

MOC3040, MOC3041, MOC3042, MOC3043  
MOC3040X, MOC3041X, MOC3042X, MOC3043X



# ISOCOM

COMPONENTS



## OPTICALLY COUPLED BILATERAL SWITCH LIGHT ACTIVATED ZERO VOLTAGE CROSSING TRIAC

### APPROVALS

- UL recognised, File No. E91231  
Package Code " TT "
- 'X' SPECIFICATION APPROVALS
  - VDE 0884 in 3 available lead form : -
    - STD
    - G form
    - SMD approved to CECC 00802

### DESCRIPTION

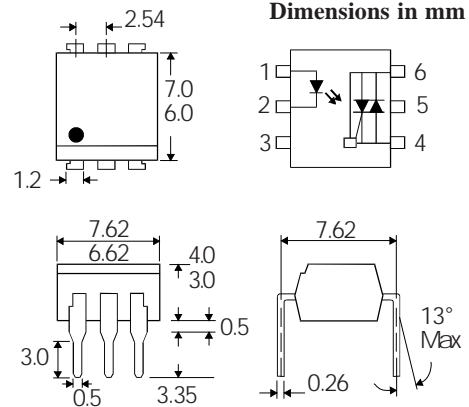
The MOC304\_ Series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a monolithic silicon detector performing the functions of a zero crossing bilateral triac mounted in a standard 6 pin dual-in-line package.

### 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
- 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°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 \_\_\_\_\_ 120mW  
(derate linearly 1.41mW/°C above 25°C)

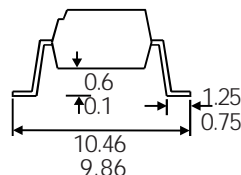
### OUTPUT PHOTO TRIAC

Off-State Output Terminal Voltage \_\_\_\_\_ 400V  
Peak Repetitive Surge Current  
(PW=100µs, 120pps) \_\_\_\_\_ 1A  
Power Dissipation \_\_\_\_\_ 150mW  
(derate linearly 1.76mW/°C above 25°C)

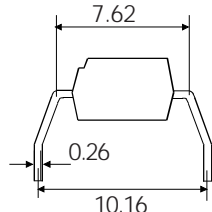
### POWER DISSIPATION

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

OPTION SM  
SURFACE MOUNT



OPTION G



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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	1.4 10	V $\mu\text{A}$	$I_F = 20\text{mA}$ $V_R = 6\text{V}$
Output	Peak Off-state Current ( $I_{\text{DRM}}$ ) Peak Blocking Voltage ( $V_{\text{DRM}}$ ) On-state Voltage ( $V_{\text{TM}}$ )  Critical rate of rise of off-state Voltage ( $dv/dt$ )	400		500  3.0	nA V V	$V_{\text{DRM}} = 400\text{V}$ (note 1 ) $I_{\text{DRM}} = 500\text{nA}$ $I_{\text{TM}} = 100\text{mA}$ ( peak )
Coupled	Input Current to Trigger ( $I_{\text{FT}}$ )(note 2 ) MOC3040 MOC3041 MOC3042 MOC3043  Holding Current , either direction ( $I_H$ ) Input to Output Isolation Voltage $V_{\text{ISO}}$			30 15 10 5	mA mA mA mA	$V_{\text{TM}} = 3\text{V}$ ( note 2 )
		5300 7500	400		$\mu\text{A}$ $V_{\text{RMS}}$ $V_{\text{PK}}$	See note 3 See note 3
Zero Crossing Charact- -eristic	Inhibit Voltage ( $V_{\text{IH}}$ )  Leakage in Inhibited State ( $I_S$ )			20  500	V  $\mu\text{A}$	$I_F = \text{Rated } I_{\text{FT}}$ MT1-MT2 Voltage above which device will not trigger $I_F = \text{Rated } I_{\text{FT}}$ $V_{\text{DRM}} = \text{Rated } V_{\text{DRM}}$ Off-state

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.  $I_{\text{FT}}$ , recommended  $I_F$  lies between Rated  $I_{\text{FT}}$  and absolute max.  $I_F$ .

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