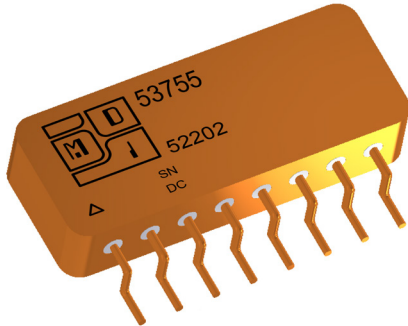


HYBRID SOLID STATE RELAY

Dual 100V/10A Rad-Hard Solid State Relay

MODEL 53755



Model 53755 SIP Dual SSR

Model 53755 is a Dual 100V/ 10A radiation hard Solid State Relay packaged in an 8 pin SIP (Single In Line) surface mount hermetic package. The two individual solid state contacts are form A, open when de-energized.

The SSR commands are magnetically coupled to avoid the slow response, radiation sensitivity and temperature sensitivity of comparable opto coupled parts. The SSR also incorporates GaN output transistors for low contact resistance and superior temperature parameters.

The GaN FET switches offer a 4 to 5 times reduction in switch resistance over comparable SSRs, greatly reducing power dissipation.

Features

- Two independent form A contacts rated at 10A and 100 VDC in a SIP package
- TID rating to 100 K rads (SE) or 45 kRads (LE)
- GaN switches offer fast response, low resistance and low capacitance
- Magnetically coupled, no optocouplers
- Operates from a 5 VDC bias supply
- Buffered inputs are compatible with 3.3 or 5 VDC logic and draw only 600 microamperes
- Switch I/O isolation from input and case 500 VDC
- Supplied with two mounting clips for heat sink attachment

Specifications

Command input -5VDC

Case temperature range:

Operating -55°C to +85°C (L, S grade)

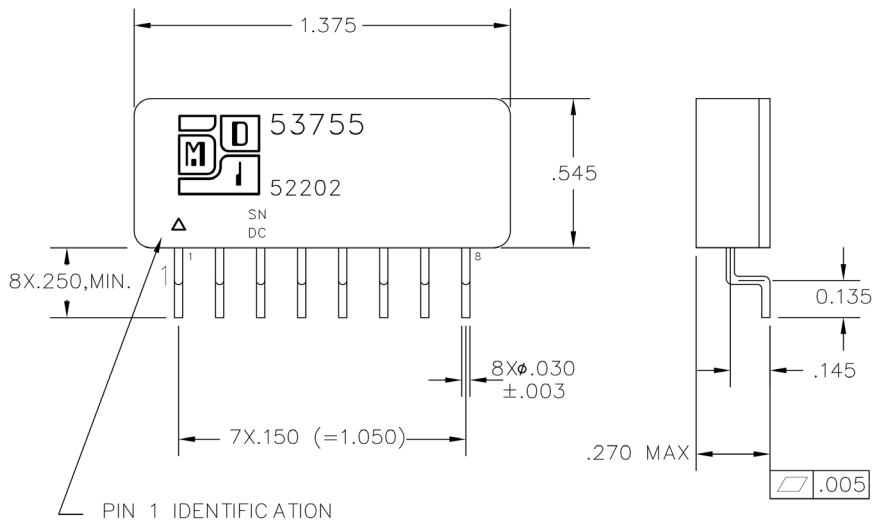
Operating -55°C to +125°C (LE, SE grade)

Operating -0°C to +55°C (EU Grade)

Storage -60°C to +150°C

Weight 12 grams typical

Pin Out Chart	
Pin 1	Output 1 (+)
Pin 2	Output 1 (-)
Pin 3	Input Ground
Pin 4	Input 1 Command
Pin 5	VDD (+5 VDC)
Pin 6	Input 2 Command
Pin 7	Output 2 (-)
Pin 8	Output 2 (+)



Model 53755 10A 100V Solid State Relay

PARAMETER	CONDITION	MIN	TYP	MAX
Contact Rating V	Volt	—	—	100V
Contact Rating I	Ampere	—	—	10A
Leakage Current, 100V, 25°C	Microamperes	—	—	100µA
Leakage Current, 100V, 125°C	Microamperes	—	—	300µA
Contact Resistance, 25°C	Ohm	—	0.02Ω	—
Contact Resistance 125°C	Ohm	—	0.032Ω	—
Contact Capacitance 0 VDC	Picofarad	—	550pF	—
Contact Capacitance 100 VDC	Picofarad	—	180pF	—
Input Command Voltage	Volt	-5VDC	3.3VDC	7.5VDC
Input Command Current (at 5VDC input)	Microamperes	—	—	600µA
Input Command Threshold	Volt	0.5VDC	0.7VDC	1.0VDC
VDD Voltage	Volt	4.5VDC	5.0VDC	5.5VDC
VDD Current	Millampere	—	100mA	150mA
Delay Time, Energized	Microseconds	—	30µs	60µs
Delay Time, De-Energized	Microseconds	—	30µs	60µs
Energize Time, Dynamic	Microseconds	—	10µs	30µs
De-Energize Time, Dynamic	Microseconds	—	10µs	30µs
Case Temperature, Operating LE, SE	Degrees C	-55°C	—	125°C
Temperature, Storage	Degrees C	-60°C	—	150°C
Weight (less clips and hardware)	Grams	—	12g	—



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For Heat Removal and Mounting Recommendations See MDI application notes on mounting considerations for DC-DC Converters.