 0.6 \sim \Phi 0.8$

O1472

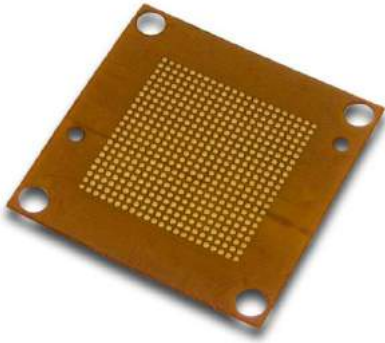


Mating pin diameter range: $\Phi 0.8 \sim \Phi 1.0$

* 表面安裝系列：正面表貼焊錫，適合自動化生產



P/N	A Φ	B Φ	(C)	D	E	F Φ	G Φ	H	(I)	Mating pin diameter range:
01405 (L)	1.50	1.12	0.6	0.12	2.1	1.3	0.45	2.9	0.18	$\Phi 0.45 \sim \Phi 0.60$
01405 (H)	1.50	1.12	0.8	0.18	2.1	1.3	0.45	2.9	0.18	$\Phi 0.40 \sim \Phi 0.60$
01407 (L)	1.85	1.32	0.6	0.14	2.5	1.6	0.6	3.4	0.15	$\Phi 0.60 \sim \Phi 0.80$
01407 (H)	1.85	1.32	1.0	0.18	2.5	1.6	0.6	3.4	0.15	$\Phi 0.60 \sim \Phi 0.80$
01409 (L)	2.20	1.63	0.6	0.14	3.0	2.0	0.8	4.0	0.25	$\Phi 0.80 \sim \Phi 1.00$
01409 (H)	2.20	1.63	1.2	0.18	3.0	2.0	0.8	4.0	0.25	$\Phi 0.80 \sim \Phi 1.00$

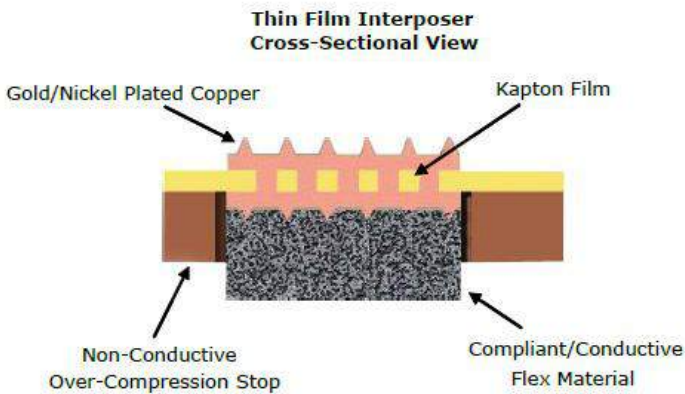


產品介紹

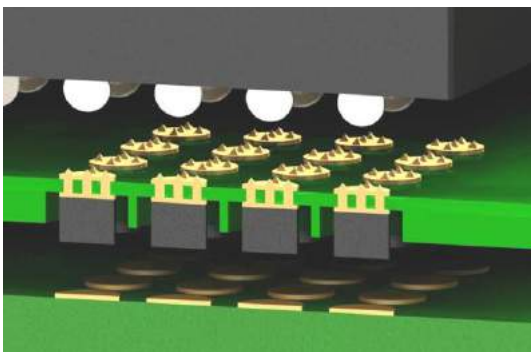
薄膜中介片技術是傳統探針技術外的另一項選擇，
它能在晶片和測試設備之間產生電路的暫時透明連接。
採用迷你導電彈性體，形成非常短的電流路線，
具有低電阻，和超低電感值和電容值等優點，
並且**施加力道 Force 低**，**不造成被測物之損傷**。

以傳遞最清晰的影像。此技術對於高頻率和**高電流**之產品使用效果特別好!

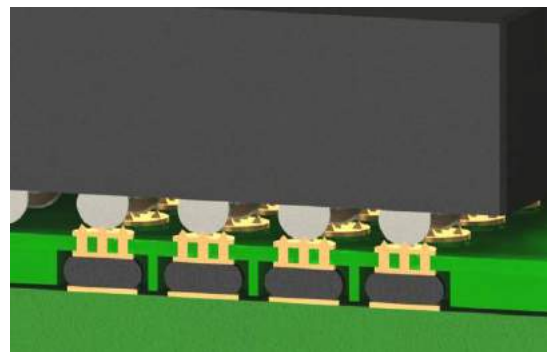
設計原理 與 優異的電氣特性:



Specifications:	
Current Carrying Capabilities	>5 Amps per pin
Environmental	-40 C to 155 C
Typical Contact Force	15-25 grams per pin
Electrical Contact	<0.012" to .016"
Contact Compliance	<.003" to 0.005"



壓縮前



壓縮後

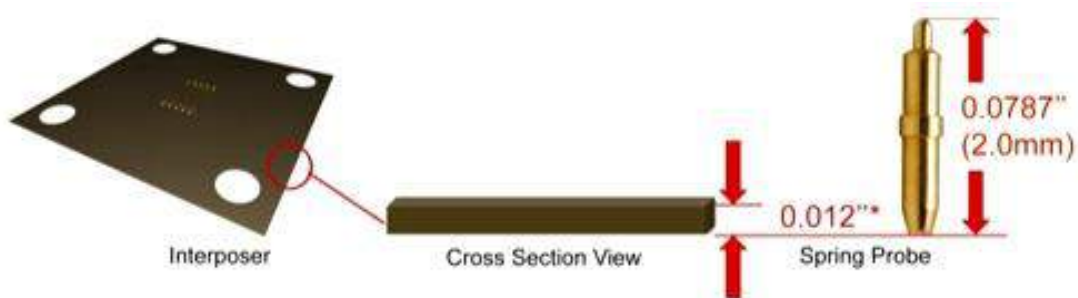
中介片為何與眾不同?

與加工而成的彈簧探針不同的製造技術，中介片採光蝕技術製造。

經由印製程序，接觸點能以最精密間距生產，小至 0.2mm pitch。

因其超薄外型設計，中介片可呈現最優良的電氣效能。

並可廣泛應用於各式各樣的設計，包括混和的間距及特殊規格的要求。



中介片之應用:

1. TPM FPC Test Connector

眾多標準品項 Pitch : 0.2~1.0mm ; Pin number : 4~93pin ; 3 種輸出接頭。



FFC Type



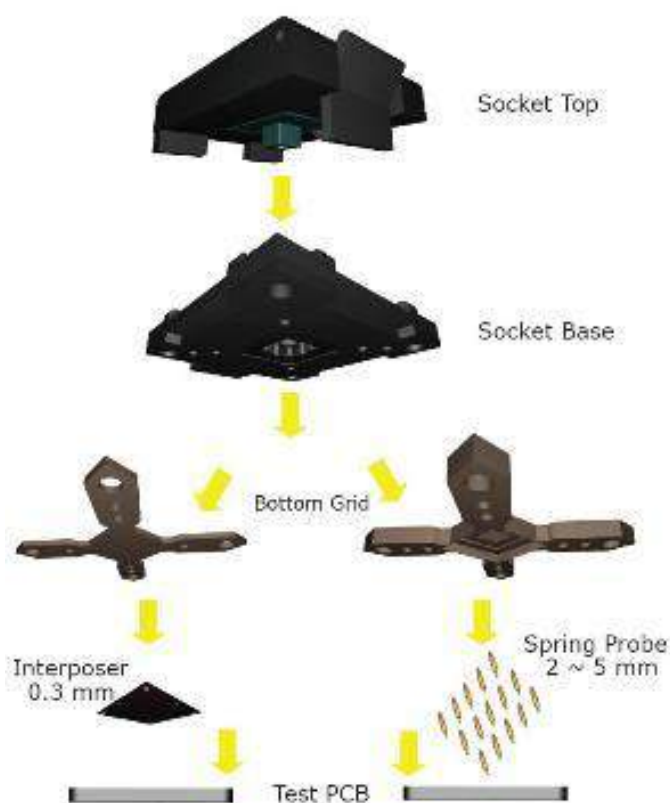
PCB Type



FRC Type

2. IC Final Test Socket

使用 Interposer 取代 Probe(Pogo pin) 。
All customized 。





電子設備，例如手機和數位相機中，軟性線路板已經取代普通線纜，並經常被用於連接板、模塊等相互之間的電氣連接。習慣上，連接器是被用來測試這些部件的電氣性能，從而鑑定對設計的需要或者生產變動。但是由於可靠性的限制，連接器的壽命極短。SANYU 非常榮幸的介紹，我們最新的 FPC 測試連接器系統應用了**中介片技術**。

通過使用中介片技術，我們的測試連接器實現了**出眾的壽命表現、高可靠性和高頻特性**，此外該產品易維護且操作性高。

產品特性

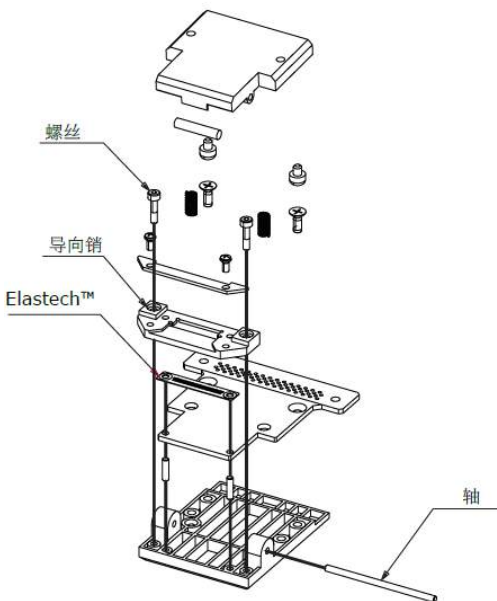
- ◆ 間距 **0.2 mm~1.0mm**，並支持混合間距。
 - Pin 數多樣化：**4~93pin**；搭配 **3 種標準輸出接頭**。
 - ◆ **超過 50 萬次機械壽命**。
 - ◆ 激光切割的接觸面提高了接觸穩定性並提高了可靠性。
 - ◆ 矩形的接觸設計可以讓 FPC 有更多的接觸空間。
 - ◆ 中介片電感低。
 - ◆ 維護保養簡單。還能**防止 PCB 上的連接器和 FPC 自身的損壞**。
 - ◆ 電器觸點短(**0.3mm**)適合高頻器件使用。
- (通過電介質條狀線和連接板可以做高頻測試。此外，扁平同軸線纜也可以使用)

技術條款

- 最大額定功率：30W
- 最大額定電流：1.5A
- 最大額定電壓：50V (AC/DC)
- 耐壓值：AC 250V/1 min
- 絕緣阻抗：Min. 100mΩ (250V)
- 最大接觸電阻：小於 100mΩ (接觸區域)
- 工作溫度：0~65 °C

應用

- 夾子連接器測試軟性線路板，模塊。
- 數碼相機和數碼錄像機的圖像和馬達單元的功能測試。
 - 硬盤、軟驅和 MOD 的傳感器和馬達單元的功能測試。
 - CD 和 DVD 的傳感器和馬達單元的功能測試。
 - LCD 模塊檢測。
 - 同時適合電子器件和模塊如相機、影視頻設備和汽車零部件等。





P/N: F - XX 00

① ② ③ ④ ⑤ ⑥

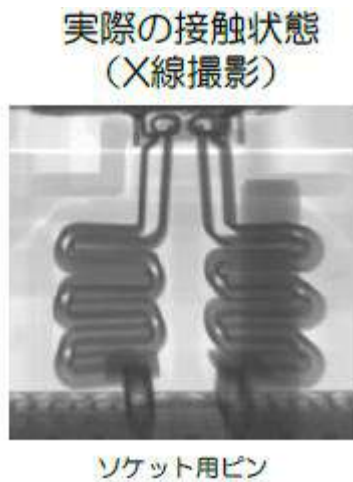
<p>① Body Width</p> <ul style="list-style-type: none"> A= 49mm B= 39mm C= 29mm D= 24mm E= 19mm F= 14mm 	<p>② Pitch Chose</p> <ul style="list-style-type: none"> 20= 0.2mm 25= 0.25mm 30= 0.3mm 40= 0.4mm 50= 0.5mm 80= 0.8mm A1= 1.0mm 	<p>③ Pin Number Range</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">FF20xx</td> <td style="padding: 2px;">19~43 pin</td> <td style="padding: 2px;">FF25xx</td> <td style="padding: 2px;">15~35 pin</td> </tr> <tr> <td style="padding: 2px;">FE20xx</td> <td style="padding: 2px;">17~69 pin</td> <td style="padding: 2px;">FE25xx</td> <td style="padding: 2px;">15~51 pin</td> </tr> <tr> <td style="padding: 2px;">FD20xx</td> <td style="padding: 2px;">33~93 pin</td> <td style="padding: 2px;">FD25xx</td> <td style="padding: 2px;">27~51 pin</td> </tr> <tr> <td style="padding: 2px;">FC20xx</td> <td style="padding: 2px;">17~37 pin</td> <td style="padding: 2px;">FC25xx</td> <td style="padding: 2px;">15~31 pin</td> </tr> <tr> <td style="padding: 2px;">FB20xx</td> <td style="padding: 2px;">47~87 pin</td> <td colspan="2"></td> </tr> <tr> <td colspan="4" style="padding: 5px 0 5px 20px;"> </td> </tr> <tr> <td style="padding: 2px;">FF30xx</td> <td style="padding: 2px;">11~27 pin</td> <td style="padding: 2px;">FF40xx</td> <td style="padding: 2px;">08~22 pin</td> </tr> <tr> <td style="padding: 2px;">FE30xx</td> <td style="padding: 2px;">11~43 pin</td> <td style="padding: 2px;">FC40xx</td> <td style="padding: 2px;">08~20 pin</td> </tr> <tr> <td style="padding: 2px;">FD30xx</td> <td style="padding: 2px;">23~59 pin</td> <td style="padding: 2px;">FB40xx</td> <td style="padding: 2px;">24~44 pin</td> </tr> <tr> <td style="padding: 2px;">FC30xx</td> <td style="padding: 2px;">11~27 pin</td> <td colspan="2"></td> </tr> <tr> <td style="padding: 2px;">FB30xx</td> <td style="padding: 2px;">31~59 pin</td> <td style="padding: 2px;">FC80xx</td> <td style="padding: 2px;">04~10 pin</td> </tr> <tr> <td style="padding: 2px;">FA30xx</td> <td style="padding: 2px;">59~91 pin</td> <td colspan="2"></td> </tr> <tr> <td colspan="4" style="padding: 5px 0 5px 20px;"> </td> </tr> <tr> <td style="padding: 2px;">FE50xx</td> <td style="padding: 2px;">06~26 pin</td> <td style="padding: 2px;">FEA1xx</td> <td style="padding: 2px;">04~12 pin</td> </tr> <tr> <td style="padding: 2px;">FD50xx</td> <td style="padding: 2px;">12~36 pin</td> <td style="padding: 2px;">FDA1xx</td> <td style="padding: 2px;">06~16 pin</td> </tr> <tr> <td style="padding: 2px;">FC50xx</td> <td style="padding: 2px;">07~15 pin</td> <td style="padding: 2px;">FBA1xx</td> <td style="padding: 2px;">10~18 pin</td> </tr> <tr> <td style="padding: 2px;">FB50xx</td> <td style="padding: 2px;">19~35 pin</td> <td style="padding: 2px;">FAA1xx</td> <td style="padding: 2px;">18~28 pin</td> </tr> <tr> <td style="padding: 2px;">FA50xx</td> <td style="padding: 2px;">35~55 pin</td> <td colspan="2"></td> </tr> </table>		FF20xx	19~43 pin	FF25xx	15~35 pin	FE20xx	17~69 pin	FE25xx	15~51 pin	FD20xx	33~93 pin	FD25xx	27~51 pin	FC20xx	17~37 pin	FC25xx	15~31 pin	FB20xx	47~87 pin							FF30xx	11~27 pin	FF40xx	08~22 pin	FE30xx	11~43 pin	FC40xx	08~20 pin	FD30xx	23~59 pin	FB40xx	24~44 pin	FC30xx	11~27 pin			FB30xx	31~59 pin	FC80xx	04~10 pin	FA30xx	59~91 pin							FE50xx	06~26 pin	FEA1xx	04~12 pin	FD50xx	12~36 pin	FDA1xx	06~16 pin	FC50xx	07~15 pin	FBA1xx	10~18 pin	FB50xx	19~35 pin	FAA1xx	18~28 pin	FA50xx	35~55 pin		
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<p>④ Contact point</p> <ul style="list-style-type: none"> A= Standard Guide B= Standard Revise Guide F= Long Guide G= Long Revise Guide 	<p>⑤ Connector Type</p> <ul style="list-style-type: none"> A= FRC B= FFC C= PCB 	<p>⑥ Customized code</p>																																																																									

特殊的觸針特點：

除了軟性電路板的測試夾具，另一產品廣泛使用形式為硬板電路板。以治具測試這些部件的電氣性能，從而鑑定對設計的需要或者生產變動。

但是由於可靠性的限制，連接器的壽命極短。

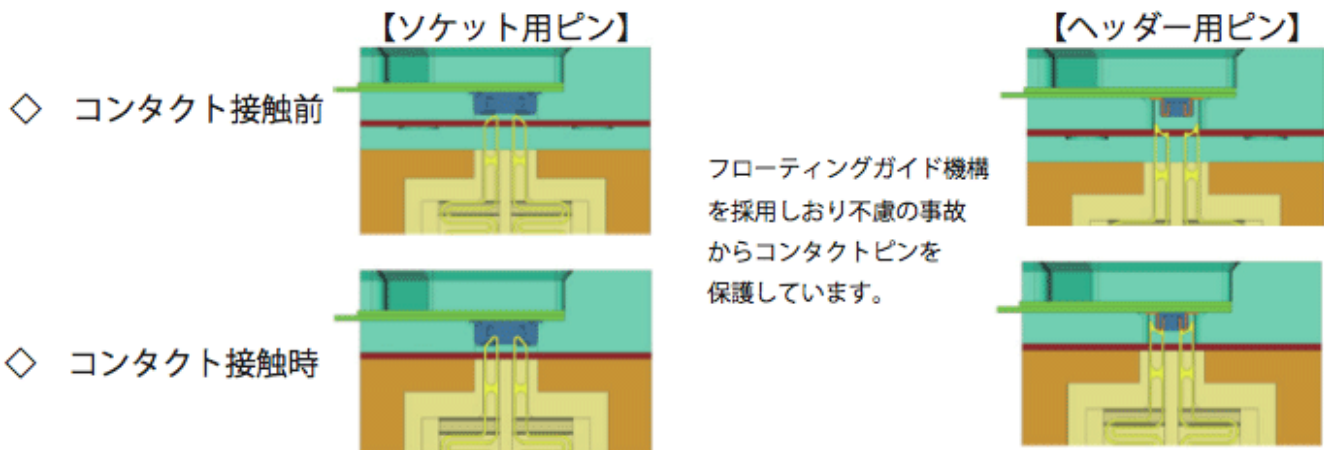
SANYU 亦提供 B to B 的解決方案。透過新研究的彎曲型的針腳材料實現了**出眾的壽命表現**、**高可靠性**和**高頻特性**表現。



產品特性

- ◆ 0.4mm Pitch , ~80 Pin.
- 0.35mm Pitch , ~80 Pin. (其他 Pitch , 同樣 Pin 數亦可。)
- ◆ 超過 100 萬次的使用壽命。
- ◆ 高頻表現: 約 7 GHz

【コンタクトの接触状態】



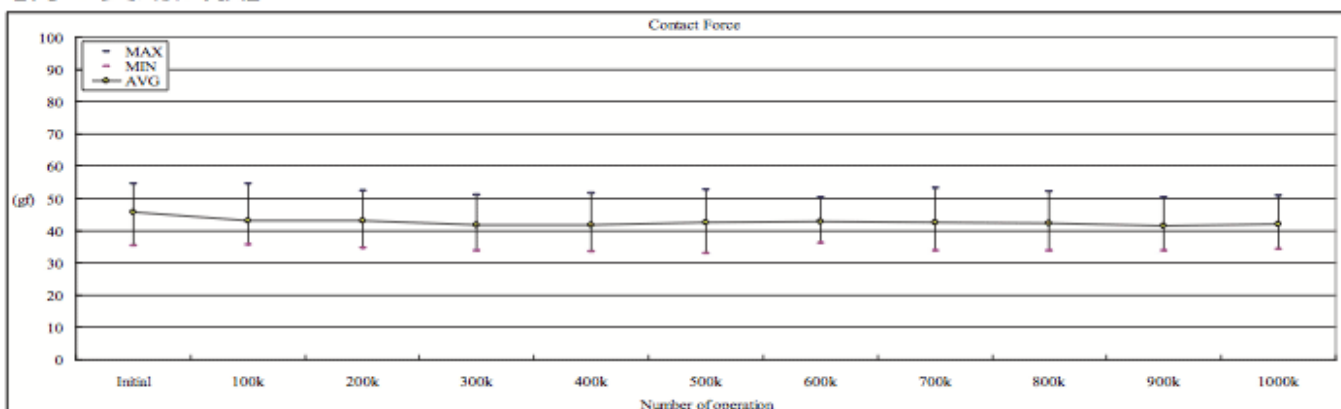
【治具形状】



※ 形状などの詳細については弊社営業までお問い合わせください。

N=18

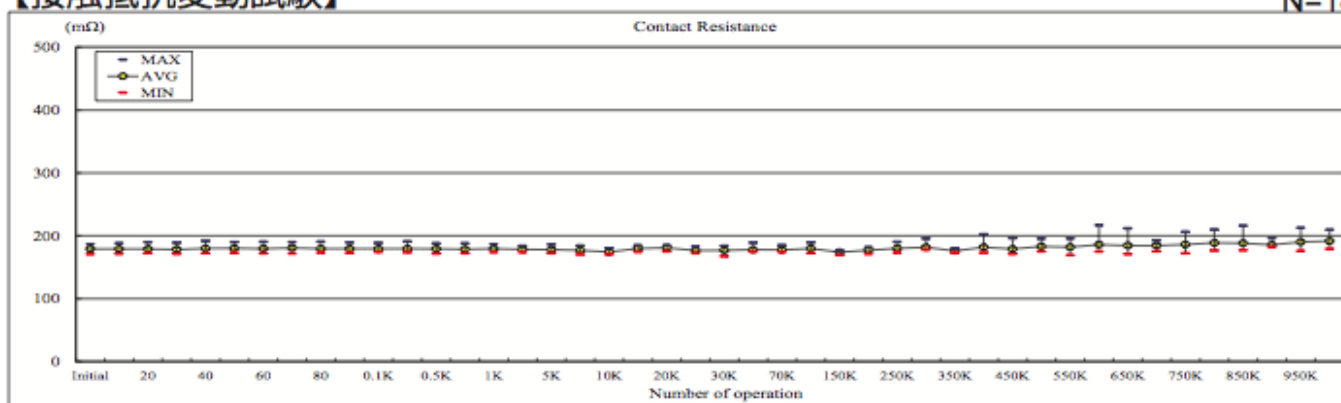
【荷重変動試験】



- ※ 1000k 回まで実施し、AVG で約 3gf の低下を確認しました。45gf±30% で荷重値は推移しています。
- ※ 1000k 回後におきましても折損は確認出来ませんでした。

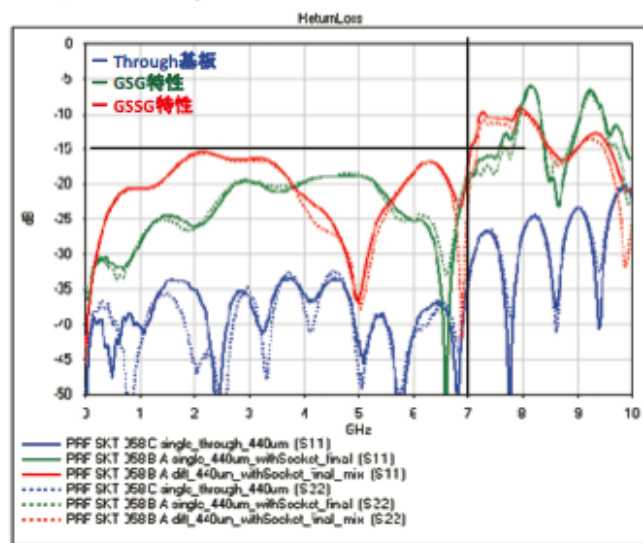
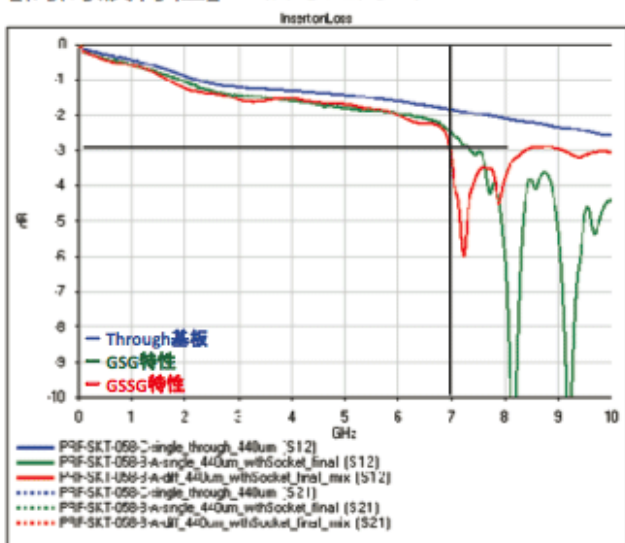
【接触抵抗変動試験】

N=18



- ※ 接触抵抗値のデータは、評価端子 2 本+B to B コネクタの接触抵抗値が含まれています。
- ※ 1000k 回まで完了し、接触抵抗値の上昇は確認出来ませんでした。

【高周波特性】 信号配列 (0.4mm ピッチ : G-S-G、G-S-S-G)

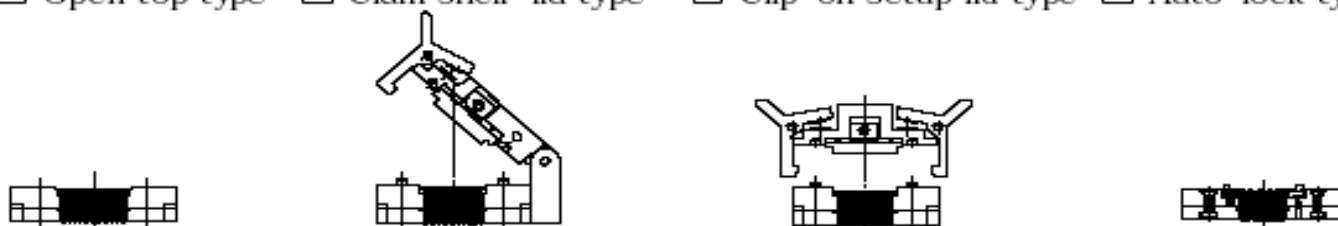


TPM(Sanyu)除了支援各式 IC F/T Socket 形式(SOP, SSOP, TSSOP, QFP, QFN, PLCC, LCC) , 提供使用上最便利的解決方案。
亦提供多樣化的 Contact material , 依據不同應用需求, 提供最出色的 Socket 建議設計。

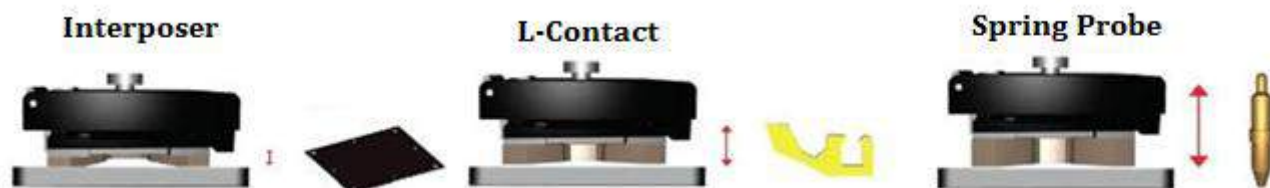


Mode of operation you can choose :

- Open top type Clam shell lid type Clip-on setup lid type Auto-lock type



Contact material you can choose :

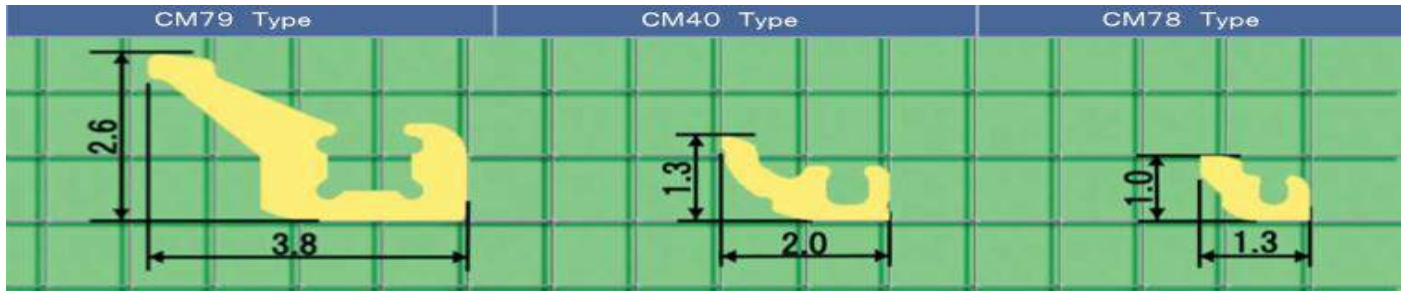


Interposer : (Also can design Kelvin Contact)



L Contacts :

最窄間距 0.3mm pitch, 超高壽命: 100 萬次,
各式 IC 形式對應(SOP,SSOP,TSSOP,QFP, QFN,PLCC,LCC)

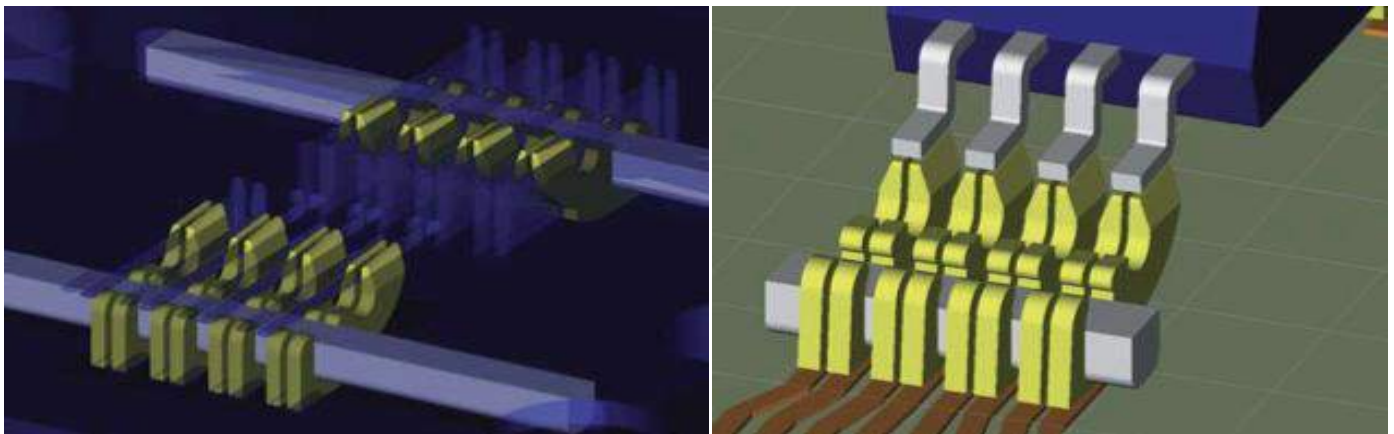


型名 (Part)	CM□□□-0101M4(A)	CM□□□-0151M4(A)	CM□□□-0251M4(A)
母材質 (Base Material)	ベリリウム銅 (BeCu) Beryllium Copper		
厚さ (Thickness)	100μm	150μm	250μm
メッキ (Plated)	Au合金メッキ (1~2μm) Gold Plated		

Elastomer

型名 (Part)	MR-G0003-□□	MR-G0001-□□	MR-G0004-□□
断面 (Section)	1.0×1.0mm	0.5×0.5mm	0.3×0.3mm
硬度 (Hardness)	4U~7U	4U~7U	5U~7U

Kelvin contact :



L Contacts

型名 (Part)	CM40W-0101M4A	CM40W-0151M4A	CM40W-0251M4A
母材質 (Base Material)	ベリリウム銅 (BeCu) Beryllium Copper		
厚さ (Thickness)	100μm	150μm	250μm
メッキ (Plated)	Au合金メッキ (1~2μm) Gold Plated		

Elastomer









型名 (Part)	MR-G0001-4U	MR-G0001-5U	MR-G0001-6U	MR-G0001-7U
断面 (Section)	0.5×0.5mm			
硬度 (Hardness)	4U	5U	6U	7U
色 (Color)	Yellow	Green	Blue	Purple

Insulating plate

型名 (Part)	CM75-001	CM75-002	CM75-003
厚さ (Thickness)	10μm	20μm	30μm











Pogo Pin :

Figure of Probe tip











Crown Straight(60°)	Crown Straight(90°)	Crown Self-cleaning	Crown Taper	Ball	Cup	Flat	Corn 90° C~150°C
							

◇ Please contact us for other probe tips.

Probe Specification

	Part number	Pitch(mm)	Barrel dia(mm)	L (mm)	Full Travel	Tip style	Spring force(N)
	PS-CQ20-05P22	0.5~	0.35	2.0	0.2mm st	4 Point Crown	22gf
	PS-CQ24-04P15	0.4~	0.32	2.4	0.3mm st	4 Point Crown	15gf
	PW-CQ30-05P22	0.5~	0.35	3.0	0.5mm st	4 Point Crown	22gf
	PW-CQ30-05P30	0.5~	0.35	3.0	0.5mm st	4 Point Crown	30gf
	PS-TQ32-05P22	0.5~	0.35	3.2	0.4mm st	4 Point Crown	22gf
	PS-CQ32-05P22	0.5~	0.35	3.2	0.4mm st	4 Point Crown	22gf
	PS-CQ35-04P20	0.4~	0.32	3.5	0.5mm st	4 Point Crown	20gf
	PW-TQ57-05P20	0.5~	0.36	5.7	0.6mm st	4 Point Crown	20gf
	PS-CQ57-05P27*1	0.5~	0.36	5.7	0.6mm st	4 Point Crown	27gf
	PW-CP61-04P23*1	0.4~	0.28	6.1	0.6mm st	4 Point Crown	23gf
	PS-CC62-04P30	0.4~	0.28	6.2	0.6mm st	4 Point Crown	30gf

Probe Data

	Part number	CR (mΩ)	L (nH)	C (pF)	A (A)*2	Temperature	Mating Life*3
	PS-CQ20-05P22	100	1.6	0.7	1	-30°C~+125°C	100,000
	PS-CQ24-04P15	100	2.7	0.5	1	-30°C~+125°C	100,000
	PW-CQ30-05P22	100	1.8	1.1	1	-30°C~+125°C	500,000
	PW-CQ30-05P30	100	1.9	1.1	1	-30°C~+125°C	500,000
	PS-TQ32-05P22	100	2.9	1.3	1	-30°C~+125°C	500,000
	PS-CQ32-05P22	100	2.9	1.3	1	-30°C~+125°C	500,000
	PS-CQ35-04P20	100	3.0	0.9	1	-30°C~+125°C	100,000
	PW-TQ57-05P20	100	4.4	2.3	1	-30°C~+125°C	500,000
	PS-CQ57-05P27*1	100	4.4	2.3	1	-30°C~+150°C	500,000
	PW-CP61-04P23*1	100	5.9	1.9	1	-30°C~+150°C	100,000
	PS-CC62-04P30	100	6.1	1.8	1	-30°C~+125°C	100,000

*1: Spring SUS WIRE 150°C Capable

*2: Carry Current (Continuous Load)

*3: Mating Life is reference value

應用獲專利 FEP(氟化乙烯丙烯)技術為 Microwave & RF 產業界製造各式同軸電纜，這些**低損耗及高柔軟度的設計**提供 VP(傳播速率)為 70%~85%的產品，是實心和發泡式(PTFE 聚四氟乙烯)結構產品的最佳替代品。我們並採用獨特的壓模技術，為軍用品、醫療及工業界生產完善及技術先進的扁平帶狀電纜。

包含：

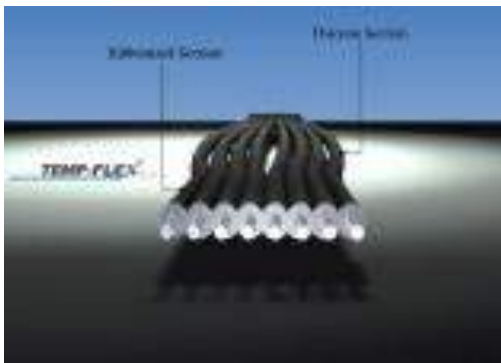
高繞曲電纜



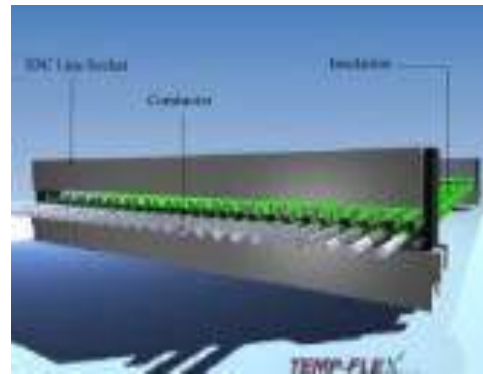
柔軟低阻抗匹配排狀電纜



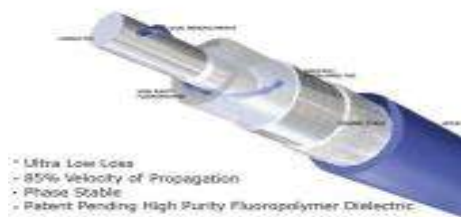
高速排狀電纜



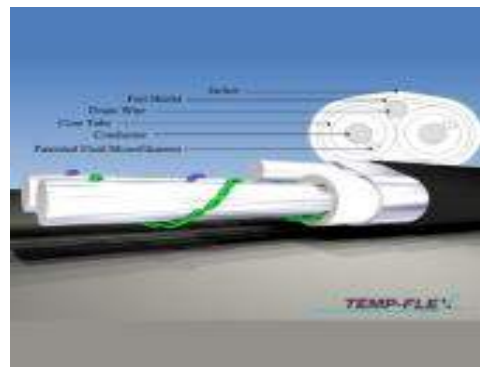
IDC 電纜



高頻電纜




同軸 & 多絞線高速電纜



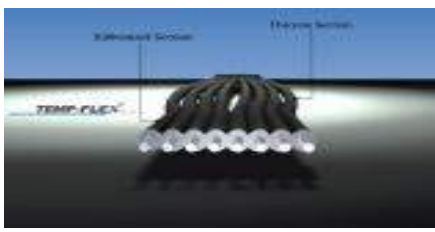
電纜組合

使用 Temp-Flex 電纜搭配 Sanyu Electric 高品質的射頻連接器如：SMA、SMP、SMMP、MMCX 和頂針探針組合，確保能以最高品質產品因應您的需要。

* Flat Ribbon Cable

		<p>高繞曲電纜：本產品是未在惡劣環境下而設計，採用 19 合金導體絞線輔助增加柔軟度，以達到不會剝離。</p> <p>耐高溫(200°C)絕緣材料，具絕佳穩定性。</p>	
Signal Pitch	Signal Count	Wire Type	Product No.
.050"(1.27mm)	2 to 64	26 AWG, 19/38 Stranded, Silver Plated High Strength Alloy	F26H19S**-050-5(-55)
		28 AWG, 19/40 Stranded, Silver Plated High Strength Alloy	F28H19S**-050-5(-N)
		28 AWG, 19/38 Stranded, Bare Copper	F28H19B**-050-7

		<p>阻抗匹配帶狀電纜：絕緣的排狀電纜壓製而成，以配合特別的阻抗系統。</p> <p>速度<1 GHz 和上升時間>1ns。</p>		
Typical Impedance	Signal Pitch	Signal Count	Wire Type	Product No.
50Ω	1.27mm/.050"±0.05mm/0.002"	10 to 64	Signal: 30 AWG, Solid, Silver Plated Copper	C50-01-**-N5
			Ground: 28 AWG, Solid, Silver Plated Copper	
75 Ω	1.27mm/.050"±0.05mm/0.002"		Signal: 33 AWG, Solid, Silver Plated Copper	C75-01-**-N4
			Ground: 30 AWG, Solid, Silver Plated Copper	
90 Ω	1.27mm/.050"±0.05mm/0.002"		Signal: 32 AWG, Solid, Silver Plated Copper	C90-01-**-N5
			Ground: 32 AWG, Solid, Silver Plated Copper	
95 Ω	1.27mm/.050"±0.05mm/0.002"		Signal: 33 AWG, Solid, Silver Plated Copper	C95-01-**-N1
			Ground: 33 AWG, Solid, Silver Plated Copper	



高速排狀電纜：製成扁平型式電纜，以緊密的空間容許度設計符合電子特性，並且簡化電纜連接。

Impedance	Conductor	Conductor Type	Shield Type	Jacket Material	Product No.
50Ω	30 AWG to 24 AWG	Solid or Stranded	Serve or Braid	THV or Polyurethane, PVC	50HCX62-13S-0385-9
					50HCX62-25-0385-5
75 Ω	34 AWG to 20 AWG				75HCX08-11-054-7

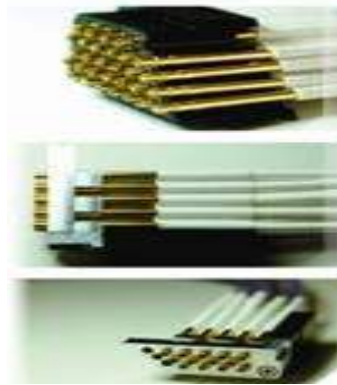
* RF&Microwave Coaxial Cable



高速同軸電纜：具柔軟度的 Microwave 產品使用專利性的單芯/雙單芯技術，經證實能在高頻率(>12GHz)下加強其績效。

- 維持一致 50Ω 阻抗
- 高傳播速率(>85%)

Parameters	Units	047SC-2801, 28AWG	086-2301, 23AWG	50HCX-53
Conductor Details				
訊號導體 & 材料	Inch(mm)	0.0126 (0.32) Silver Plated Copper	0.0226(0.57) Silver Plated Copper	0.0201 (0.51) Silver Plated Copper
芯 材料		PFA, Blue	PFA, Blue	PFA
核芯套管外徑 & 材料	Inch(mm)	0.032 FEP, Clear	0.057(1.45) FEP, Clear	0.051 (1.3) FEP, Clear
編織隔離外徑	Inch(mm)	42 AWG SPC, >90% Coverage	0.085 (2.16)	0.079 (2.00)
披覆外徑 & 材料	Inch(mm)	0.05 Nom FEP, Black Tint	0.1 (2.54) FEP, Black Tint	0.095 (2.4)
Electrical Specifications(Coaxial)				
阻抗特性	Ω	50±1	50± 1	50± 1
電容值	pF/ft (pF/m)	23 (74.5)	23 (74.5)	23 (74.5)
電感值	uH/ft (uH/m)	0.058 (0.19)	0.058 (0.19)	0.058 (0.19)
有效隔離	dB	>100	>100	>100
傳播速率	%	88	88	87
衰減量 @1.0GHz	dB/ft	0.33	0.18	
衰減量 @5.0GHz	dB/ft	0.82	0.43	
衰減量 @10.0GHz	dB/ft	1.08	0.64	
衰減量 @15.0GHz	dB/ft	1.57	0.81	
衰減量 @20.0GHz	dB/ft	1.74	0.95	
Mechanical Specifications				
最小彎曲半徑	Inch(mm)	0.25(6.35)	0.5(12.7)	0.5(12.7)
操作溫度	°C	-65 ~+200	-65 ~+200	-65 ~+200



自動測試設備和通信設備的高頻信號接口要求信號在高的密度下傳輸超過 3.5Gbps 的信號，Pogo Block 為它們提供更低壓力的接口解決方案。

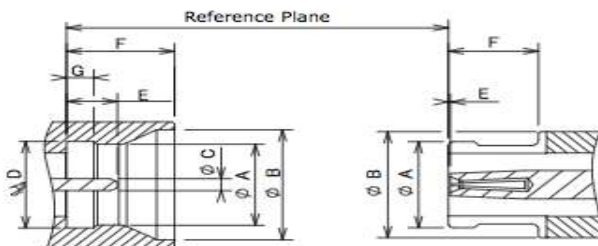
- 最高的射頻性能設計正在專利申請中
- 靈活的定制化設計
- 結合高質量的 Temp-Flex 線纜使用

Parameters	Units	Single Pogo Block	Coaxial Pogo Block
Physical properties			
Deflection amount	Inch(mm)	0.09~0.11 (1.78~2.54)	0.09~0.11 (1.78~2.54)
Compression force	Ounces(gram)	1.6 (45)	2.65 (75)
Mechanical life	Cycle	50,000 @100% Deflection	50,000 @100% Deflection
Electrical properties			
Carry current	Amp	1	1
Resistance	mΩ	<20	<75
Propagation delay, One way	Ps		<1.3
Attenuation Vs. frq.	dB		<-1 @3GHz <-1.65 @10GHz
Return loss	dB	>25 @3GHz >18 @10GHz	>27 @3GHz >18 @10GHz
Cable specification			
Signal conductor & material	Inch(mm)	0.0126 (0.32) Silver Plated Copper	0.0126 (0.32) Silver Plated Copper
Monofilament		PFA, Blue	PFA, Blue
Impedance	Ω	50±1	50±1
Inductance	uH/ft (uH/m)	0.058 (0.19)	0.058 (0.19)
Cut off frequency	GHz	144	144
Velocity of propagation	%	88	88
Environmental rating			
Operating temperature	°C	-20~+85	-20~+85

* SMMP Connector/Adaptor



	Male		Female	
	min.	max.	min.	max.
A	2.11	2.16	-	2.41
B	2.82	2.92	-	2.79
C	0.28	0.33	-	-
D	2.18	2.24	-	-
E	0.76	1.14	0.00	0.20
F	2.08	2.13	1.73	-
G	0.53	0.58	-	-

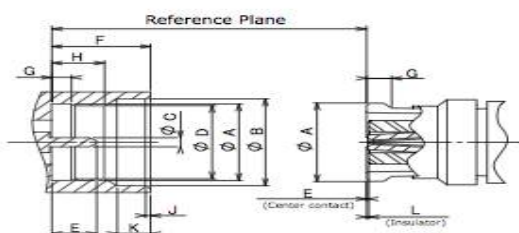


Electrical Characteristics		
50Ω	Impedance	
65GHz	Frequency Range	
160Vrms	Voltage Rating	
≤1.5 at 65GHz	VSWR	
5000MΩ	Insulation Resistance	
500Vrms	Dielectric Withstanding Voltage	
≤6.0mΩ	Center	Contact Resistance
≤2.0mΩ	Outer	Contact Resistance
Mechanical Characteristics		
≤19N	Force to Engage	
≥29N	Force to Disengage	
100 cycles	Durability	
-55°C~+155°C	Operating Temperature	
Materials		
Brass, Kover	Plug	Body
Beryllium Copper	Jack	Body
Phosphor Bronze	Male	Center Contact
Beryllium Copper	Female	Center Contact
PTFE, Glass	Insulator	
Finish		
Gold Plating	Body	
Gold Plating	Center Contact	

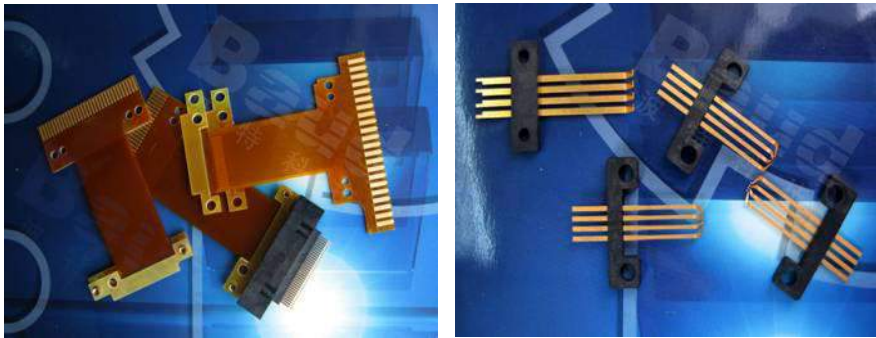
* SMP Connector/Adaptor



	Male		Female	
	min.	max.	min.	max.
A	3.15	3.21	-	3.43
B	3.53	3.69	-	-
C	0.35	0.41	-	-
D	3.00	3.10	-	-
E	1.14	1.40	0.00	0.20
F	2.74	2.84	-	-
G	0.53	0.59	0.64	0.89
H	1.38	1.52	-	-
J	0.08	0.20	-	-
K	0.84	0.94	-	-
L	-	-	0.00	-



Electrical Characteristics		
50Ω	Impedance	
40GHz	Frequency Range	
335Vrms	Voltage Rating	
≤1.5 at 40GHz	VSWR	
5000MΩ	Insulation Resistance	
500Vrms	Dielectric Withstanding Voltage	
≤6.0mΩ	Center	Contact Resistance
≤2.0mΩ	Outer	Contact Resistance
Mechanical Characteristics		
≤44N	Force to Engage	
≥9N	Force to Disengage	
100 cycles	Durability	
-65°C~+165°C	Operating Temperature	
Materials		
Brass, Kover	Plug	Body
Beryllium Copper	Jack	Body
Phosphor Bronze	Male	Center Contact
Beryllium Copper	Female	Center Contact
PTFE, Glass	Insulator	
Finish		
Gold Plating	Body	
Gold Plating	Center Contact	

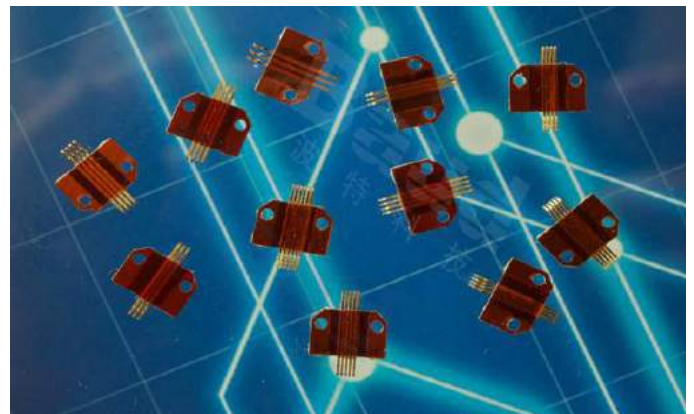
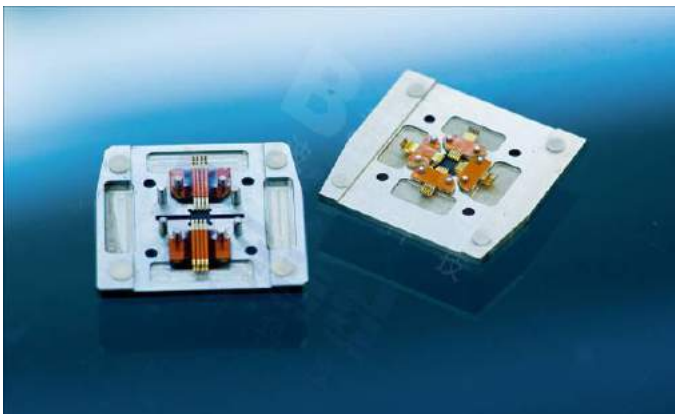


For Gravity Handler Testing

- Gravity handler testing for DIP, SOP, MSOP, TSSOP and SIP... , 0.4mm~2.54mm pitch.
- High current contact finger.
- High frequency devices up to 2.5GHz. Special metal shield.
- High performance FPC cable for Kelvin and high temperature testing.
- Customize design and manufacture for specific device testing application.

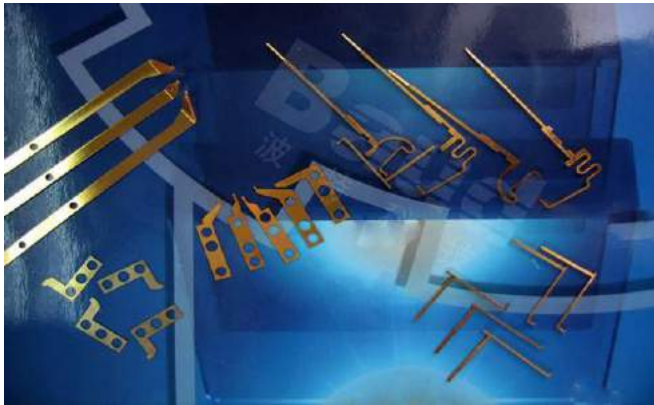
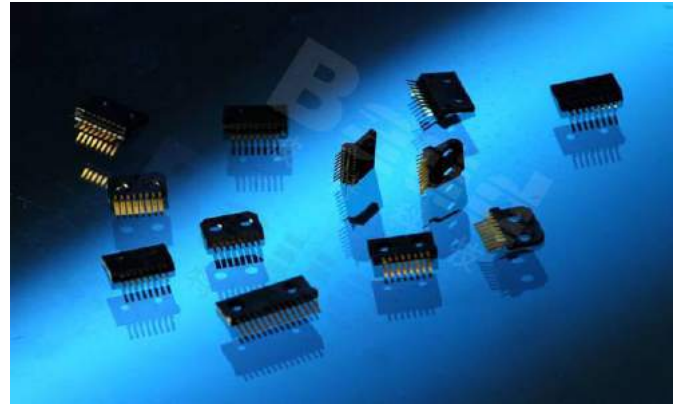
For Automatic Handler Testing

- For automatic handler testing of QFN, DFN and SOT... packages in 0.3~2.54 pitch.
- High current contact finger for all kind of handlers.
- High performance, Kelvin and High temperature.
- Customize design and manufacture for specific device testing application.

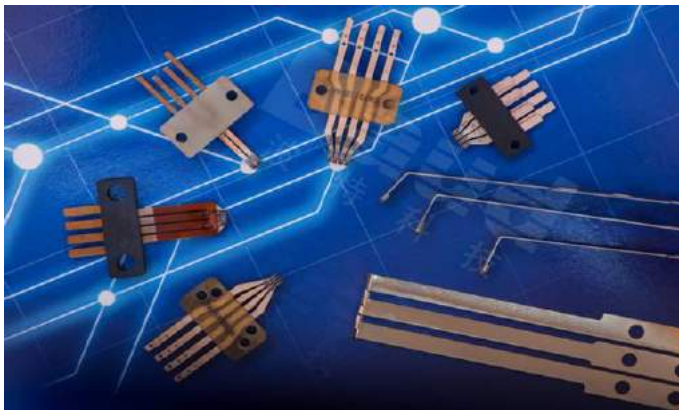


For Automatic Gravity Handler Testing

- For automatic gravity handler testing of SOP, TSSOP and MSOP... packages, 0.50~1.27 pitch.
- Direct mount testing, PTB (plunger to board) test.
- Customize design and manufacture for specific device testing application.



- For automated Handler testing of DIP, SOP, D-pak, D2-pac, TO, SOT...etc packages, in 0.65~2.54 pitch sizes.
- High current contacts finger. For all kind of ...etc handlers.
- Customize design and manufacture for specific device testing application.



For High Power Testing

- For automatic Handler testing of QFN, DFN, SOP, D-pak, D2-pac, TO, SOT...etc packages, in 0.25~2.54 pitch sizes.
- High current contacts finger. For all kind of ...etc handlers.
- Can be designed and manufactured with for your specific device testing application.

