DB LECTRO
COMPOSANTS ÉLECTRONIQUES
ELECTRONIC COMPONENTS

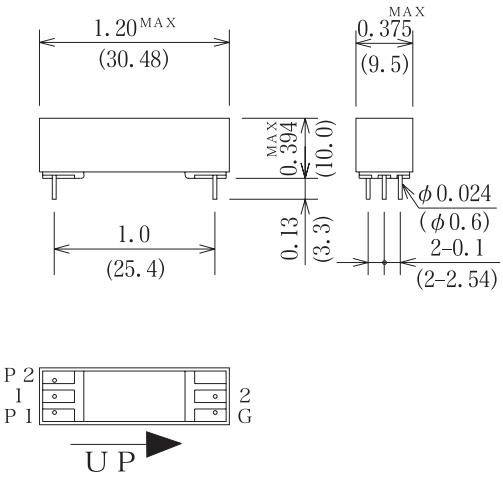
Mercury Wetted Relays for Mounting on P.C. Boards.(1)

This small, light mercury relay is used for PC board equipped magnetic shields. It is also ideal for measuring instruments and various commercial applications.

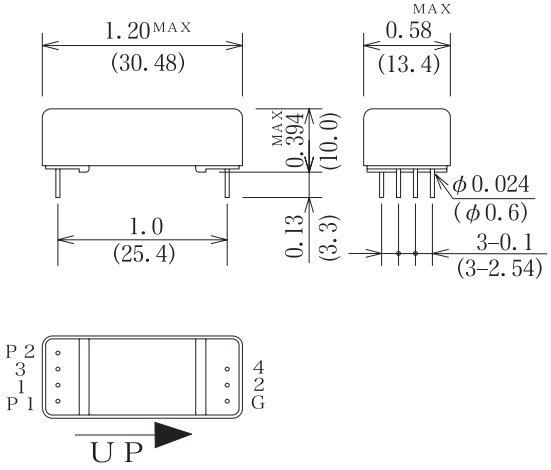
Mechanical Dimensions

All dimensions are measured
in inches (millimeters).

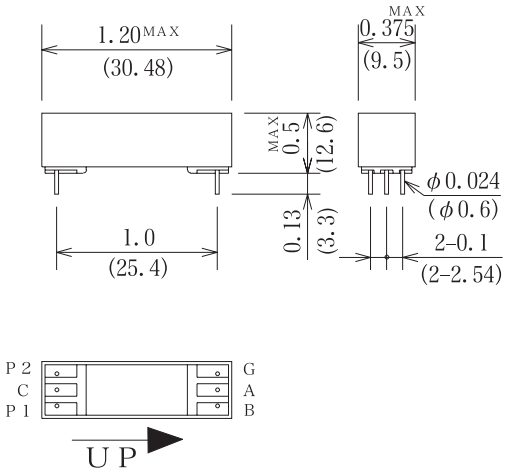
5 0W－1 A□(N)



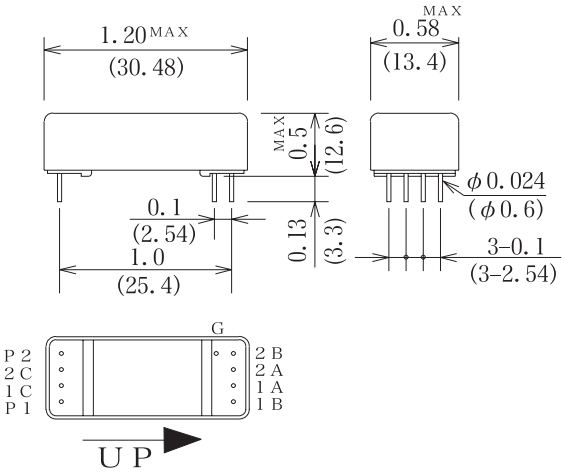
5 0W－2 A□(N)



5 1W－1 E□(N)



5 1W－2 E□(N)



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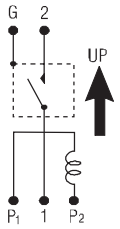
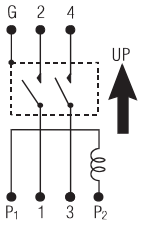
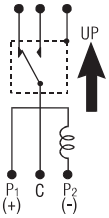
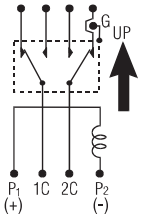
5□W Series			Model Number 50W-1A□□			Model Number 50W-2A□□			Model Number 51W-1E□□		Model Number 51W-2E□□	
Parameters	Test Condition	Units	1 Form A			2 Form A			1 Form C		2 Form C	
Coil Specifications												
Nominal coil voltage		VDC	5	12	24	5	12	24	5	12	5	12
Coil resistance	±10%at20°C	Ω	100	400	1600	80	300	1200	100	400	80	300
Operating voltage	15°C～35°C	VDC-Max	3.6	9.6	19.2	3.6	9.6	19.2	3.6	9.6	3.6	9.6
Operating voltage range	15°C～35°C	VDC	—	—	—	—	—	—	3.6/5.5	9.6/13.2	3.6/5.5	9.6/13.2
Release voltage	15°C～35°C	VDC-Min	0.8	1.2	2.4	0.8	1.2	2.4	0.7	1.2	0.7	1.2
Contact Ratings												
Switching voltage	Max. DC/Peak AC resistance	Volts	1000 (at 1mA)						500			
Switching current	Max. DC/Peak AC resistance	Amps	2.0						1.0			
Carry current	Max. DC/Peak AC resistance	Amps	2.0						2.0			
Contact rating	Max. DC/Peak AC resistance	Watts	50						50			
Life expectancy	1V. 10mA	×10⁶cycles	1000						1000			
Dynamic noise	1.5ms after opening	μV (P−P)	100						150			
Contact resistance	Maximum initial	mΩ	80						80			
Contact resistance stability	Maximum initial	mΩ	5.0						5.0			
Relay Specifications												
Insulation resistance	Between all isolated pins at 500V 20°C 40%RH	Ω	10^{10}			10^{10}			10^{10}		10^{10}	
Capacitance		pF-Max										
Across open contacts	Shield guarding		0.1			0.1			0.6		0.6	
Contact to Shield	Contacts open, :Make-shield		3.5			4.0			1.6		1.6	
	:Break-shield								4.5		4.5	
	Shield floating											
Open contact to coil	Shield guarding : Make-Coil		0.6			0.4			0.8		0.6	
	:Break-Coil								1.3		1.0	
Dielectric strength	Between contacts	VDC	1000			1000			1000		1000	
	Contacts to shield		1000			1000			1000		1000	
Operating time	At nominal coil voltage, 50Hz Square wave	msec	3.0 (No Bounce)			3.0 (No Bounce)			3.0 (No Bounce)		3.0 (No Bounce)	
Release time	Diode suppression	msec	3.0			3.0			3.0		3.0	
Environmental Ratings Mesurement reference conditons Temp. : 15°C～35°C Humidity : 25%～85%RH Atmospheric pressure : 860～1060hPa Storage temp. : −30°C～+80°C Operating temp : −10°C～+60°C The operating and Release Voltage and the coil resistance are specified at 20°C. These values change approximately 0.4%/°C change in the ambient temperature. Vibration : 20Gs to 2000Hz Shock : 50Gs		Schematics Top view										

Notes :

(1) Values are specified with a resistive load being applied. A contact protective circuit is required for C and L type loads.

(2) The values for the operating time and release time however, are when the rated coil voltage is applied and a clamp diode is attached.

(3) The 50W and 51W series models have Hg wet contacts, are position sensitive, and must be mounted within 30° of the vertical plane. See the schematic.

(4) The relays mounted in the Model 51W fully observe the (+) and (−) polarity desightins of the coil drive Voltage.

ORDERING CODE

5 0 W − □ □ □ □
(1) (2) (3) (4)

5 1 W − □ □ □ □
(1) (2) (3) (4)

Example 50W-1A11 Represents Series 50W with 1Form A, Hg Wet, Coil Voltage 5V and Electrostatic Shield.

(1) Number of capsule
1-1capsule
2-2capsules

(2) Contact Form
A-Form A
E-Multi-pole
(Break-before-Make action Form C)

(3) Coil Voltage
1-5VDC
2-12VDC
3-24VDC (51W N/A)

(4) Sheild
N-No Shield
1-Electrostatic Shield