



OPTICALLY COUPLED BILATERAL SWITCH LIGHT ACTIVATED ZERO VOLTAGE CROSSING TRIAC



APPROVALS

- UL recognised, File No. E91231
Package Code "GG" or "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.

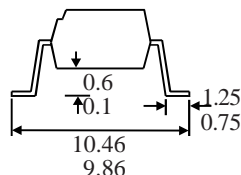
FEATURES

- 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

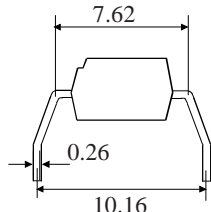
APPLICATIONS

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

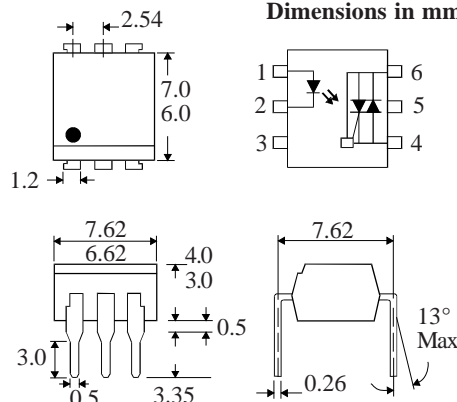
OPTION SM SURFACE MOUNT



OPTION G



Dimensions in mm



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) | | 1.2 | 1.4 | V | $I_F = 20\text{mA}$ |
| | Reverse Current (I_R) | | | 10 | μA | $V_R = 6\text{V}$ |
| Output | Peak Off-state Current (I_{DRM}) | 400 | | 500 | nA | $V_{\text{DRM}} = 400\text{V}$ (note 1) |
| | Peak Blocking Voltage (V_{DRM}) | | | | V | $I_{\text{DRM}} = 500\text{nA}$ |
| | On-state Voltage (V_{TM}) | | | 3.0 | V | $I_{\text{TM}} = 100\text{mA}$ (peak) |
| | Critical rate of rise of off-state Voltage (dv/dt) | 600 | 1500 | | V/ μs | |
| Coupled | Input Current to Trigger (I_{FT}) (note 2) | 5300 7500 | 400 | | | $V_{\text{TM}} = 3\text{V}$ (note 2) |
| | MOC3040 | | | 30 | mA | |
| | MOC3041 | | | 15 | mA | |
| | MOC3042 | | | 10 | mA | |
| | MOC3043 | | | 5 | mA | |
| | Holding Current , either direction (I_H) | | | | μA | See note 3 |
| | Input to Output Isolation Voltage V_{ISO} | | | | V_{RMS} | |
| | | | | | V_{PK} | |
| Zero Crossing Characteristic | Inhibit Voltage (V_{IH}) | | | 20 | 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 | $I_F = \text{Rated } I_{\text{FT}}$ $V_{\text{DRM}} = \text{Rated } V_{\text{DRM}}$ 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_{FT} , recommended I_F lies between Rated I_{FT} and absolute max. I_F .

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