Amperite

(800) 752-2329
www.Amperite.com

Solving your relay requirements since 1922

MS1 - Series

Miniature Solid State Relays

DC Input-AC Output for 2A Load at 25℃
600 Volt Blocking Voltage
Photo Isolation
Built -in Snubber
Zero Cross Turn-on
Printed Circuit Board Mount

INPUT (TA = 25℃)

Control voltage range	05D 4 to 6VDC 12D 9.6 to 14.4DC 24D 19.2 to 28.8VDC
Must operate voltage	05D 4VDC max. 12D 9.6VDC max. 24D 19.2VDC
Must release voltage	1.0VDC min.
Max.input current	10mA

OUTPUT

Load voltage range @47 to 63Hz		75 to 264VAC
Load current range		0.1 to 2A
Max. surge current (10ms)		25Apk
Max. leakage current		1.5mA
Max. on-state voltage drop		1.5VAC
Max. turn-on time	Zero cross turn on Random turn-on	10ms 1ms
Max. turn-off time		10ms
Transient over voltage		600Vpk max.
Min. off-state dv.dt		100V/μs min.
Zero-crossover voltage		15V max.
Min. power factor		0.5

General

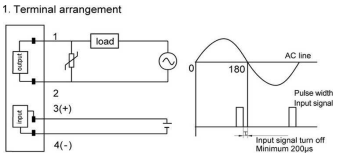
Dielectric strength (input to output)	2000VAC min. 50/60Hz 1min.
Insulation resistance	1000MΩ, min. (at 500VDC)
Max. Capacitance (input to output)	5pF
Vibration durability	10 to 55HZ amplitude 1.5mm
Shock durability	1000m/s^2
Ambient temperature Operating Storage	 -30 to +80℃ -30 to +100℃
Ambient humidity	45% to 85%
Unit weight	6g

DESCRIPTION

This SPST-NO PCB mount SIP SSR provides AC output switching in a high density package. The relay's input is compatible with 5, 12, and 24V logic systems. All models include an internal snubber. The relays provide 2000Vms opto-isolation, between input and output. Encapsulation, thermally conductive epoxy.

Precautions

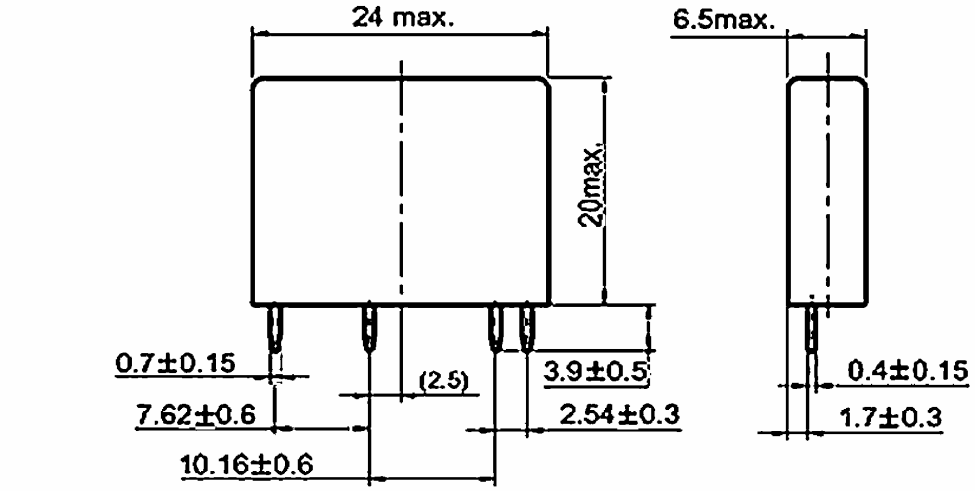
1. Terminal arrangement



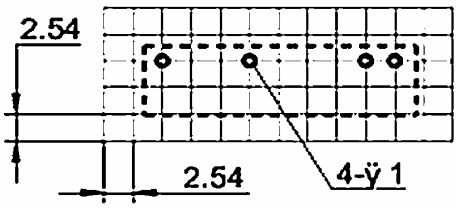
2. Soldering must be competed within 10 sec. at 260℃ or less or within 5 sec. at 350℃ or less.
3. The SSR case serves it dissipated heat. Install the relays so they adequately ventilated. If poor ventilation is unavoidable, reduce the load by half.
4. The input circuitry does not incorporate a circuit protecting the SSR from being damaged due to a reversed connection. Make sure that the polarity is correct when connecting the input lines.
5. When using the relay for an AC load with a peak voltage of more than 450V, connect the load terminals of the relay to an inrush absorber (varistor). The recommended varistor voltage , 440 to 470V
6. The load terminals are internally connected to a snubber circuit that absorb noise. However, if wiring from these terminals is laid with or placed in the same duct as high-voltage or power lines, noise may be induced, causing the SSR to operate irregularly or malfunction.
7. When using the MS1 series in phase control applications, at a phase control angle close to 180° the relay's input signal turns off at the trailing edge of the AC sine wave must be limited to end 200μs before AC zero cross. This assures the relay has time to switch off. Shorter times may cause loss of control at the following half cycle.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

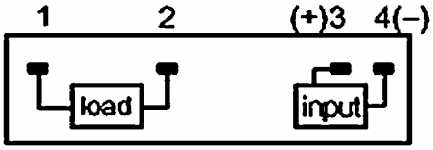
Outline Dimensions



PCB Layout



Wiring Diagram



Dimensions are in Millimeters

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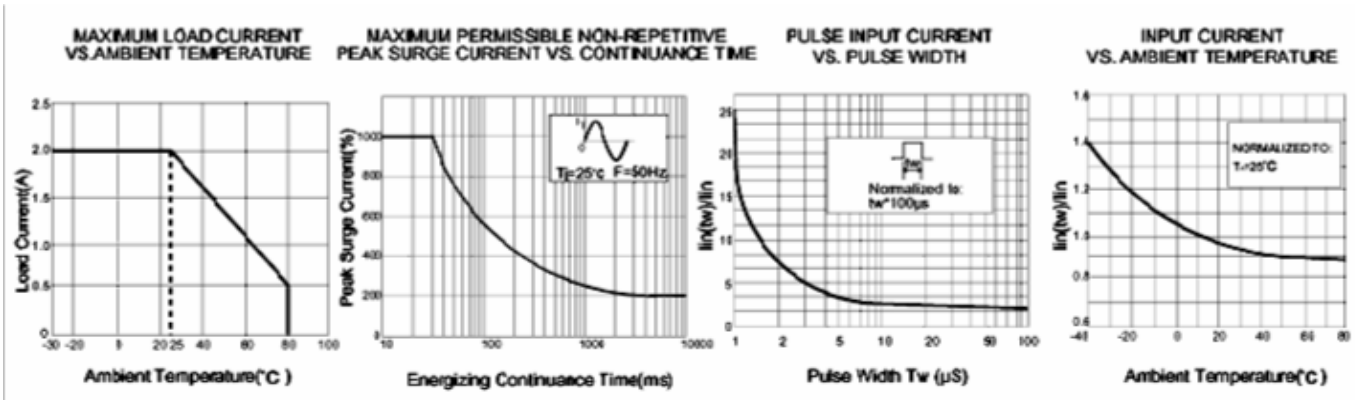
CHARACTERISTIC CURVES



The Amperite numbering system is illustrated below. If you do not see the number listed that you need, please contact us. We can provide most types of relays available today.

MS1	1A	012D	02
Series	Contact Arrangement	Coil Voltage	Type of Termination
	1A=SPSTNO 2A=DPSTNO 1B=SPSTNC 1C=SPDT 2C=DPDT 3C=3PDT 4C=3PDT	A=AC D=DC	01=Plug In 02=PC Board 04=Screw 08=OC 8 Pin 11=OC 11 Pin