

MR301 Series

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The MR301 series, which has a low profile package and light weight, is suited for various kinds of consumer equipments, industrial machines and automobiles.

FEATURES

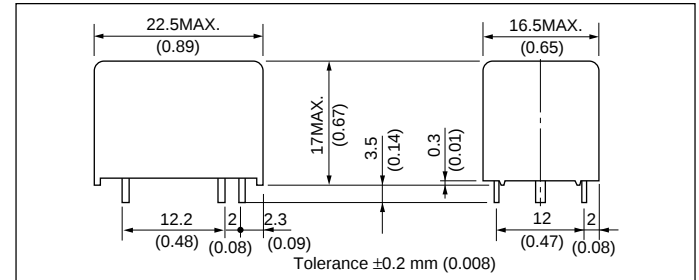
- Low profile, light weight.
- Two types of contact
(General type: 5A switching, High power type; 10A switching)
- Fluxtight or washable package is available.
- UL recognized (E 73266), CSA certified (LR46266)

SAFETY STANDARD AND RATING

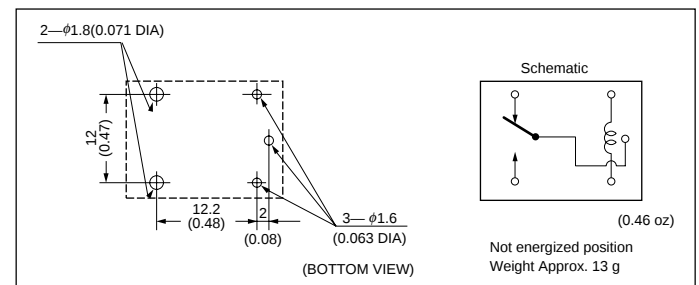
ULRecognized (UL508)* File No. E73266	CSA Certified (CSA C22.2 No.14) File No. LR46266
MR301-**HU 1/2HP 240VAC 1/4HP 125VAC 30VDC, 7 A (Resistive) 60VDC, 1.0 A (Resistive) 277VDC, 5 A (Resistive) 120VDC, 10 A (Resistive) 360 W, 120VAC Tungsten 120VAC, 2 A Ballast TV-2, 120VAC	MR301-**HU 1/2HP 240VAC 1/4HP 125VAC 30VDC, 7 A (Resistive) 60VDC, 1.0 A (Resistive) 277VDC, 5 A (Resistive) 120VDC, 10 A (Resistive) 360 W, 120VAC Tungsten 120VAC, 2 A Ballast
MR301-**U 1/4HP 240VAC 1/8HP 125VAC 30VDC, 5 A (Resistive) 277VDC, 2.5 A (Resistive) 120VDC, 5 A (Resistive) 130 W, 120VAC Tungsten 120VAC, 2 A Ballast	

* Spacing : UL114, UL478

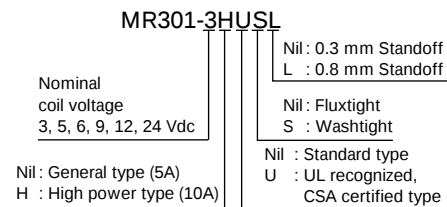
DIMENSIONS mm(inch)



RECOMMENDED PCB PAD LAYOUT and SCHEMATICS mm (inch)



PART NUMBER SYSTEM



■ SPECIFICATIONS

at 20°C

Items		Types (Contact Rating)	MR301 (5A)	MR301-H (10A)
		Contact Form	1 Form c	
Contact Ratings	Maximum Switching Power (Resistive Load)		150 W, 600 VA	300 W, 1200 VA
	Maximum Switching Voltage (Resistive Load)		250 Vac, 30 Vdc	
	Maximum Switching Current (Resistive Load)		5 A	10 A
	Minimum Switching Voltage and Current		5 Vdc, 0.1 A	5 Vdc, 1 A
	Initial Contact Resistance		8.8 mΩ typ. (measured by voltage drop at 5 Vdc, 0.5A)	8.8 mΩ typ. (measured by voltage drop at 5 Vdc, 2A)
Contact Material			Silver nickel alloy	Silver oxide complex alloy
Operate Time (Excluding bounce)			Approx. 5 ms (at nominal voltage)	
Release Time (Excluding bounce)			Approx. 2 ms (at nominal voltage) without diode	
Nominal Operate Power			360 mW	
Insulation Resistance			1000 MΩ at 500 Vdc	
Breakdown Voltage	Between open contacts		750 Vac (for one minute)	
	Between contacts and coil		1500Vac (for one minute)	
Electrostatic Capacitance	Between open contacts		Approx. 1 pF	
	Between contacts and coil		Approx. 10 pF	
Shock Resistance			98 m/s ² (10G) (misoperating), 980 m/s ² (100G) (destructive failure)	
Vibration Resistance			10 to 300 Hz, 43 m/s ² (4.4G)(misoperating), 10 to 500 Hz, 43 m/s ² (4.4G), 200 hours destructive failure)	
Ambient Temperature			-40 to +85 °C (-40 to +185 °F)	
Coil Temperature Rise			50 °C / W (122 °F/W)	
Running Specifications	Non load		10 × 10 ⁶ operations	
	Load		100 × 10 ³ operations	
Weight			Approx. 13g(0.46 oz)	

■ COIL RATING

at 20°C

Nominal Voltage	Coil Resistance (Ω) ± 10 %	Must Operate Voltage* (Vdc)	Must Release Voltage* (Vdc)
Vdc	3	2.1	0.3
	5	3.5	0.5
	6	4.2	0.6
	9	6.3	0.9
	12	8.4	1.2
	24	16.8	2.4

* Test by pulse voltage

The information in this document is based on documents issued in April, 1998 at the latest. The information is subject to change without notice. For actual design-in, refer to the latest publications of data sheet, etc., for the most up-date specifications of the device.

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NEC devices are classified into the following three quality grades:

"Standard", "Special", and "Specific". The Specific quality grade applies only to devices developed based on a customer designated "quality assurance program" for a specific application. The recommended applications of a device depend on its quality grade, as indicated below. Customers must check the quality grade of each device before using it in a particular application.

Standard: Computers, office equipment, communications equipment, test and measurement equipment, audio and visual equipment, home electronic appliances, machine tools, personal electronic equipment and industrial robots

Special: Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support)

Specific: Aircrafts, aerospace equipment, submersible repeaters, nuclear reactor control systems, life support systems or medical equipment for life support, etc.

The quality grade of NEC devices is "Standard" unless otherwise specified in NEC's Data Sheets or Data Books. If customers intend to use NEC devices for applications other than those specified for Standard quality grade, they should contact NEC sales representative in advance.

Anti-radioactive design is not implemented in this product.