



OPTICALLY COUPLED BILATERAL SWITCH NON-ZERO CROSSING TRIAC



APPROVALS

- UL recognised, File No. E91231 under Package System 'KK'

'X' SPECIFICATION APPROVALS

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

DESCRIPTION

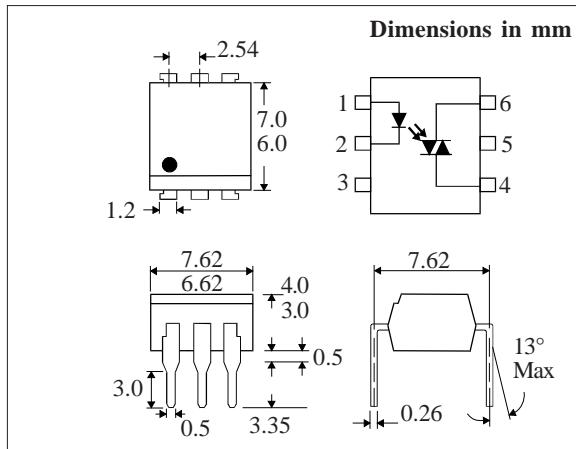
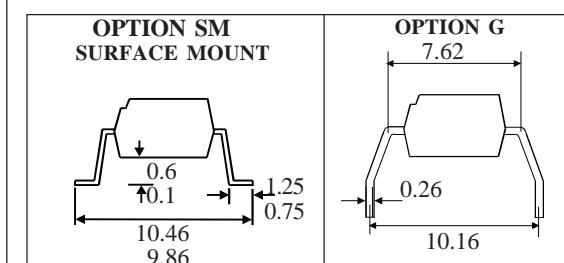
The MOC302_ series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a light activated silicon bilateral switch performing the functions of a triac mounted in a standard 6 pin dual-in-line package.

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 ($5.3\text{kV}_{\text{RMS}}, 7.5\text{kV}_{\text{PK}}$)
- 400V 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	$-55^{\circ}\text{C} \text{--} +150^{\circ}\text{C}$
Operating Temperature	$-40^{\circ}\text{C} \text{--} +100^{\circ}\text{C}$
Lead Soldering Temperature	260°C (1.6mm from case for 10 seconds)

INPUT DIODE

Forward Current	50mA
Reverse Voltage	6V
Power Dissipation	70mW (derate linearly 0.93mW/ $^{\circ}\text{C}$ above 25 $^{\circ}\text{C}$)

OUTPUT PHOTO TRIAC

Off-State Output Terminal Voltage	400V
Forward Current (Peak)	1A
Power Dissipation	300mW (derate linearly 4.0mW/ $^{\circ}\text{C}$ above 25 $^{\circ}\text{C}$)

POWER DISSIPATION

Total Power Dissipation	330mW
(derate linearly 4.4mW/ $^{\circ}\text{C}$ above 25 $^{\circ}\text{C}$)	

ISOCOM COMPONENTS 2004 LTD

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ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

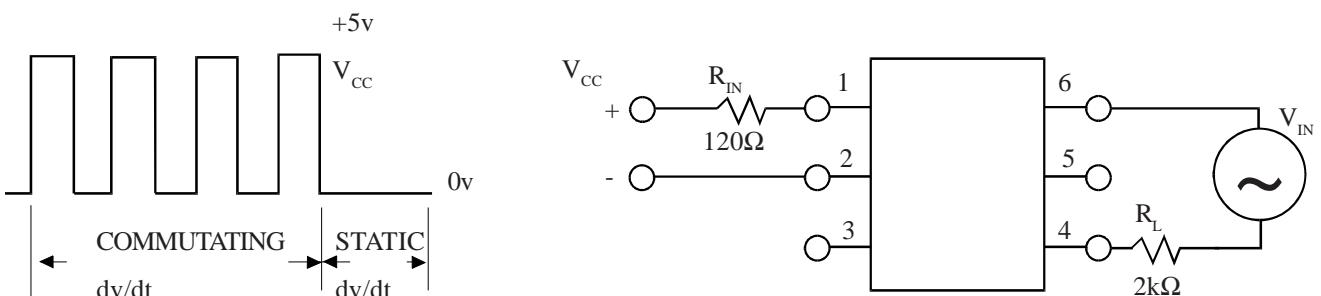
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F) Reverse Current (I_R)		1.2 100	1.5 μA	V μA	$I_F = 10\text{mA}$ $V_R = 6\text{V}$
Output	Peak Off-state Current (I_{DRM}) Peak Blocking Voltage (V_{DRM}) On-state Voltage (V_{TM}) Critical rate of rise of off-state Voltage (dv/dt) (note 1) Critical rate of rise of commutating Voltage (dv/dt) (note 1)	400	1.5	100 3.0	nA V V	$V_{DRM} = 400\text{V}$ (note 1) $I_{DRM} = 100\text{nA}$ $I_{TM} = 100\text{mA}$ (peak)
Coupled	Input Current to Trigger (I_{FT})(note 2) MOC3020 MOC3021 MOC3022 MOC3023 Holding Current , either direction (I_H) Input to Output Isolation Voltage V_{ISO}			30 15 10 5	mA mA mA mA	$V_D = 3\text{V}$ (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.

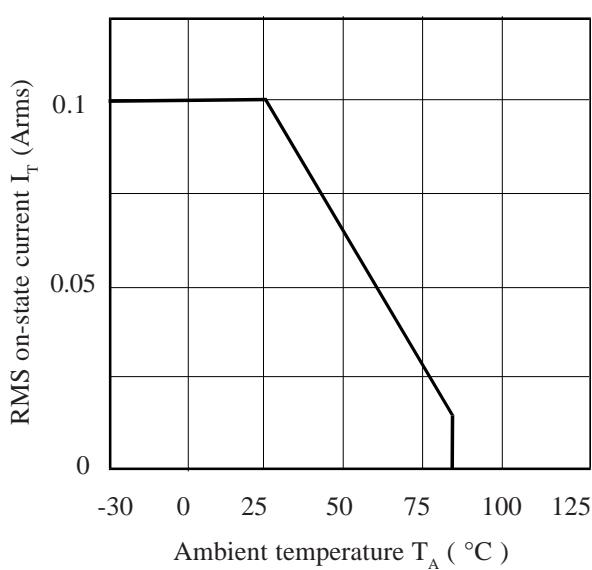
Note 2. Guaranteed to trigger at an I_F value less than or equal to max. I_{FT} , recommended I_F lies between Rated I_{FT} and absolute max. I_{FT} .

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

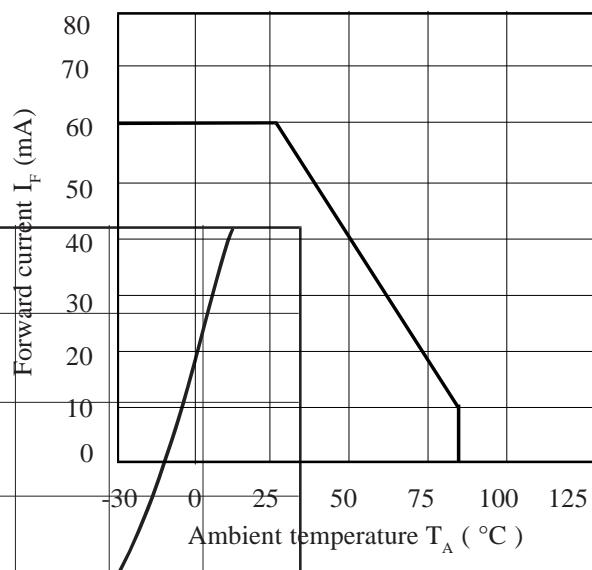
FIGURE 1



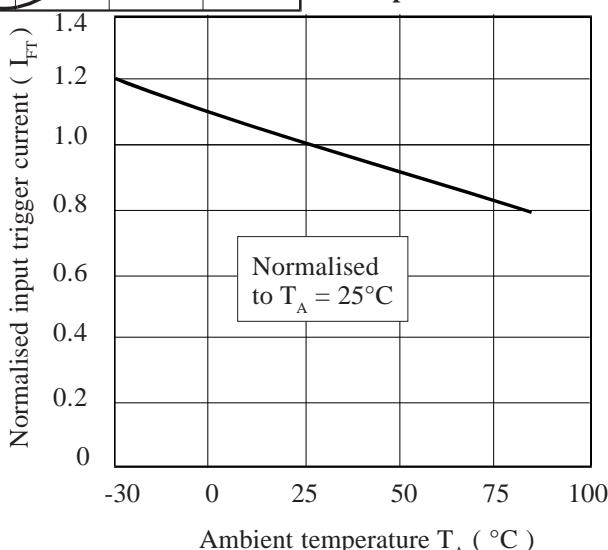
RMS On-state Current vs. Ambient Temperature



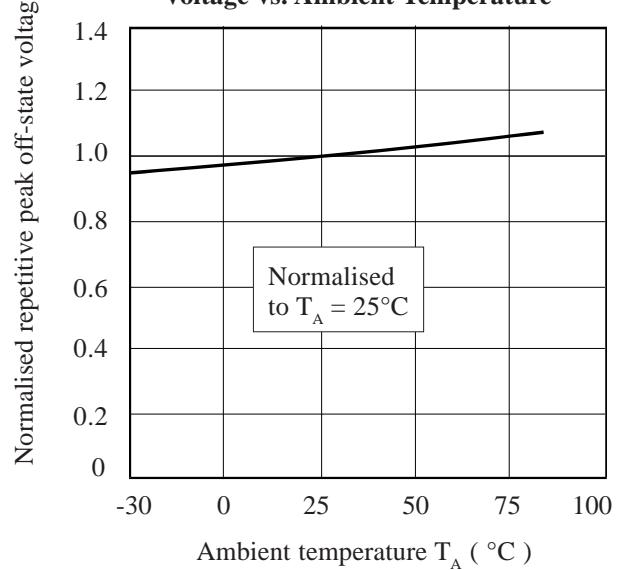
Forward Current vs. Ambient Temperature



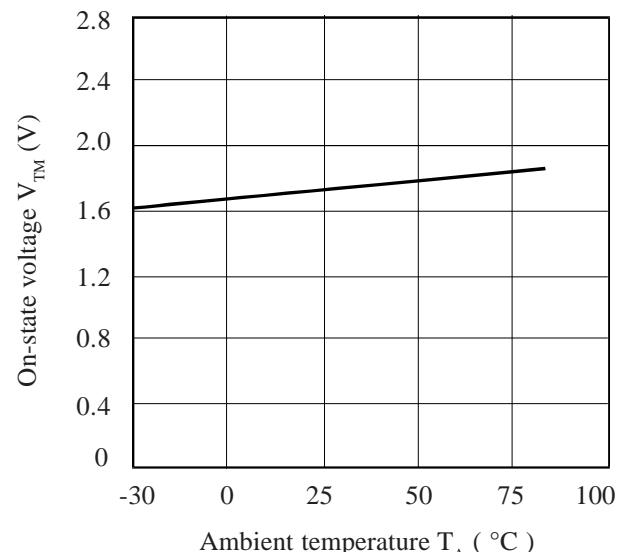
Normalised Input Trigger Current vs. Ambient Temperature



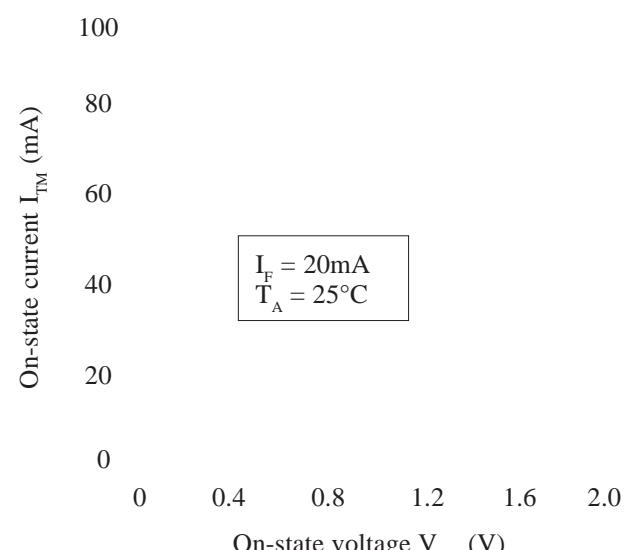
Normalised Repetitive Peak Off-state Voltage vs. Ambient Temperature



On-state Voltage vs. Ambient Temperature



On-state Current vs. On-state Voltage



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