

EM1 Series

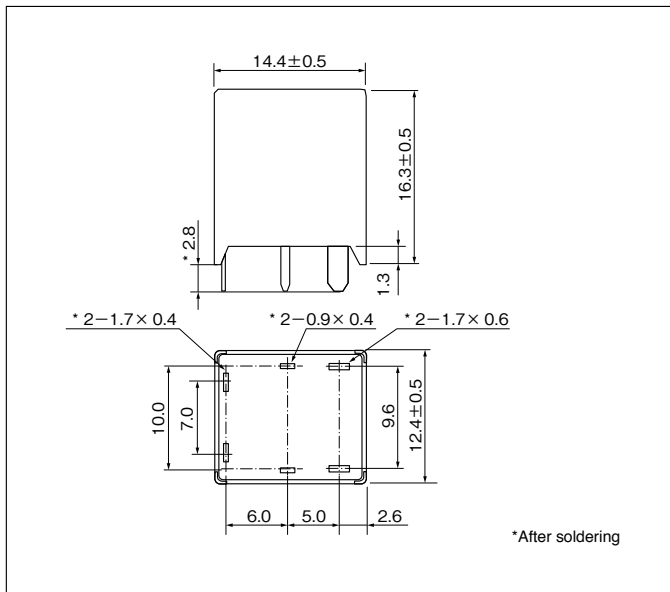


The NEXEM EM1 series is PC-board mount automotive relay suitable for control of lamps, C-R circuits, heaters, fans and pumps, etc. The EM1 series has higher switching performance than current relays; EP1, ET1, EX1 series.

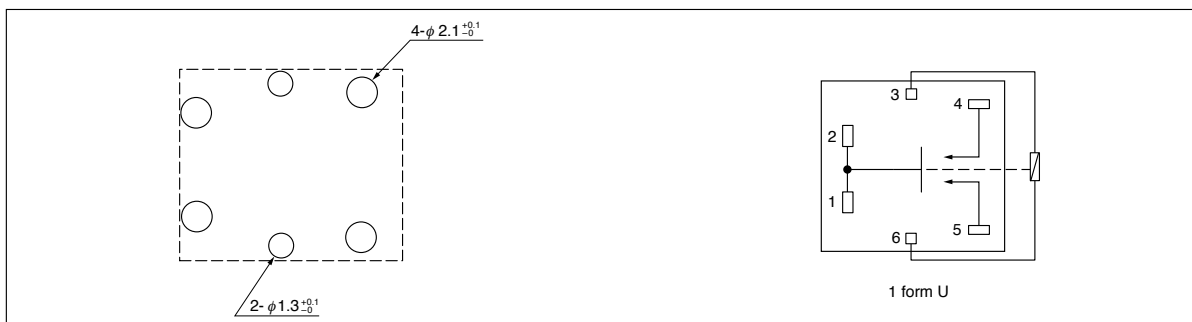
FEATURES

- Suitable for large inrush current load, such as lamps and CR-circuits, etc.
- Large current capacity (54A 1hour at 20°C)
- High heat resistance
- Flux tight housing
- Through-hole reflow soldering available

DIMENSIONS mm



RECOMMENDED PCB PAD LAYOUT and SCHEMATICS (bottom view) mm



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EM1 Series

■ SPECIFICATIONS

Items		Specifications	
Contact Form		1 From U	
Contact Ratings	Contact Rating Power	14 VDC, 40A	
	Maximum Switching Current	100 A ON / 60 A OFF at 14 VDC (Resistive, 10 operations)	
	Maximum Carrying Current	54A at 14VDC for 1hour at 20°C *1	
	Minimum Switching Current	1 A (5 VDC)	
	Contact Resistance	2.5 mΩ typical (measured at 7 A) initial	
Contact Material		Silver oxide complex alloy	
Operate Time (Excluding bounce)		4 ms typical (at Nominal Voltage)	
Release Time (Excluding bounce)		1 ms typical (at Nominal Voltage, without diode)	
Nominal Operating Power		640 mW	
Insulation Resistance		100 MΩ at 500 VDC	
Withstand Voltage	Between open contacts	500 VAC min. (for 1 minute)	
	Between coil and contacts	500 VAC min. (for 1 minute)	
Shock Resistance	Misoperation	98 m/s ²	
	Destructive Failure	980 m/s ²	
Vibration Resistance	Misoperation	10 to 300 Hz, 43 m/s ²	
	Destructive Failure	10 to 500 Hz, 43 m/s ² , 200 hours	
Ambient Temperature		-40 to + 125°C	
Running Specifications	Non-load	1 × 10 ⁶ operations	
	Load	Resistive	100 × 10 ³ operations (at 14VDC, 40A) at 20°C
		Lamp	100 × 10 ³ operations (at 14VDC, Inrush 120A/ Steady 14A) at 20°C
Weight		Approx. 7 g	

*1 Mounted on PC-board: FR-4 (Thickness: 1.6mm), Copper (Thickness: 105 μm, Width: 15mm)
This value is allowable value at abnormal case such as fuse blow. And cyclical current is not guaranteed.

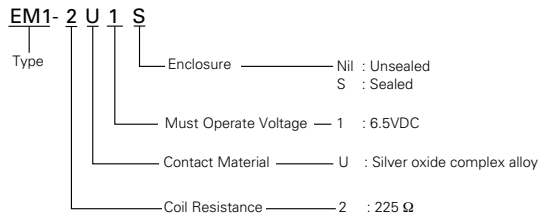
■ COIL RATING

at 20°C

Part Numbers	Nominal Voltage (VDC)	Coil Resistance (Ω) ± 10 %	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
EM1-2U1	12	225	6.5	0.9

* Test by pulse voltage

■ PART NUMBER SYSTEM



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