

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 "
- VDE 0884 in 3 available lead form : -
- STD
- G form
- SMD approved to CECC 00802

DESCRIPTION

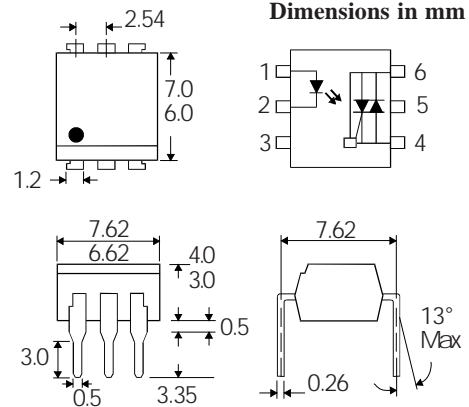
The MOC304_ Series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a monolithic silicon detector performing the functions of a zero crossing bilateral triac mounted in a standard 6 pin dual-in-line package.

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

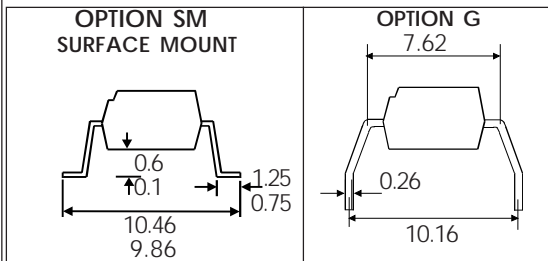
Forward Current _____ 50mA
Reverse Voltage _____ 6V
Power Dissipation _____ 120mW
(derate linearly 1.41mW/°C above 25°C)

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)



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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 μA | $I_F = 20\text{mA}$ $V_R = 6\text{V}$ |
| Output | Peak Off-state Current (I_{DRM}) Peak Blocking Voltage (V_{DRM}) On-state Voltage (V_{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_{FT})(note 2) MOC3040 MOC3041 MOC3042 MOC3043 Holding Current , either direction (I_H) Input to Output Isolation Voltage V_{ISO} | | | 30 15 10 5 | mA mA mA mA | $V_{\text{TM}} = 3\text{V}$ (note 2) |
| | | 5300 7500 | 400 | | μA V_{RMS} V_{PK} | See note 3 See note 3 |
| Zero Crossing Charact- -eristic | Inhibit Voltage (V_{IH}) Leakage in Inhibited State (I_S) | | | 20 500 | V μA | $I_F = \text{Rated } I_{\text{FT}}$ 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_{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.