



OPTICALLY COUPLED BILATERAL SWITCH NON-ZERO CROSSING TRIAC

APPROVALS

- UL recognised, File No. E91231

'X' SPECIFICATION APPROVALS

- VDE 0884 in 3 available lead form : -
 - STD
 - G form
 - SMD approved to CECC 00802

DESCRIPTION

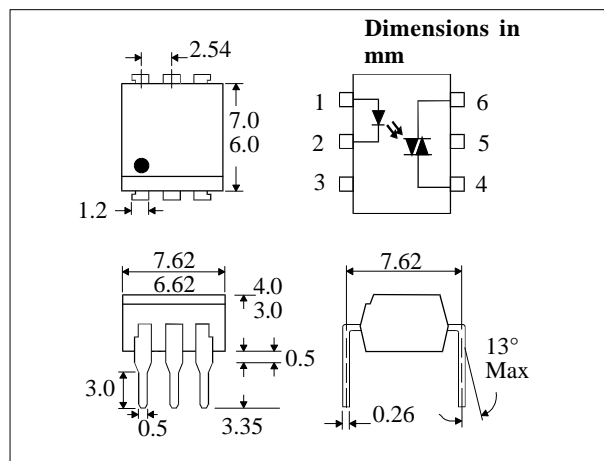
The MOC3009,301_ series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a light activated silicon bilateral switch performing the functions of a triac mounted in a standard 6 pin dual-in-line package.

FEATURE

- Options :-
 10mm lead spread - add G after part no.
 Surface mount - add SM after part no.
 Tape&reel - add SMT&R after part no.
- High Isolation Voltage (5.3kV_{RMS}, 7.5kV_{PK})
- 250V Peak Blocking Voltage
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

- CRTs
- Power Triac Driver
- Motors
- Consumer appliances
- Printers



ABSOLUTE MAXIMUM RATINGS (25 °C unless otherwise noted)

Storage Temperature	-55°C - +150°C
Operating Temperature	-40°C - +100°C
Lead Soldering Temperature (1.6mm from case for 10 seconds)	260°C

INPUT DIODE

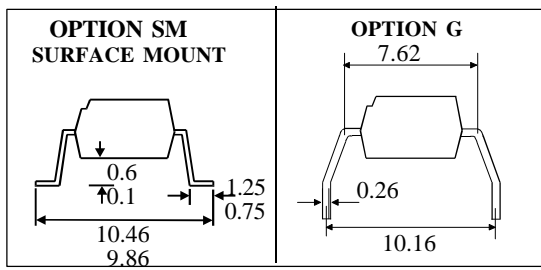
Forward Current	50mA
Reverse Voltage	6V
Power Dissipation (derate linearly 0.93mW/°C above 25°C)	70mW

OUTPUT PHOTO TRIAC

Off-State Output Terminal Voltage	250V
Forward Current (Peak)	1A
Power Dissipation (derate linearly 4.0mW/°C above 25°C)	300mW

POWER DISSIPATION

Total Power Dissipation (derate linearly 4.4mW/°C above 25°C)	330mW
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ELECTRICAL CHARACTERISTICS (T_A = 25°C Unless otherwise noted)

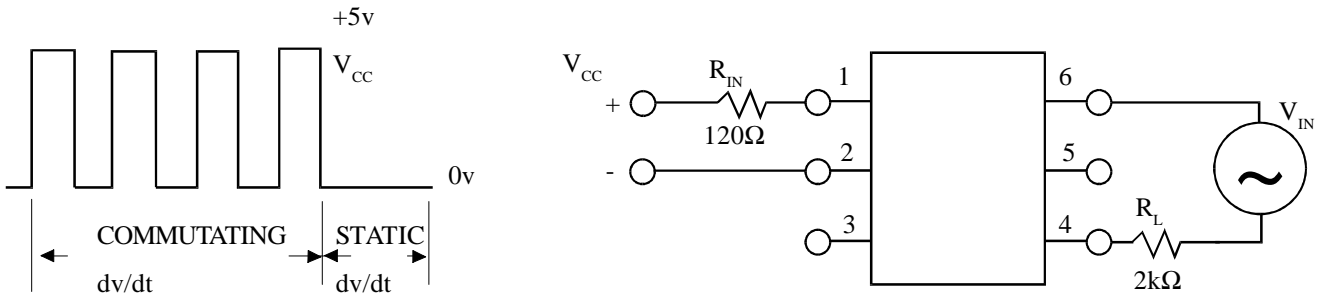
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V _F) Reverse Current (I _R)		1.2	1.5 100	V μA	I _F = 10mA V _R = 6V
Output	Peak Off-state Current (I _{DRM}) Peak Blocking Voltage (V _{DRM}) On-state Voltage (V _{TM}) Critical rate of rise of off-state Voltage (dv/dt) (note 1) Critical rate of rise of commutating Voltage (dv/dt) (note 1)	250		100 1.5 3.0 10 0.1	nA V V V/μs V/μs	V _{DRM} = 250V (note 1) I _{DRM} = 100nA I _{TM} = 100mA (peak) I load = 15mA, V _{IN} = 30V (fig 1.)
Coupled	Input Current to Trigger (I _{FT})(note 2) MOC3009 MOC3010 MOC3011 MOC3012 Holding Current , either direction (I _H) Input to Output Isolation Voltage V _{ISO}					
				30 15 10 5	mA mA mA mA	V _D = 3V (note 2)
			100		μA	
		5300 7500			V _{RMS} V _{PK}	See note 3 See note 3

Note 1. Test voltage must be applied within dv/dt rating.

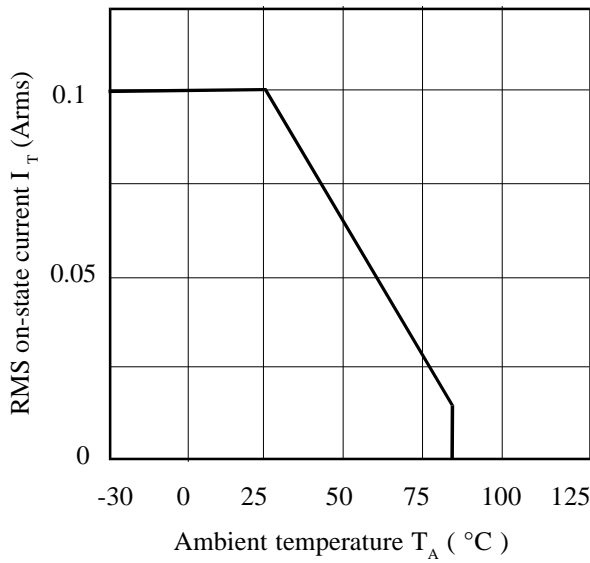
Note 2. Guaranteed to trigger at an I_F value less than or equal to max. I_{FT}, recommended I_F lies between Rated I_{FT} and absolute max. I_{FT}.

Note 3. Measured with input leads shorted together and output leads shorted together.

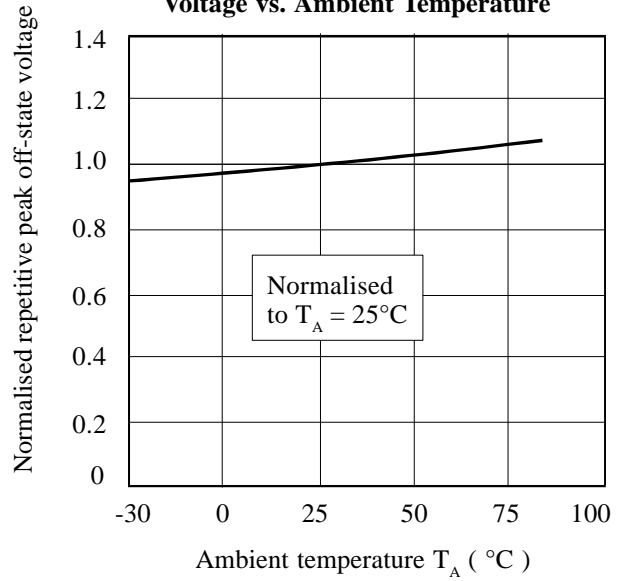
FIGURE 1



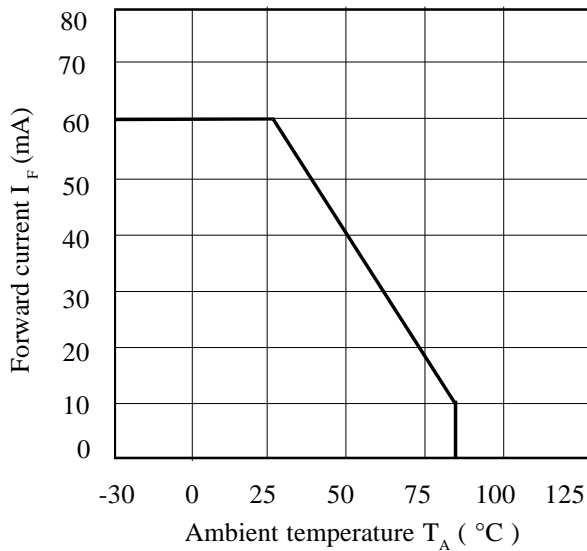
RMS On-state Current vs. Ambient Temperature



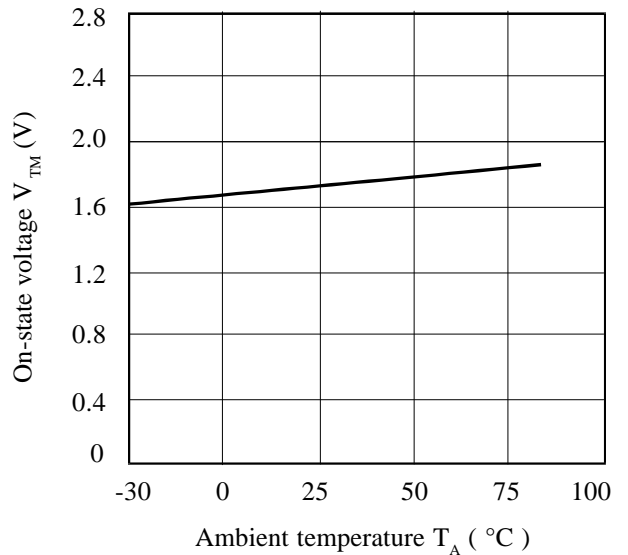
Normalised Repetitive Peak Off-state Voltage vs. Ambient Temperature



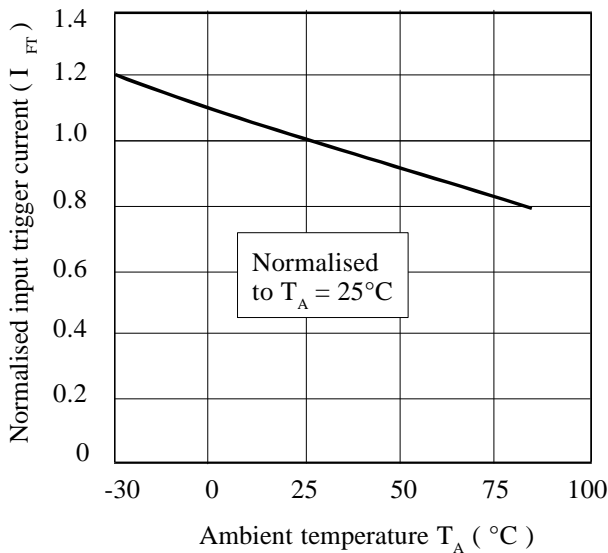
Forward Current vs. Ambient Temperature



On-state Voltage vs. Ambient Temperature



Normalised Input Trigger Current vs. Ambient Temperature



On-state Current vs. On-state Voltage

