

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**

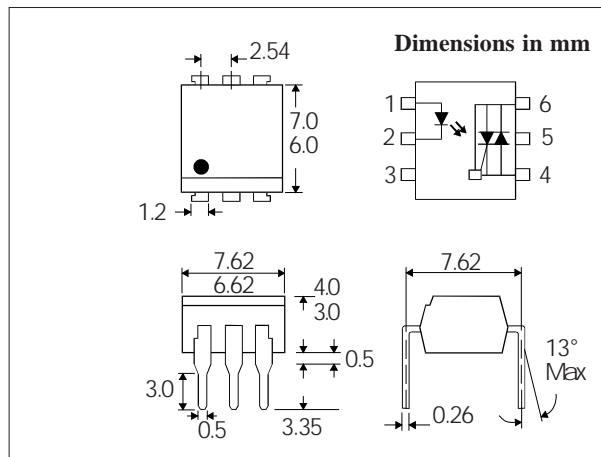
The MOC304\_ Series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a monolithic silicon detector performing the functions of a zero crossing bilateral triac mounted in a standard 6 pin dual-in-line package.

**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**

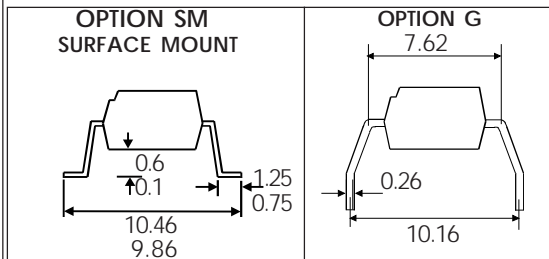
Forward Current	50mA
Reverse Voltage	6V
Power Dissipation	120mW
(derate linearly 1.41mW/°C above 25°C)	

**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)	



**ISOCOM COMPONENTS 2004 LTD**  
Unit 25B, Park View Road West,  
Park View Industrial Estate, Brenda Road  
Hartlepool, TS25 1UD England Tel:  
(01429)863609 Fax: (01429) 863581 e-mail  
sales@isocom.co.uk http://www.isocom.com

**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.

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