

MOC3080, MOC3081, MOC3082, MOC3083

**OPTICALLY COUPLED BILATERAL
SWITCH LIGHT ACTIVATED ZERO
VOLTAGE CROSSING TRIAC****DESCRIPTION**

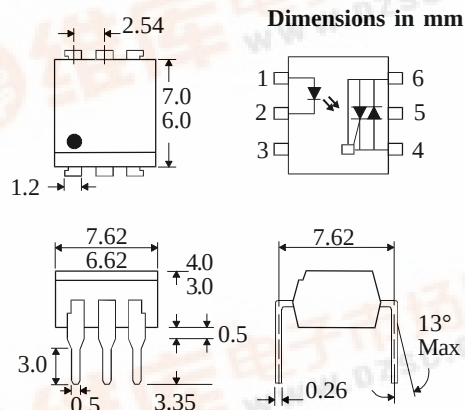
The MOC308_ Series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a monolithic silicon detector performing the functions of a zero crossing bilateral triac mounted in a standard 6 pin dual-in-line package.

FEATURES

- 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 ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- Zero Voltage Crossing
- 800V 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 _____ -40°C - +150°C
Operating Temperature _____ -40°C - +100°C
Lead Soldering Temperature _____ 260°C
(1.6mm from case for 10 seconds)
Input-to-output Isolation Voltage (Pk) 7500 Vac
(60 Hz, 1sec. duration)

INPUT DIODE

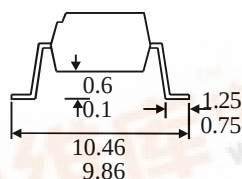
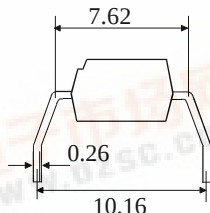
Forward Current _____ 50mA
Reverse Voltage _____ 6V
Power Dissipation _____ 120mW
(derate linearly 1.41mW/°C above 25°C)

OUTPUT PHOTO TRIAC

Off-State Output Terminal Voltage _____ 800V
RMS Forward Current _____ 100mA
Forward Current (Peak) _____ 1.2A
Power Dissipation _____ 150mW
(derate linearly 1.76mW/°C above 25°C)

POWER DISSIPATION

Total Power Dissipation _____ 250mW
(derate linearly 2.94mW/°C above 25°C)

**OPTION SM
SURFACE MOUNT****OPTION G****ISOCOMCOMPONENTSLTD**

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Park View Industrial Estate, Brenda Road
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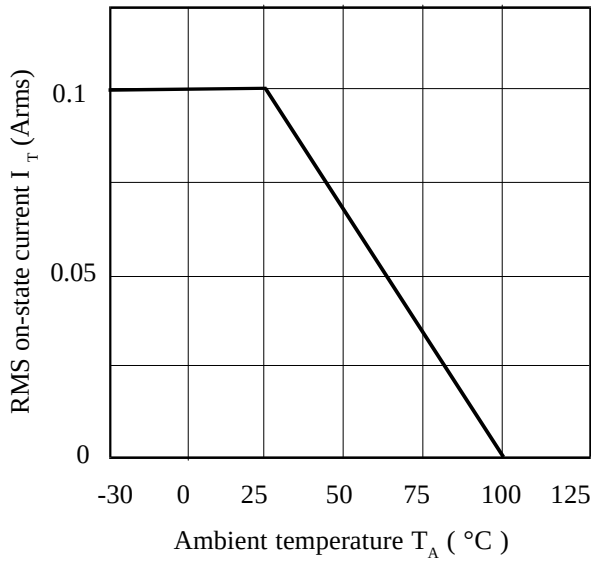
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	$I_F = 30\text{mA}$
	Reverse Current (I_R)			100	μA	$V_R = 6\text{V}$
Output	Peak Off-state Current (I_{DRM})	800		300	nA	$V_{\text{DRM}} = 800\text{V}$ (note 1)
	Peak Blocking Voltage (V_{DRM})				V	$I_{\text{DRM}} = 300\text{nA}$
	On-state Voltage (V_{TM})		1.8	3.0	V	$I_{\text{TM}} = 100\text{mA}$ (peak)
	Critical rate of rise of off-state Voltage (dv/dt)	100			V/ μs	
Coupled	Input Current to Trigger (I_{FT}) (note 2) MOC3080 MOC3081 MOC3082 MOC3083			30 15 10 5	mA mA mA mA	$V_{\text{TM}} = 3\text{V}$ (note 2)
	Holding Current , either direction (I_H) Input to Output Isolation Voltage V_{ISO}	5300 7500	100		μA V_{RMS} V_{PK}	See note 3 See note 3
Zero Crossing Characteristic	Inhibit Voltage (V_{IH})			35	V	$I_F = \text{Rated } I_{\text{FT}}$ MT1-MT2 Voltage above which device will not trigger
	Leakage in Inhibited State (I_S)			500	μA	$I_F = \text{Rated } I_{\text{FT}}$ $V_{\text{DRM}} = 800\text{V}$ off-state

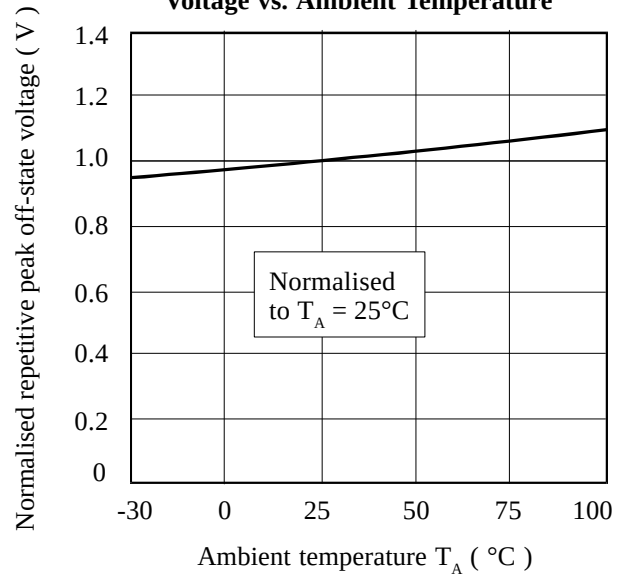
Note 1. Guaranteed to trigger at an I_F value less than or equal to max. I_{FT} , recommended I_F lies between Rated I_{FT} and absolute max. I_F .

Note 2. Measured with input leads shorted together and output leads shorted together.

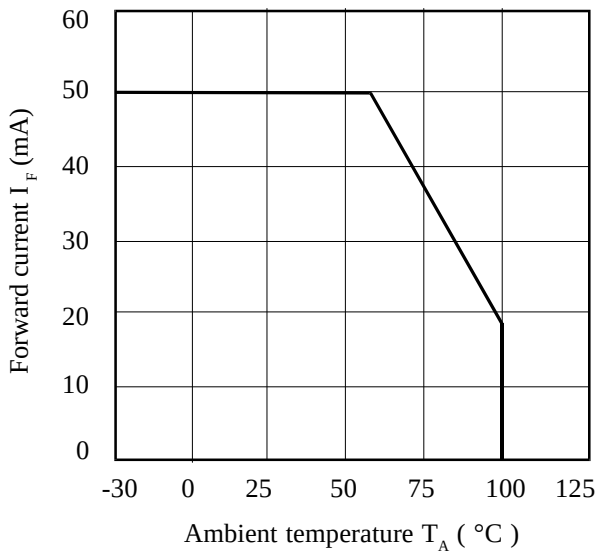
RMS On-state Current vs. Ambient Temperature



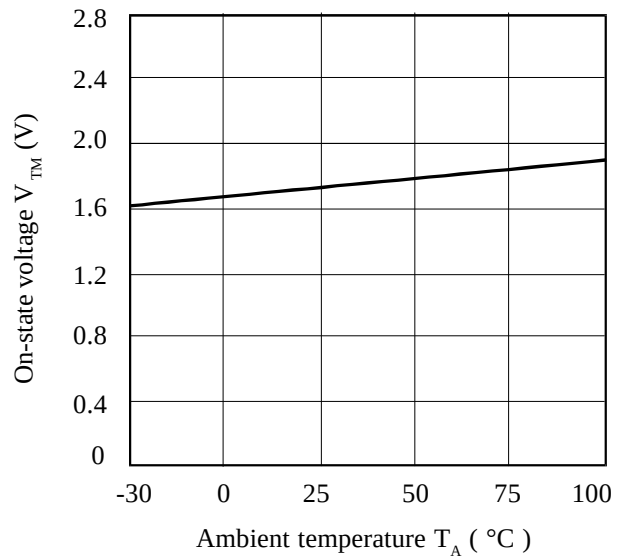
Normalised Repetitive Peak Off-state Voltage vs. Ambient Temperature



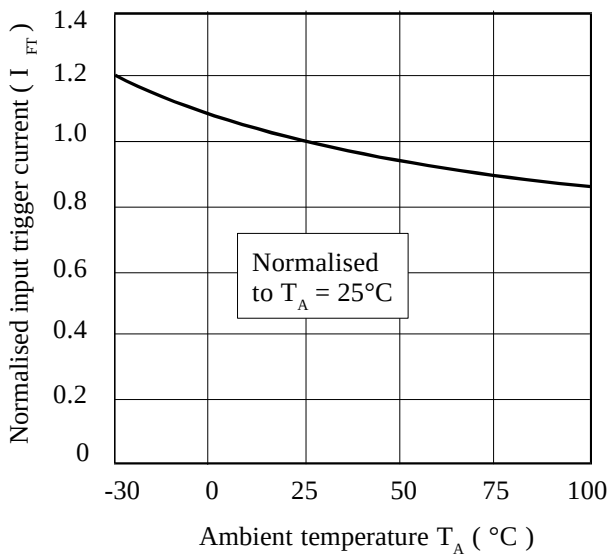
Forward Current vs. Ambient Temperature



On-state Voltage vs. Ambient Temperature



Normalised Input Trigger Current vs. Ambient Temperature



On-state Current vs. On-state Voltage

