## MR301 Series

### D IR



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**

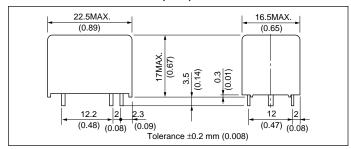
- · Low profile, light weight.
- Two types of contact (General type: 5A switching, High power type; 10A switching)
- Fluxtight or washable package is available.
- UL recognized (E 73266), CSA certified (LR46266)

### ■ SAFETY STANDARD AND RATING

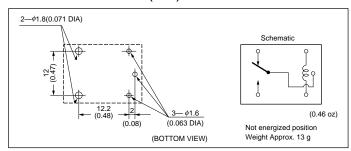
ULRecognized (UL508)* File No. E73266	CSA Certificated (CSA C22.2 No.14) File No. LR46266			
MR301-**HU	MR301-**HU			
1/2HP 240VAC 1/4HP 125VAC 30VDC, 7 A (Resistive) 60VDC, 1.0 A (Resistive) 277VDC, 5 A (Resistive) 120VDC, 10 A (Resistive) 360 W, 120VAC Tungsten 120VAC, 2 A Ballast TV-2, 120VAC	1/2HP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

<sup>\*</sup> Spacing: UL114, UL478

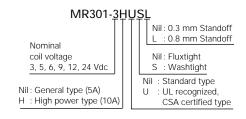
#### **■ DIMENSIONS** mm(inch)



### ■ RECOMMENDED PCB PAD LAYOUT and SCHEMATICS mm (inch)



#### **■ PART NUMBER SYSTEM**



# MR301 Series

■ SPECIFICATIONS at 20°C

Types (Contact Rating)			MR301 (5A)	MR301-H (10A)
			` '	
Contact Form		1 Form c		
	Maximum Switching Power (Resistive Load)		150 W, 600 VA	300 W, 1200 VA
Contact Ratings	Maximum Switching Voltage (Resistive Load)		250 Vac, 30 Vdc	
Contact Ratings	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 m $\Omega$ typ. (measured by voltage drop at 5 Vdc, 0.5A)	8.8 m $\Omega$ typ. (measured by voltage drop at 5 Vdc, 2A)
Contact Material			Silver nickel alloy	Silver oxide complex alloy
Operate Time (Exclu	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		
Barrier William		Between open contacts	750 Vac (for one minute)	
Breakdown Voltage		Between contacts and coil	1500Vac (for one minute)	
Fl44-4- C	·	Between open contacts	Approx. 1 pF	
Electrostatic Capacitance		Between contacts and coil	Approx. 10 pF	
Shock Resistance	Shock Resistance		98 m/s <sup>2</sup> (10G) (misoperating), 980 m/s <sup>2</sup> (100G) (destructive failure)	
Vibration Resistance		10 to 300 Hz, 43 m/s2 (4.4G)(misoperating),		
		10 to 500 Hz, 43 m/s2 (4.4G), 200 hours destructive failure)		
Ambient Temperatu	Ambient Temperature		-40 to +85 °C (-40 to +185 °F)	
Coil Temperature Rise		50 °C / W (122 °F/W)		
Dunning Chasificati	Non load		10 × 10 <sup>6</sup> operations	
Running Specification	JI IS	Load	100 × 10 <sup>3</sup> c	pperations
Weight			Approx. 13g(0.46 oz)	

### **■ COIL RATING**

at 20°C

Nominal		Coil Resistance		Must Release Voltage*
Voltage		$(\Omega) \pm 10 \%$	( Vdc)	(Vdc)
	3	25	2.1	0.3
	5	70	3.5	0.5
Vdc -	6	100	4.2	0.6
Vuc	9	225	6.3	0.9
	12	400	8.4	1.2
	24	1600	16.8	2.4

<sup>\*</sup> Test by pulse voltage

### MR301 Series

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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Anti-radioactive design is not implemented in this product.