

»» Features

- Long terminals for ideal for soldering and mounting reliability.
- High dielectric strength between coil and contacts (2000VAC) and between contacts of Different polarity (1500VAC).
- High impulse withstand voltages between coil and contacts, and between contacts of different polarity (2500V, 2x10ms: bellcore requirements).
- Low power consumption (140mW).
- Bifurcated crossbar contact (Au-clad) and plastic sealed construction for high reliability.
- High seal ability after IRS.
- Comply with RoHS-Directive 2002/95/EC.



»» Type List

Terminal style	Contact form	Relay function	Terminal shape	Enclosure style Plastics sealed
PCB terminal	2C (DPDT)	Single-side stable	-----	902-2C-S
				902-2C-S-Y
		Single-winding latching	-----	902U-2C-S
		Double-winding latching	-----	902K-2C-S
		Single-side stable	Outside-L surface mounting terminal	902F-2C-S
				902F-2C-S-TR

»» Ordering Information

902 U F - 2C - S - TR - Y
 1 2 3 4 5 6 7

- | | |
|---------------------------------------|--|
| 1. 902 -- Basic series designation | 4. 2C -- Double pole double throw |
| 2. Blank -- Single-side stable | 5. S -- Plastics sealed |
| U -- Single-winding latching | 6. Blank -- Standard type |
| K -- Double-winding latching | TR -- Tape packing |
| 3. Blank -- PCB terminal | 7. Blank -- UL/CUL approved |
| F -- Surface mount terminal | Y -- EN60950 approved |

»» Contact Rating

Rated load (resistive load)	0.5A at 125VAC, 2A at 30VDC
Contact material	Ag + Au-clad
Max. continuous current	2A
Maximum switching voltage	250VAC, 220VDC
Maximum switching capacity	62.5VA, 60W
Min. permissible load ⁽¹⁾	10 μ A at 10mVDC

Note : (1) P level: $\lambda_{60} = 0.1 \times 10^{-6}$ / operation

»» Coil Rating (DC)

◆ Single-side stable

Rated voltage (V)	Rated current $\pm 10\%$ at 23°C (mA)	Coil resistance $\pm 10\%$ at 23°C (Ω)	Max. continuous voltage at 23°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage
4.5	31	145	200 % of rated voltage	75 % of rated voltage	10 % of rated voltage	approx. 0.14W
5	28.1	178				
12	11.7	1028				
24	8.3	2880	170 % of rated voltage			approx. 0.2W

◆ Single-winding latching

Rated voltage (V)	Rated current $\pm 10\%$ at 23°C (mA)	Coil resistance $\pm 10\%$ at 23°C (Ω)	Max. continuous voltage at 23°C	Set voltage(Max) at 23°C	Reset voltage(Max) at 23°C	Power consumption at rated voltage
4.5	22.2	203	180 % of rated voltage	75 % of rated voltage	75 % of rated voltage	approx. 0.1W
5	20	250				
12	8.3	1440				
24	6.3	3840				

◆ Double-winding latching

Rated voltage (V)	Rated current $\pm 10\%$ at 23°C (mA)	Coil resistance $\pm 10\%$ at 23°C (Ω)	Max. continuous voltage at 23°C	Set voltage(Max) at 23°C	Reset voltage(Max) at 23°C	Power consumption at rated voltage
4.5	44.4	101	170 % of rated voltage	75 % of rated voltage	75 % of rated voltage	approx. 0.2W
5	40	125				
12	16.7	720				
24	12.5	1920	140 % of rated voltage			approx. 0.3W

◆ Single-side stable (EN60950 approved type)

Rated voltage (V)	Rated current ±10 % at 23°C (mA)	Coil resistance ±10 % at 23°C (Ω)	Max. continuous voltage at 23°C	Pick up voltage(Max) at 23°C	Drop out voltage(Min) at 23°C	Power consumption at rated voltage
5	40	125	170 % of	75 % of	10 % of	approx. 0.2W
12	16.7	720	rated	rated	rated	
24	9.6	2504	voltage	voltage	voltage	approx. 0.23W

»» Specification

Contact resistance ⁽¹⁾	75 mΩ Max.	
Operate time ⁽¹⁾	4 ms max.	
Release time ⁽¹⁾	4 ms max.	
Bounce time	operate : approx 0.5ms set/reset : approx 0.5ms	release : approx 0.5ms
Insulation resistance ^{(1) (2)}	1000 MΩ Min. (DC 500V)	
Dielectric strength ⁽¹⁾	Between coil and contacts	: AC 2000V, 50/60Hz 1 min. : AC 1000V, 50/60Hz 1 min (double-winding latching)
	Between contact of different pole	: AC 1500V, 50/60Hz 1 min.
	Between contact of same pole	: AC 1000V, 50/60Hz 1 min.
Surge withstand voltage	Between set and reset coil	: AC 500V, 50/60Hz 1 min. (double-winding latching)
	Between coil and contacts	: AC 2500V (2X10 μs) : AC 1500V (10X160 μs) (double-winding latching)
	Between contact of different pole	: AC 2500V (2X10 μs)
Vibration resistance	Between contact of same pole	: AC 1500V (10X160 μs) (conforms to FCC part 68)
	Operating extremes	10~55Hz , double amplitude 3.3 mm
Shock resistance	Damage limits	10~55Hz , double amplitude 5 mm
	Operating extremes	75G
Life expectancy	Damage limits	100G
	Mechanical	100,000,000 operations (frequency 36,000 operations/hr)
Operating ambient temperature	Electrical	100,000 operations (frequency 1,200 operations/hr)
		-40~+85°C (no freezing) -40~+70°C (no freezing) [double winding latching]
Weight	Approx. 2 g	

Note : (1) initial value

(2) except between set and reset coil

»» Safety Approval

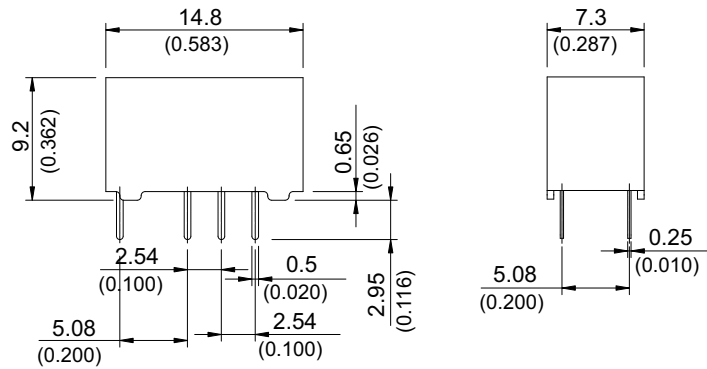
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File No.	E74321	218083

»» Safety Approval Rating

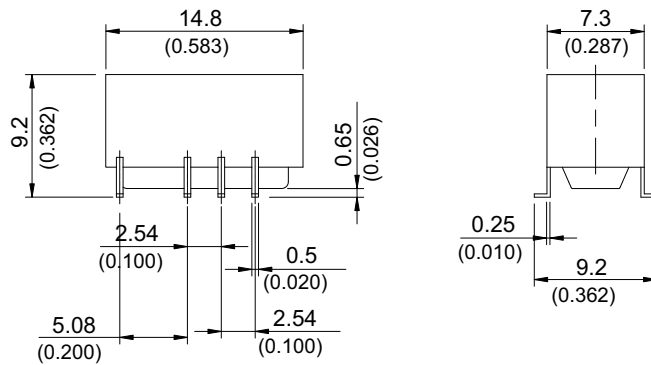
UL	CSA
2A 30VDC	2A 30VDC
0.3A 110VDC	0.3A 110VDC
0.5A 125VAC	0.5A 125VAC

»» Outline Dimensions

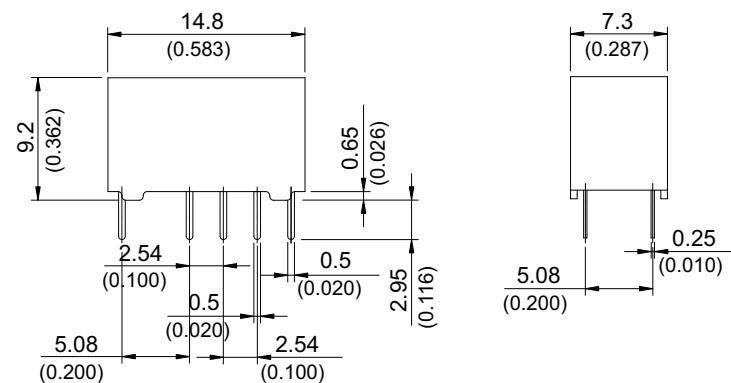
◆902,902U



◆902F

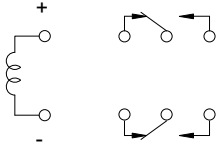


◆902K

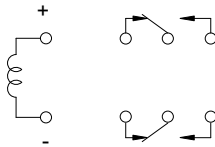


»» Wiring Diagram BOTTOM VIEW

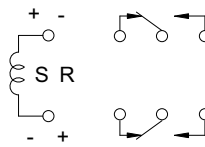
◆902



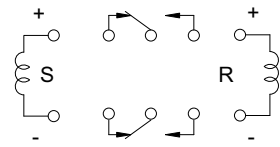
◆902F



◆902U

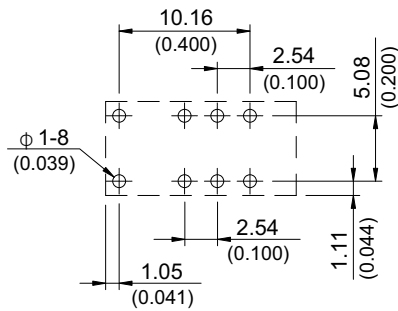


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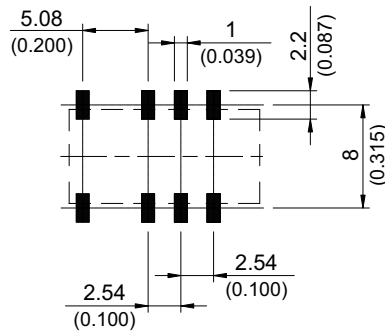


»» PC Board Layout BOTTOM VIEW

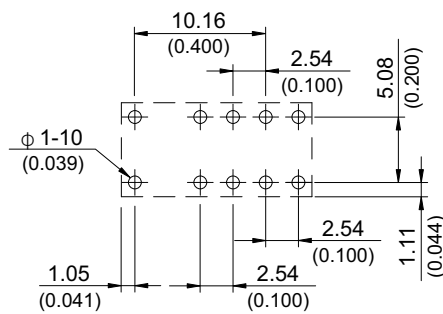
◆902,902U



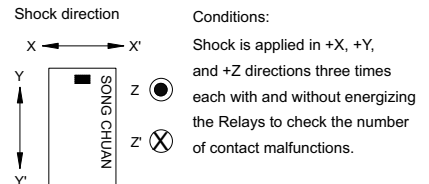
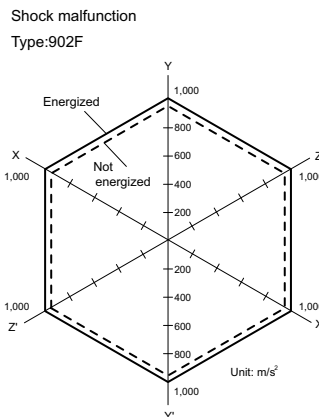
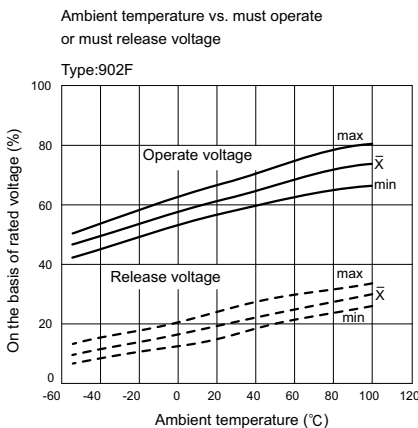
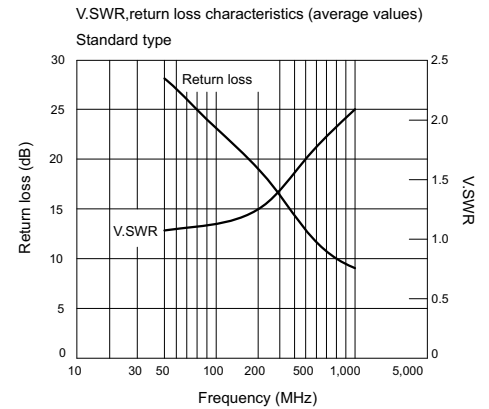
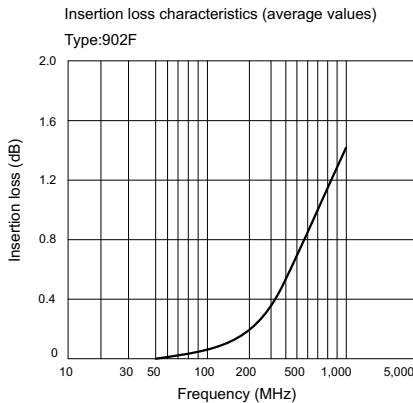
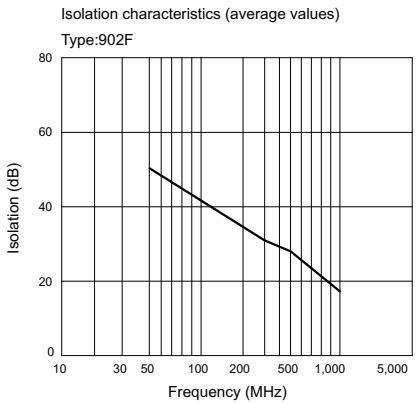
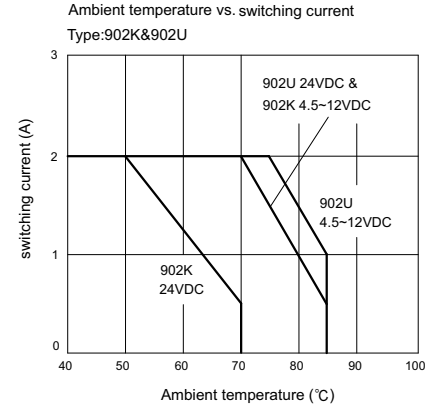
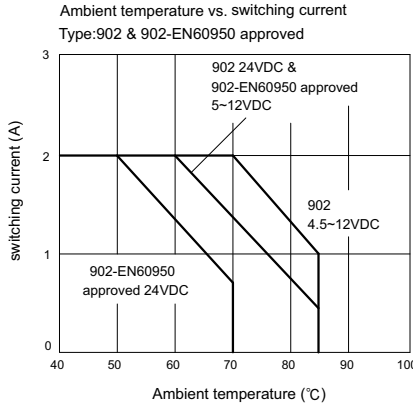
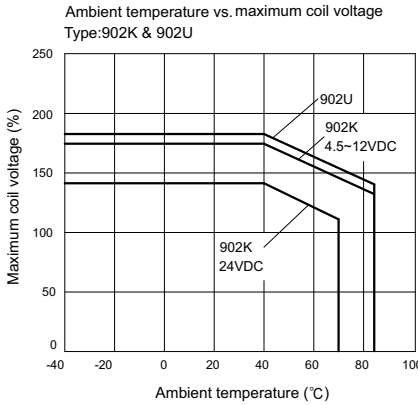
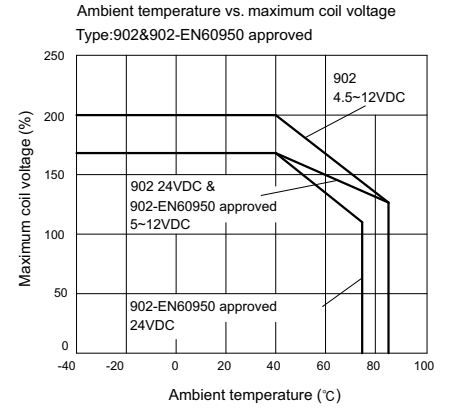
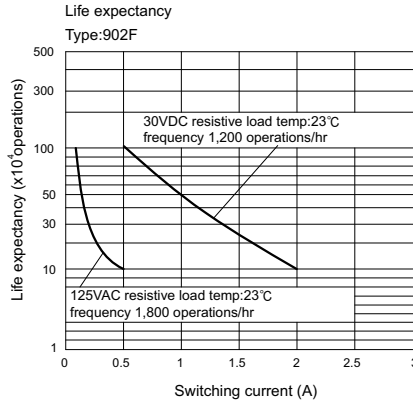
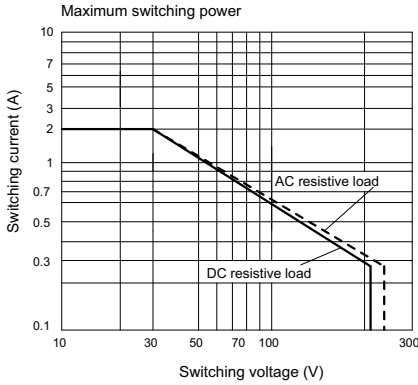
◆902F



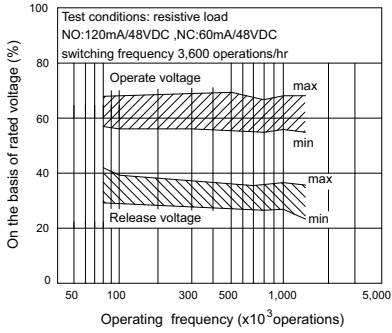
◆902K



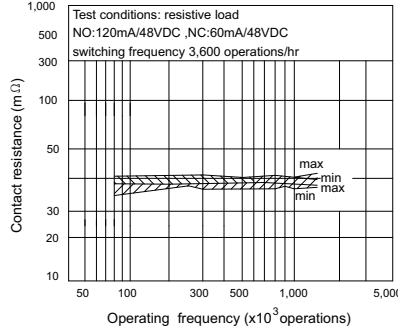
Engineering Data



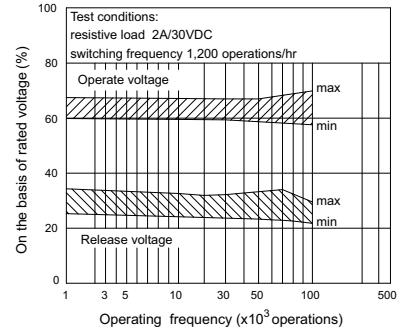
Electrical life expectancy
(with must operate and must release voltage)
Type:902F



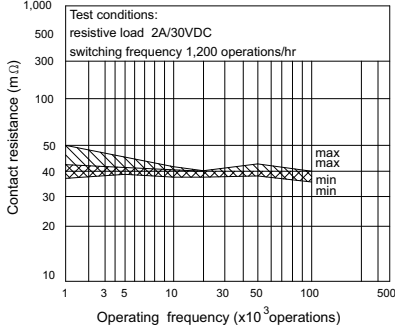
Electrical life expectancy
(contact resistance)
Type:902F



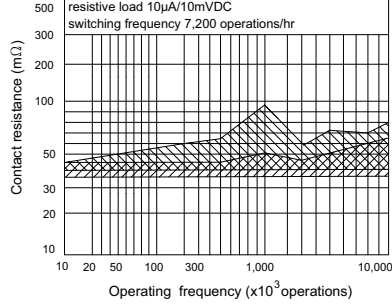
Electrical life expectancy
(with must operate and must release voltage)
Type:902F



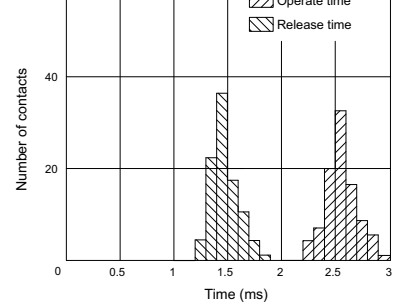
Electrical life expectancy
(contact resistance)
Type:902F



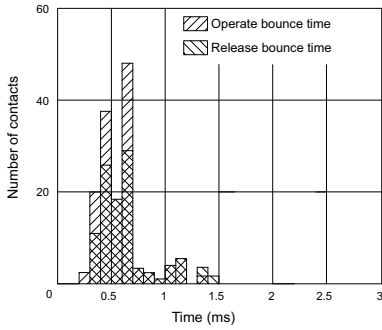
Contact reliability test
Type:902F



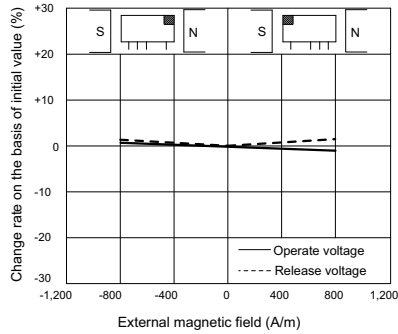
Must operate and must release time distribution
Type:902F



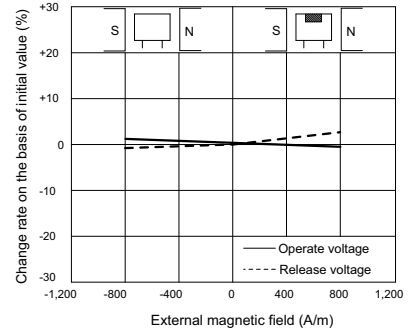
Must operate and must release bounce time distribution
Type:902F



External magnetic Interference (average value)
Type:902F



External magnetic Interference (average value)
Type:902F



External magnetic Interference (average value)
Type:902F

