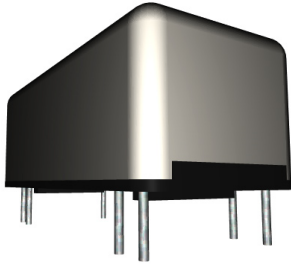


# 53/57W Series

PCB Mount /EMF



## PRODUCT DESCRIPTIONS

The 53/57W Series is a 2 Form A and 3 Form A version of the mercury EMF relay, which has acquired a favorable reputation. This mercury relay achieves the EMF rate less than 10 $\mu$ V, and allows effective utilization of smaller mounting area.

## SPECIFICATIONS

<b>53/57W Series</b>		<b>53W-3A□1N1</b>			<b>57W-2A□1N0</b>			Low-Thermal Mercury
Parameters	Units	3 Form A			2 Form A			Test Conditions
<b>Coil Specifications</b>								
Nominal Coil Voltage	VDC	5.0	12.0	24.0	5.0	12.0	24.0	±10% @ 20°C 15°C to 35°C 15°C to 35°C
Coil Resistance	$\Omega$	100	600	2000	60	300	1200	
Operate Voltage	VDC Max	4.0	9.6	19.2	4.0	9.6	19.2	
Release Voltage	VDC Min	0.7	1.2	2.4	0.7	1.2	2.4	
<b>Contact Ratings</b>								
Switching Voltage	Volts	500			500			Max DC/Peak AC resistance
Switching Current	Amps	1.0			1.0			Max DC/Peak AC resistance
Carry Current	Amps	5.2			5.2			Max DC/Peak AC resistance
Contact Rating	Watts	50			50			Max DC/Peak AC resistance
Life Expectancy	x10 <sup>6</sup> Cycle	1000			1000			@ 1V 10mA
Contact Resistance	m $\Omega$	120			50			Max initial @ operate voltage
Contact Resistance Stability	m $\Omega$	2.0			2.0			Max initial @ operate voltage
<b>Relay Specifications</b>								
Insulation Resistance	$\Omega$ Min	10 <sup>11</sup>			10 <sup>10</sup>			Between all isolated pins @ 500V 20°C 40%RH
Dielectric Strength	VDC Min	500			500			Between contacts
	VDC Min	500			500			Contacts to shield
	VDC Min	500			500			Contacts/Shield to coil
Operate Time (No Bounce)	msec Max	2.5			2.5			@ nominal coil voltage 50Hz square wave
Release Time	msec Max	2.5			2.0			Diode suppression
Thermal EMF	$\mu$ V-Max	10.0* <sub>1</sub> )			10.0* <sub>2</sub> )			@ nominal coil voltage
<b>Environmental Ratings</b>								
Measurement Reference Conditions		Storage temp: -20°C to +80°C Operate temp: -10°C to +60°C Vibration: 20G's to 2000Hz Shock: 50G's						
Temp: 15°C to 35°C								
Humidity: 25% to 75%RH								
Atmospheric Pressure: 860 to 1060hpa								

### Ordering Code:

#### 53W-3A□1N1

□=1 (5.0VDC), 2 (12.0VDC), 3 (24.0VDC)

#### 57W-2A□1N0

□=1 (5.0VDC), 2 (12.0VDC), 3 (24.0VDC)

\*<sub>1</sub>) Test after rated voltage applied for 30 minutes

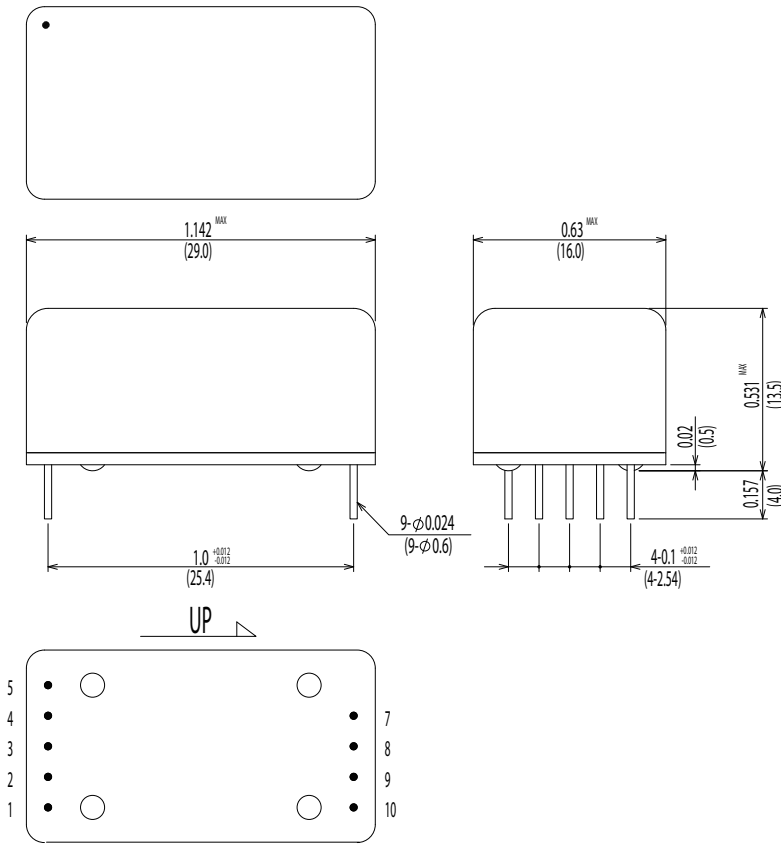
\*<sub>2</sub>) Short 1-14 measured 7-8

Test after rated voltage applied for 30 minutes

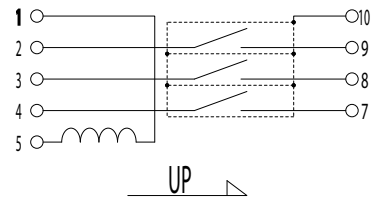
**Dimensions** All Dimensions are inches (mm)

**Schematic <Top View>**

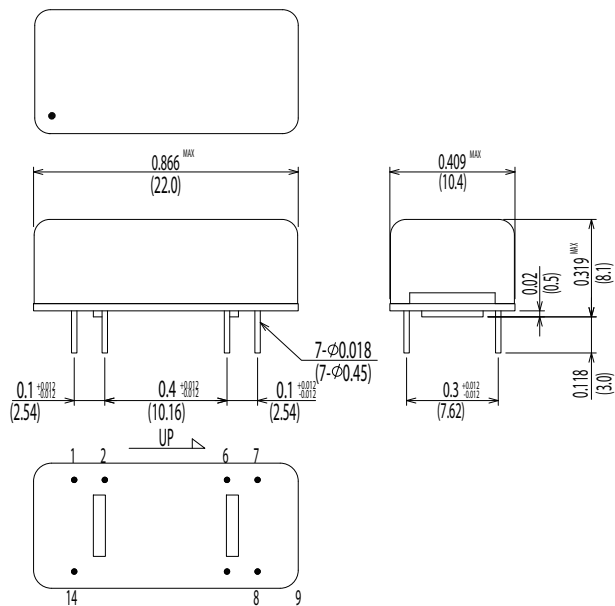
**53W-3A□1N1**



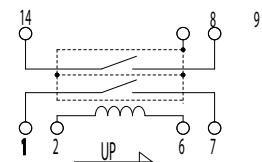
**53W-3A□1N1**



**57W-2A□1N0**



**57W-2A□1N0**



Note: Hg wet contacts must be mounted within 30° of vertical plane.