



**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.

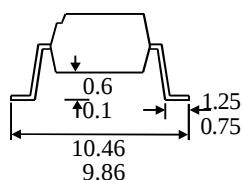
FEATURE

- 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 ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- 400V Peak Blocking Voltage
- All electrical parameters 100% tested
- Custom electrical selections available

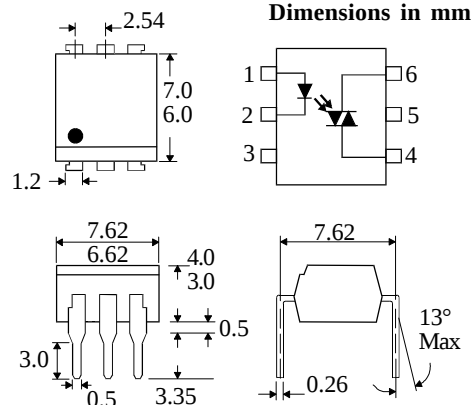
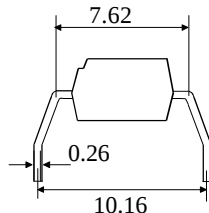
APPLICATIONS

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

**OPTION SM
SURFACE MOUNT**



OPTION G



**ABSOLUTE MAXIMUM RATINGS
(25 °C unless otherwise noted)**

Storage Temperature _____ -55°C - +150°C
Operating Temperature _____ -40°C - +100°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/°C above 25°C)

OUTPUT PHOTO TRIAC

Off-State Output Terminal Voltage _____ 400V
Forward Current (Peak) _____ 1A
Power Dissipation _____ 300mW
(derate linearly 4.0mW/°C above 25°C)

POWER DISSIPATION

Total Power Dissipation _____ 330mW
(derate linearly 4.4mW/°C above 25°C)

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

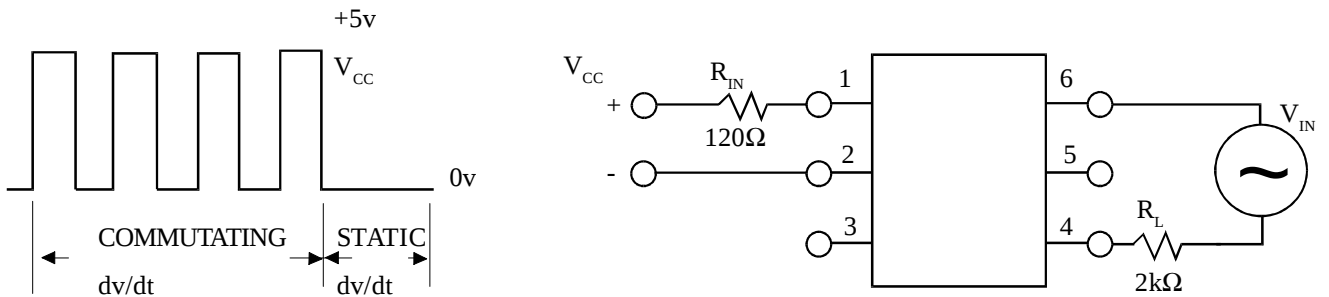
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F) Reverse Current (I_R)		1.2	1.5 100	V μA	$I_F = 10mA$ $V_R = 6V$
Output	Peak Off-state Current (I_{DRM}) Peak Blocking Voltage (V_{DRM}) On-state Voltage (V_{TM}) Critical rate of rise of off-state Voltage (dv/dt) (note 1) Critical rate of rise of commutating Voltage (dv/dt) (note 1)	400	1.5 10 0.1	100 3.0	nA V V V/ μs V/ μs	$V_{DRM} = 400V$ (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) 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 μA V_{RMS} V_{PK}	$V_D = 3V$ (note 2) See note 3 See note 3

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

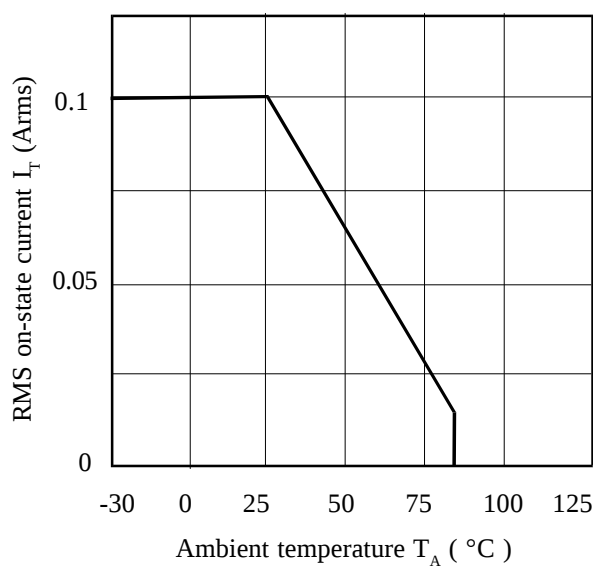
Note 2. Guaranteed to trigger at an I_F value less than or equal to $\max. I_{FT}$, recommended I_F lies between $\text{Rated } I_{FT}$ and absolute $\max. I_{FT}$.

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

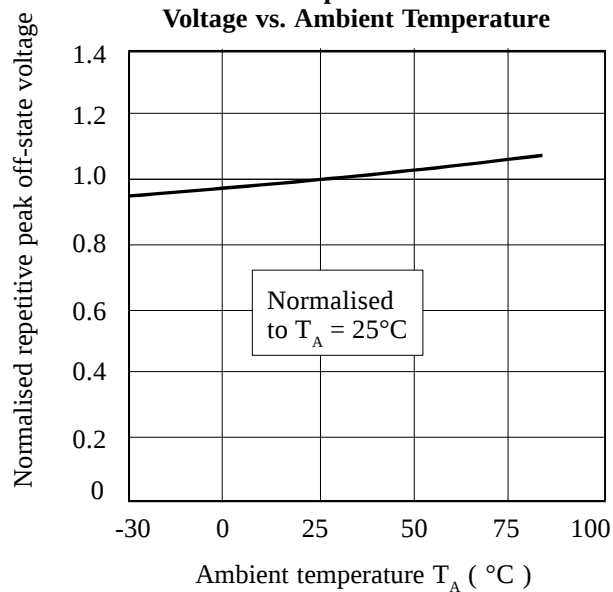
FIGURE 1



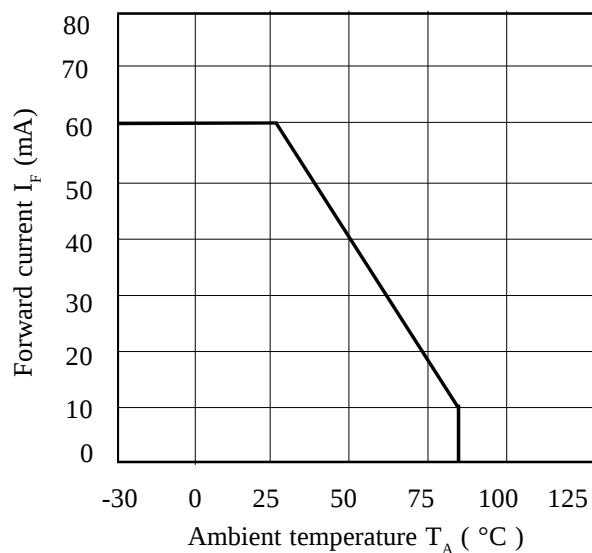
RMS On-state Current vs. Ambient Temperature



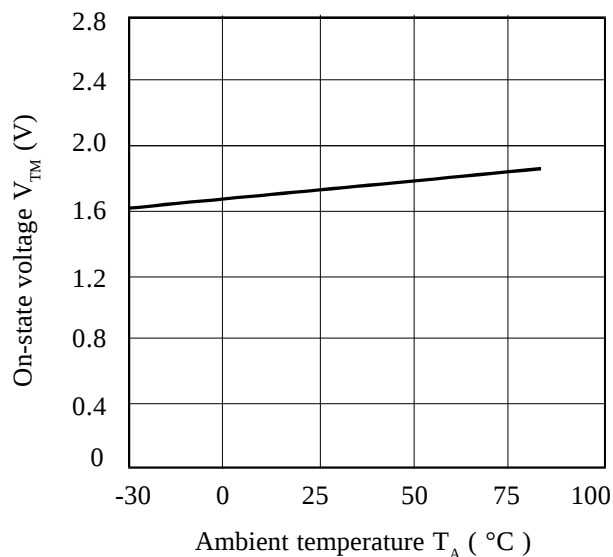
Normalised Repetitive Peak Off-state Voltage vs. Ambient Temperature



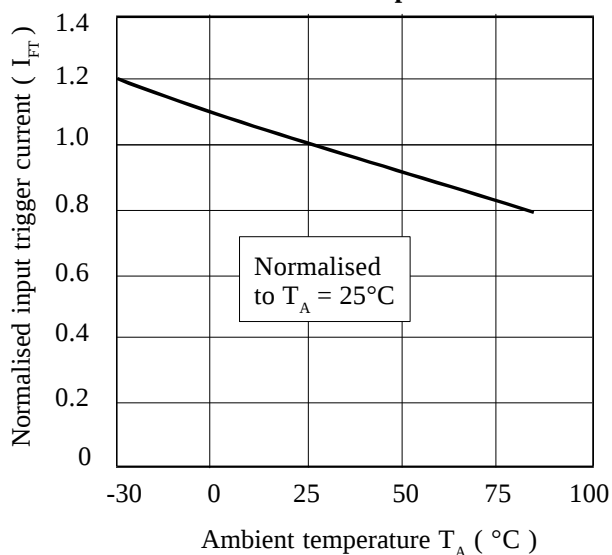
Forward Current vs. Ambient Temperature



On-state Voltage vs. Ambient Temperature



Normalised Input Trigger Current vs. Ambient Temperature



On-state Current vs. On-state Voltage

