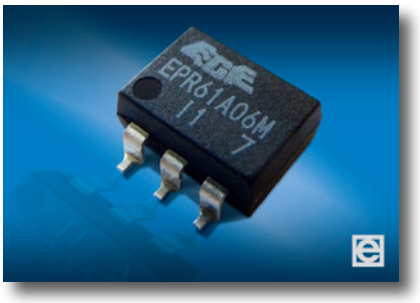
HIGH CURRENT MOSFET RELAY (60V/2.5A/0.2Ω) – EPR311A066107EZ



The **EPR311A066107EZ MOSFET Relay** from Excel Cell (ECE) is specifically designed for high current applications (continuous: 2.5 A, peak: 4A), commonly found in industrial equipment. The MOSFET relay is a possible solid-state replacement for single-pole, normally-open (Form 1 A) electromechanical relays.

The EPR311A066107EZ consists of an GaAs infrared light-emitting diode (LED) input stage optically coupled to a high-voltage output detector circuit. The detector consists of a high-speed diode array and driver circuitry to switch on/off two discrete high voltage MOSFETs. The relay turns on (contact closes) with a minimum input current of 10 mA through the input LED. The relay turns off (contact opens) with an input voltage of 1.5 V or less.

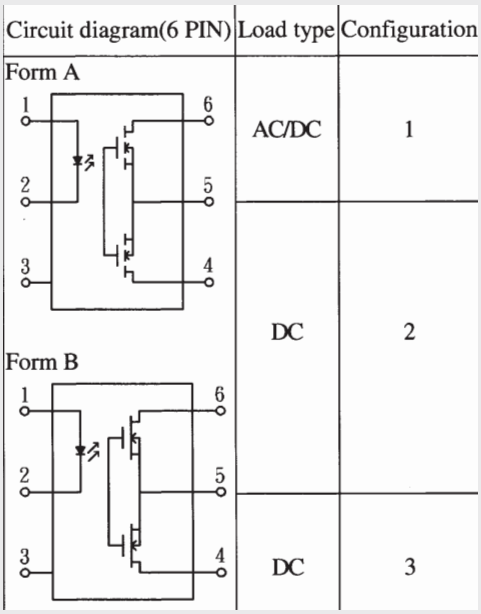
A connection from PIN 4 to 6 allows the relay to switch either ac or dc loads. A connection from PIN 5 to 4, with its advantages of reduced on-resistance and higher output current, allows the relays to switch dc loads only.

The electrical and switching characteristics are specified for a temperature range of **-40°C to +85°C**.

As all MOSFET Relays the EPR311A066107EZ generates no EMI/RFI, is highly reliable, has no moving parts, offers a low On-State resistance and high isolation voltage, and is wave solderable.

The product is ideal for testing instruments, security systems, BMS (battery management systems), IoT (Internet on Things), medical equipment, IP cameras and industrial controls.

CIRCUIT DIAGRAM



FEATURES

- No EMI/RFI Generation
- High reliability
- No moving parts
- Low drive power requirement (TTL/CMOS Compatible)
- Low On-state Resistance
- High isolation voltage
- Arc-free with no snubbing circuits
- Machine insertable or wave solderable

ELECTRICAL CHARACTERISTICS

PARAMETER	min.	typ.	max.
INPUT			
Forward voltage V_F [V], I_F=10mA	1.0		1.5
Reverse current I_R [µA], V_R=5V			10
Control current I_{Fopr} [mA]	10		50
OUTPUT			
Load voltage (AC peak or DC) VL [V], I_D=100µA	60		
Contin. rated load curr. I_L [mA], I_F=10 mA, **DIP/SMD**			2500
Peak current I_{LPEAK} [mA], 10 ms, **DIP/SMD**			4000
On-state resistance R_{ON} [Ω], I_F=10 mA, I_L=1A, 10 ms		0.1	0.2
Off-state leak. curr. I_{LK} [µA], I_F=0 mA, V_L=50 V			1
Turn-on time T_{ON} [ms], I_F=10 mA, I_L=1 A			5
Turn-off time T_{OFF} [ms], I_F=10 mA, I_L=1 A		0.05	2
INPUT/OUTPUT			
I/O-capacitance $C_{I/O}$ [pF], f=1 MHz		1	
I/O-isol. voltage $V_{I/O}$ [V_{AC}], RH≤60 %, 1min., **DIP/SMD**	2500		
I/O isol. resistance $R_{I/O}$ [G Ω], 500V_{DC}, delay 2 s	5		
Operating temperature T_{OP} [°C]	**-40**		**+85**
Storage temperature T_{STG} [°C]	**-40**		**+100**

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