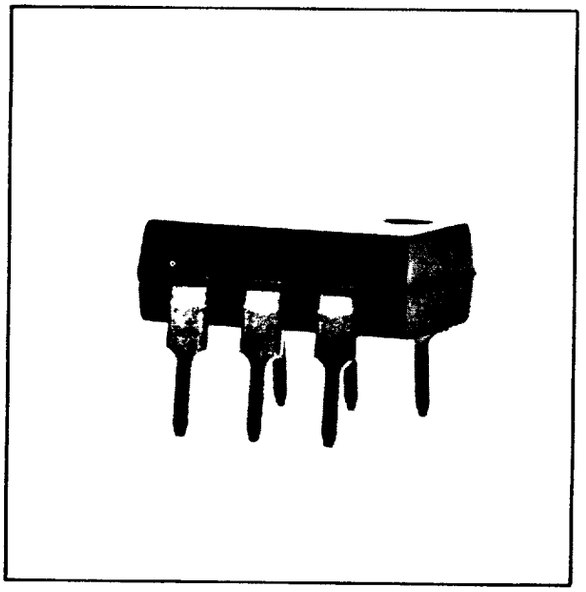
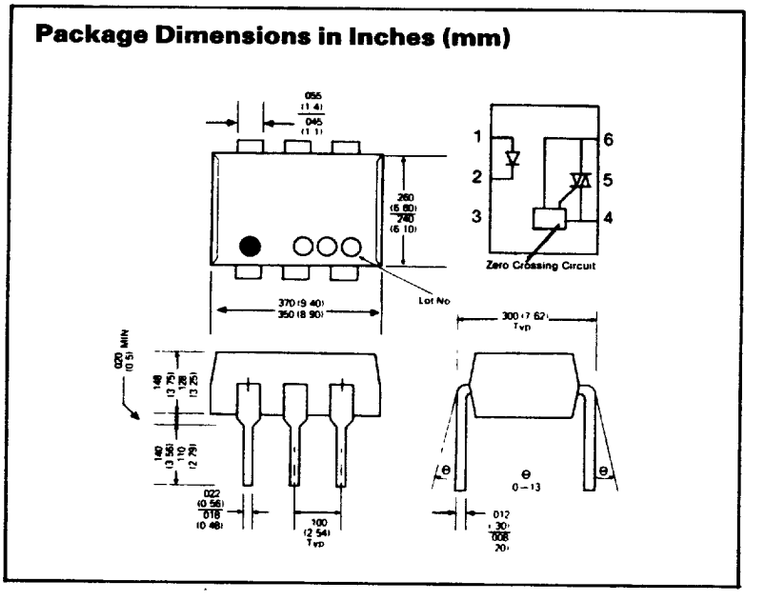
MOC3040, MOC3041, MOC3042

Optically Coupled Bilateral Switch
Light Activated Zero Voltage Crossing Triac



Package Dimensions in Inches (mm)



FEATURES

- Photo-Triac Output
- 7500V Isolation
- 400V Peak Blocking Voltage
- Low cost dual-in-line package
- Zero Voltage Crossing
- U.L. Recognized, File No. E91231

DESCRIPTION

The MOC304X 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.

All electrical parameters are 100% tested. Specifications are guaranteed to a cumulative 0.65% AQL.

ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise noted)

Storage Temperature	−40°C to + 150°C
Operating Temperature	−40°C to + 70°C
Lead Soldering Temperature (1/16 inch (1.6 mm) from case for 10 seconds)	260°C
Input-to-Output Isolation Voltage (Peak) (60 Hz, 5 sec. duration)	7500 Vac

Input Diode

Forward D.C. Current	50 mA
Reverse D.C. Voltage	6V
Power Dissipation (derate linearly 1.33 mW/°C above 25°C)	120 mW

Output Photo Triac

Off-State Output Terminal Voltage	400V
RMS Forward Current	100 mA
Forward Current (Peak) (P.W. = 10 m.sec)	1.2 A
Power Dissipation (derate linearly 4.0 mW/°C above 25°C)	300 mW
Total Power Dissipation (derate linearly 4.4 mW/°C above 25°C)	330 mW

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APRIL 1986

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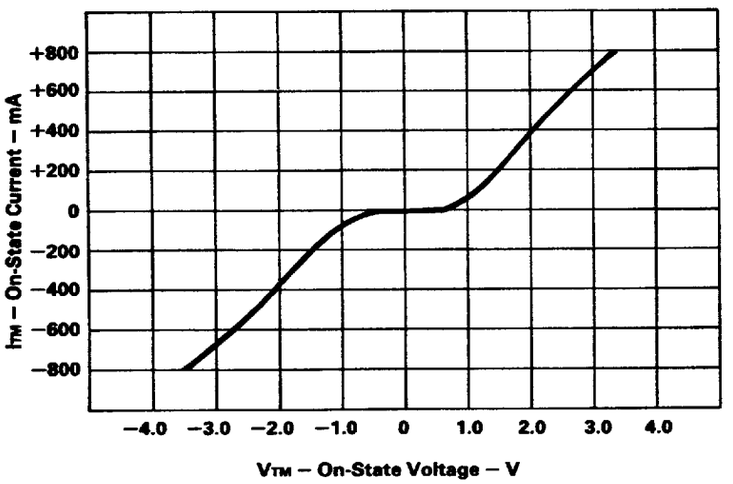
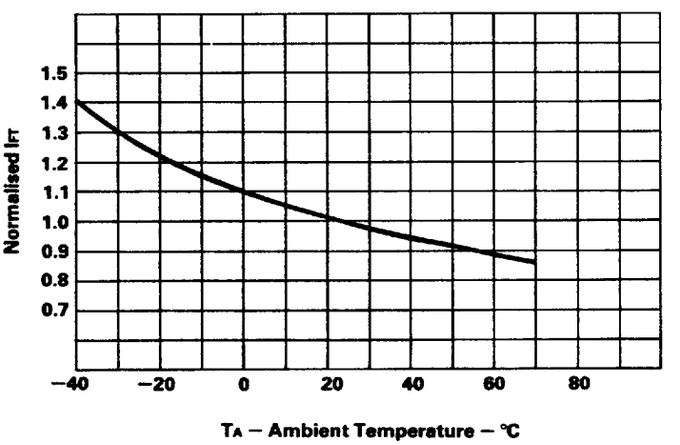
ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

	Parameter	Min.	Typ	Max.	Units	Test Condition
Input	Forward Voltage (V_F)			1.5	Volt	I_F = 30 mA
	Reverse Current (I_R)			100	μA	V_R = 6V
Output Photo-Triac	Peak Off-State Current (I_{DRM1})			100	nA	V_{DRM} = 400V (Note 1)
	Peak Blocking Voltage (V_{DRM})	400			Volt	I_{DRM1} = 100 nA
	On-State Voltage (V_{TM})		2.3	3.0	Volt	I_{TM} = 100 mA (peak)
	Critical rate of rise of commutating Off-state voltage dv/dt (C)		100		V/μ sec	
Coupled	Input Current to Trigger (I_{FT}) MOC3040			30	mA	Main Terminal Voltage = 3V (Note 2)
	MOC3041			15	mA	
	MOC3042			10	mA	
	Holding current, either direction		200		μA	
	Input-to-Output Isolation Voltage	7500			Vac	
Zero Crossing Characteristics	Inhibit Voltage (V_{IH})		15	40	Volt	I_F = Rated I_{FT}; MT-1, MT-2 voltage above which device will not trigger.
	Leakage in Inhibited State (I_{DRM2}) MOC3040, MOC3041		100	300	μA	I_F = Rated I_{FT}, V_{DRM} = 400V, off-state
	MOC3042		100	200	μA	



1. On-State Characteristics



2. Trigger Current vs. Temperature

Note 1: Test voltage must be applied within dv/dt rating.
2: Guaranteed to trigger @ I_F value ≤ max I_{FT}. Recommended I_F lies between max I_{FT} and absolute max I_F.