



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

'X' SPECIFICATION APPROVALS

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

DESCRIPTION

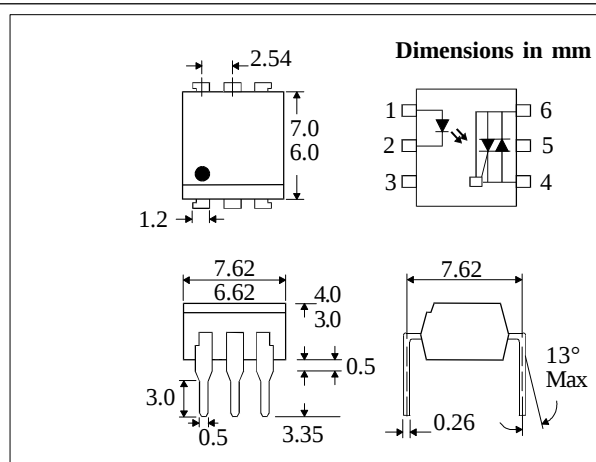
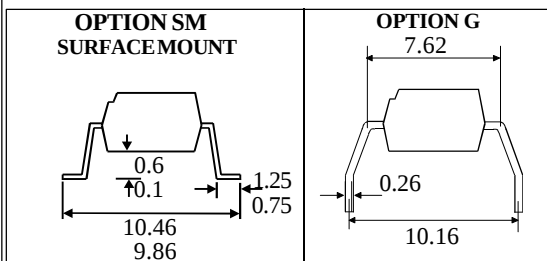
The MOC304_ Series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a monolithic silicon detector performing the functions of a zero crossing bilateral triac mounted in a standard 6 pin dual-in-line package.

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
 Forward Current (Peak) _____ 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 = 20mA V _R = 6V
Output	Peak Off-state Current (I _{DRM}) Peak Blocking Voltage (V _{DRM}) On-state Voltage (V _{TM})	400		500 3.0	nA V V	V _{DRM} = 400V (note 1) I _{DRM} = 500nA I _{TM} = 100mA (peak)
	Critical rate of rise of off-state Voltage (dv/dt)	600	1500		V/μs	
Coupled	Input Current to Trigger (I _{FT})(note 2) MOC3040 MOC3041 MOC3042 MOC3043			30 15 10 5	mA mA mA mA	V _{TM} = 3V (note 2)
	Holding Current , either direction (I _H) Input to Output Isolation Voltage V _{ISO}	5300 7500	400		μA V _{RMS} V _{PK}	See note 3 See note 3
Zero Crossing Charact- -eristic	Inhibit Voltage (V _{IH})			20	V	I _F = Rated I _{FT} MT1-MT2 Voltage above which device will not trigger
	Leakage in Inhibited State (I _S)			500	mA	I _F = Rated I _{FT} V _{DRM} = Rated V _{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.

CHARACTERISTIC CURVES

Fig.1 Forward Current vs. Ambient Temperature

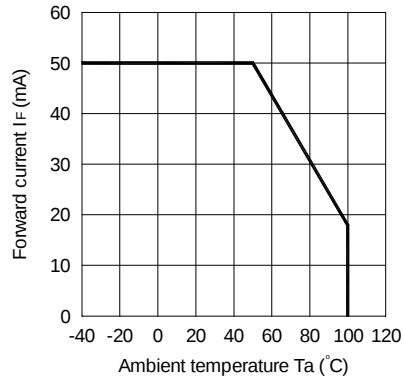


Fig.2 On-state Current vs. Ambient Temperature

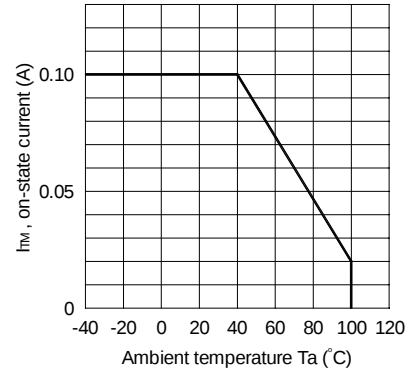


Fig.3 Minimum Trigger Current vs. Ambient Temperature

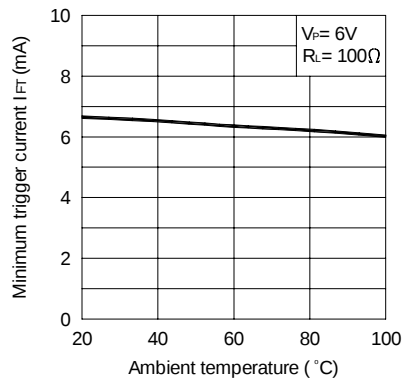


Fig.4 Forward Current vs. Forward Voltage

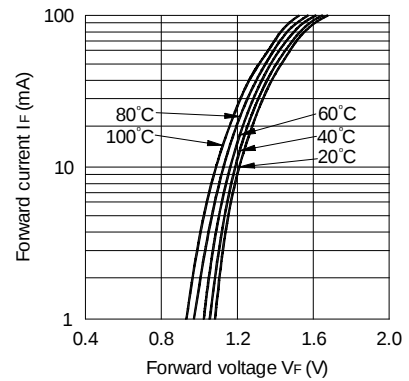


Fig.5 On-state Voltage vs. Ambient Temperature

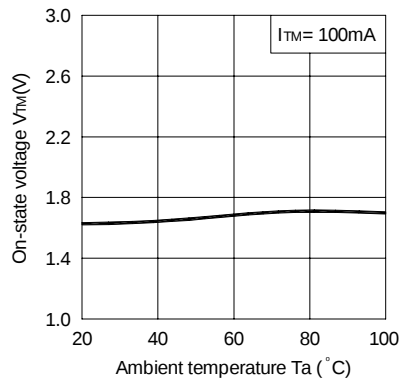
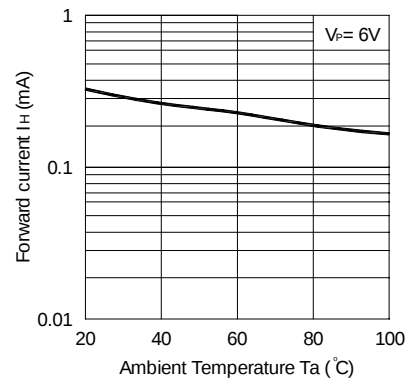


Fig.6 Holding Current vs. Ambient Temperature



CHARACTERISTIC CURVES

Fig.7 Turn-on Time vs. Forward Current

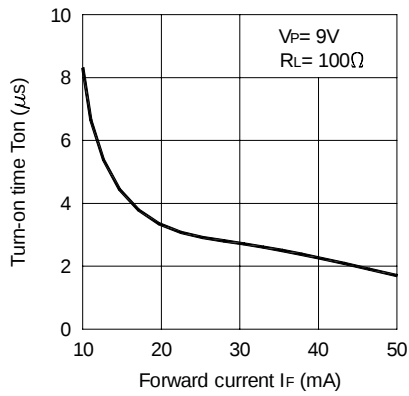


Fig.8 Repetitive Peak Off-state Current vs. Temperature

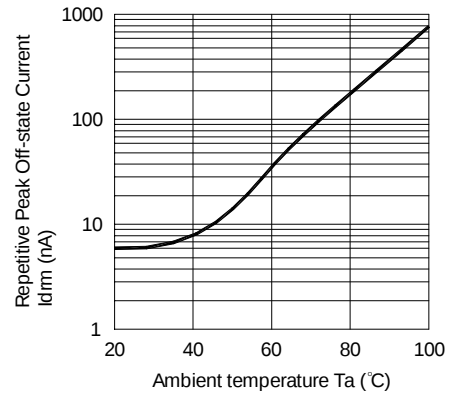
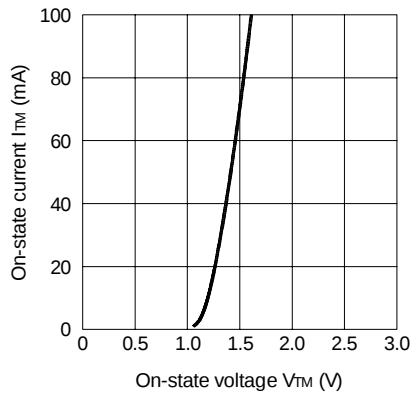


Fig.9 On-state Current vs. On-state Voltage



Static dv/dt Test Circuit

