

MOC3051, MOC3052
MOC3051X, MOC3052X



ISOCOM
COMPONENTS

**OPTICALLY COUPLED RANDOM
PHASE NON-ZERO CROSSING
TRIAC DRIVERS**



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

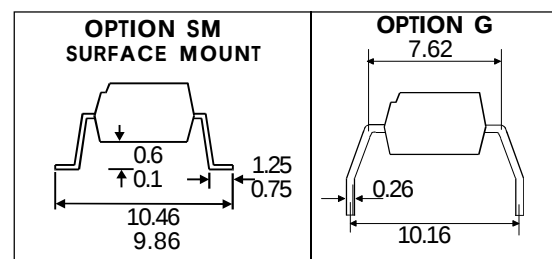
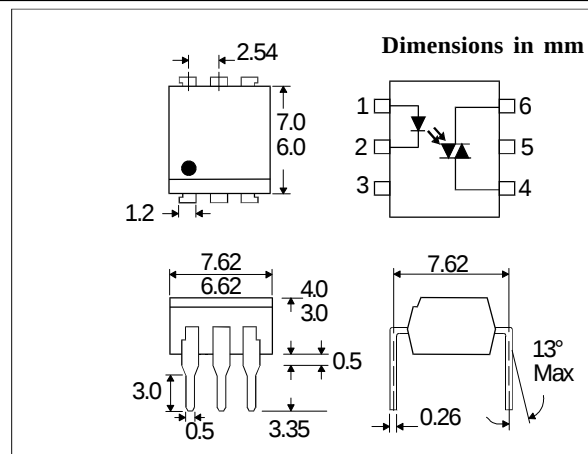
The MOC305_ series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a light activated silicon bilateral switch performing the functions of a triac mounted in a standard 6 pin dual-in-line package. The MOC305_ series provide random phase control of high current triacs or thyristors. The MOC305_ series features greatly enhanced static dv/dt capability to ensure stable switching performance of inductive loads.

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 ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- 600V Peak Blocking Voltage
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

- Solenoid / Valve Controls
- Lamp Ballasts
- Static AC Power Switch
- Interfacing Microprocessors to 115 and 240Vac Peripherals
- Solid State Relays
- Incandescent Lamp Dimmers
- Temperature Controls
- Motor Controls



ISOCOM COMPONENTS LTD
Unit 25B, Park View Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, TS25 1YD England Tel: (01429)863609
Fax: (01429)863581 e-mail sales@isocom.co.uk
<http://www.isocom.com>

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 1.33mW/°C above 25°C)		

OUTPUT PHOTOTRIAC

Off-State Output Terminal Voltage	_____	600V
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)		

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

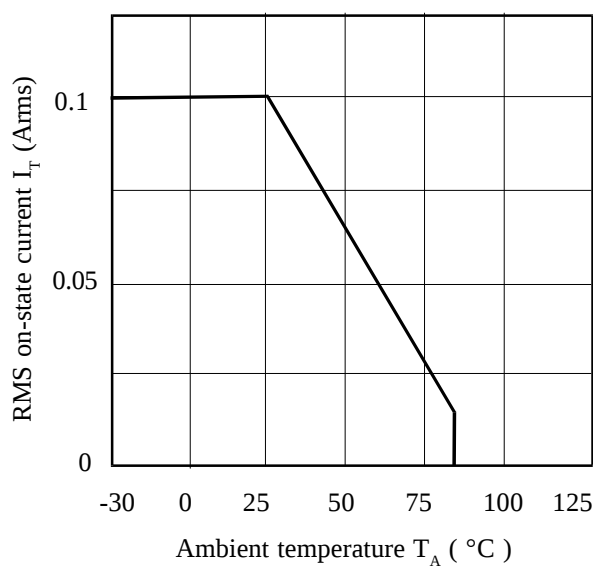
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	$I_F = 10\text{mA}$
	Reverse Current (I_R)			10	μA	$V_R = 6\text{V}$
Output	Peak Off-state Current (I_{DRM})	600		100	nA	$V_{\text{DRM}} = 600\text{V}$ (note 1)
	Peak Blocking Voltage (V_{DRM})				V	$I_{\text{DRM}} = 100\text{nA}$
	On-state Voltage (V_{TM})		1.5	3.0	V	$I_{\text{TM}} = 100\text{mA}$ (peak)
	Critical rate of rise of off-state Voltage@ 400V (dv/dt) (note 1)	1000			V/ μs	
Coupled	Input Current to Trigger (I_{FT}) (note 2) MOC3051 MOC3052			15 10	mA mA	$V_D = 3\text{V}$ (note 2)
	Holding Current , either direction (I_H)		100		μA	
	Input to Output Isolation Voltage V_{ISO}	5300 7500			V_{RMS} V_{PK}	See note 3 See note 3

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

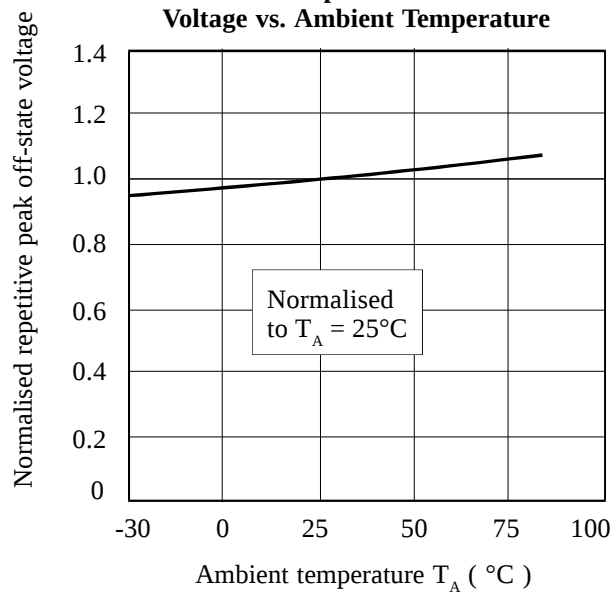
Note 2. Guaranteed to trigger at an I_F value less than or equal to max. I_{FT} , recommended I_F lies between Rated I_{FT} and absolute max. I_{FT} .

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

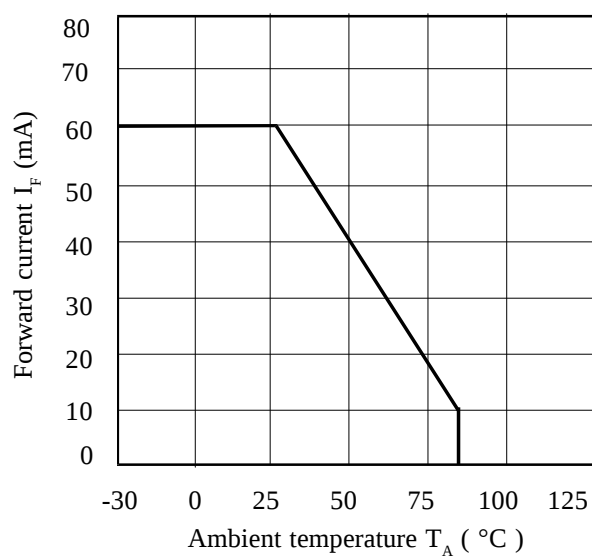
RMS On-state Current vs. Ambient Temperature



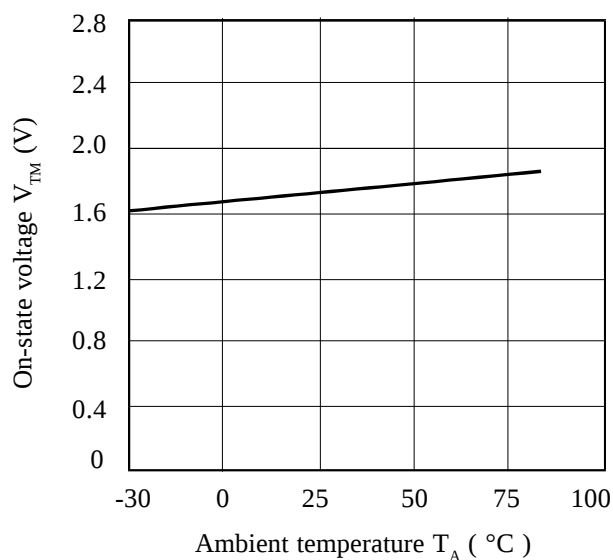
Normalised Repetitive Peak Off-state Voltage vs. Ambient Temperature



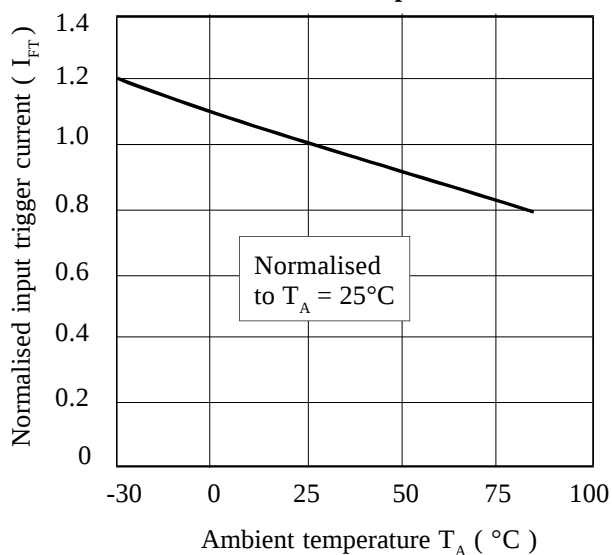
Forward Current vs. Ambient Temperature



On-state Voltage vs. Ambient Temperature



Normalised Input Trigger Current vs. Ambient Temperature



On-state Current vs. On-state Voltage

