

FEATURES

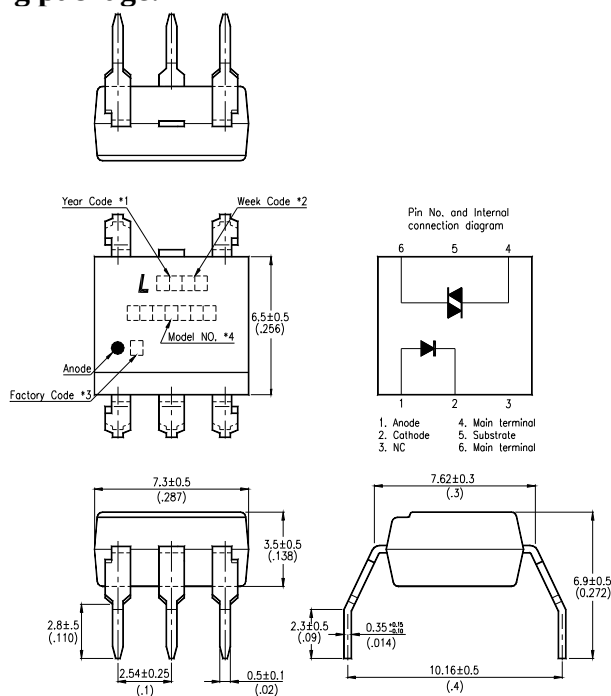
- * Isolation voltage between input and output $V_{iso} : 5,000V_{rms}$
- * 6pin DIP photocoupler, triac driver output
- * High repetitive peak off-state voltage $V_{DRM} : \text{Min. } 600V$
- * High critical rate of rise of off-state voltage
($dV/dt : \text{MIN. } 1000V / \mu s$)
- * Wide lead spacing package :
MOC3052M-A
- * UL approved (No. E113898)
- * FIMKO approved (No. 15469)
- * NEMKO approved (No. P00102123)
- * DEMKO approved (No. 309968-01)
- * SEMKO approved (No. 0032019 / 01-11)
- * CSA approved (No. CA91533-1)
- * VDE approved (No. 094722)
- * RoHS compliance

FEATURES

- * Incandescent Lamp Dimmers
- * Interfacing Microprocessors to 115 and 240 Vac Peripherals
- * Lamp Ballasts
- * Motor Controls
- * Solid State Relays
- * Static AC Power Switch
- * Solenoid / Valve Controls
- * Temperature Controls

OUTLINE DIMENSIONS

Wide lead spacing package:



- *1. Year date code.
- *2. 2-digit work week.
- *3. Factory identification mark shall be marked (Z : Taiwan, Y : Thailand).
- *4. Model No.: MOC3052M-A

ABSOLUTE MAXIMUM RATING

(Ta = 25°C)

PARAMETER		SYMBOL	RATING	UNIT
INPUT	Forward Current	I _F	50	mA
	Reverse Voltage	V _R	6	V
	Power Dissipation	P _D	70	mW
OUTPUT	Off-State Output Terminal Voltage	V _{DRM}	600	V
	Peak Repetitive Surge Current (PW=1ms, 120pps)	V _{TSM}	1	A
	Collector Power Dissipation	P _C	300	mW
Total Power Dissipation		P _{tot}	330	mW
*1	Isolation Voltage	V _{iso}	5,000	V _{rms}
Ambient Operating Temperature Range		T _A	-40 ~ +100	°C
Storage Temperature Range		T _{stg}	-55 ~ +150	°C
*2	Soldering Temperature	T _L	260	°C

*1. AC For 1 Minute, R.H. = 40 ~ 60%

Isolation voltage shall be measured using the following method.

- (1) Short between anode and cathode on the primary side and between collector, emitter on the secondary side.
- (2) The isolation voltage tester with zero-cross circuit shall be used.
- (3) The waveform of applied voltage shall be a sine wave.

*2. For 10 Seconds

ELECTRICAL - OPTICAL CHARACTERISTICS

(Ta = 25°C)

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
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	*1 Peak Blocking Current, Either Direction	I_{DRM}	—	10	100	nA	$V_{\text{DRM}} = 600\text{V}$
	Peak On-State Voltage, Either Direction	V_{TM}	—	—	1.9	V	$I_{\text{TM}}=100\text{ mA Peak}$
	*2 Critical rate of Rise of Off-State Voltage	dv/dt	1000	—	—	V/ μs	
COUPLED	Led Trigger Current, Current *3 Required to Latch Output, Either Direction	I_{FT}	—	—	10	mA	Main Terminal Voltage = 3V
	Holding Current, Either Direction	I_H	—	400	—	μA	
	Turn-On time	t_{on}	—	80	200	μs	$V_D=9\text{V}$, $I_F=20\text{mA}$ $R_L=100\Omega$

*1 Test voltage must be applied within dv/dt rating.

*2 This is static dv/dt . Commutating dv/dt is a function of the load-driving thyristor(s) only.

*3 All devices are guaranteed to trigger at an I_F value less than or equal to max I_{FT} . Therefore, recommended operating I_F lies between max 10mA for MOC3052 and absolute max I_F (50mA)

CHARACTERISTICS CURVES

Fig.1 Forward Current vs. Ambient Temperature

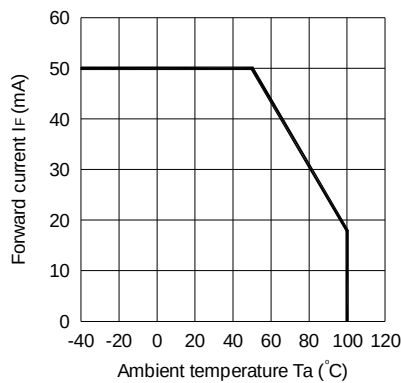


Fig.2 On-state Current vs. Ambient Temperature

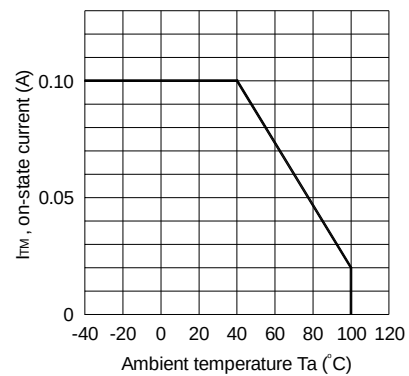


Fig.3 Minimum Trigger Current vs. Ambient Temperature

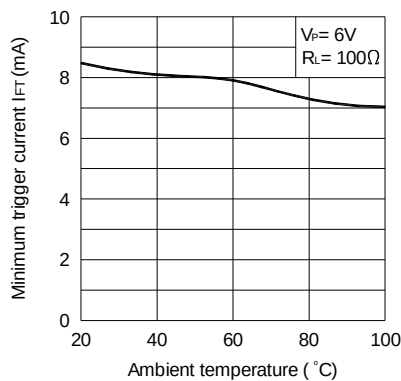


Fig.4 Forward Current vs. Forward Voltage

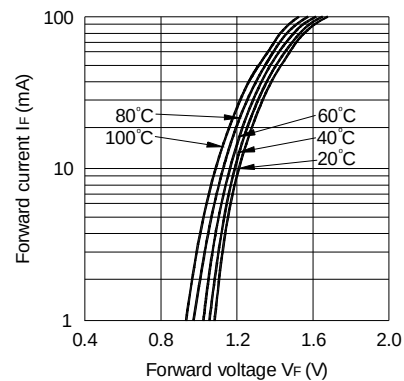


Fig.5 On-state Voltage vs. Ambient Temperature

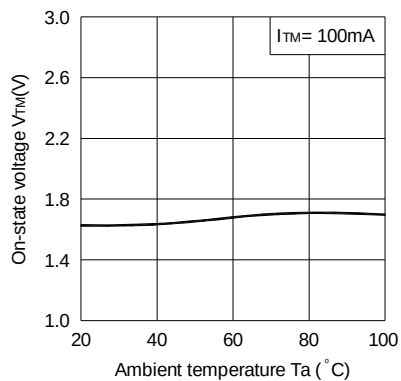
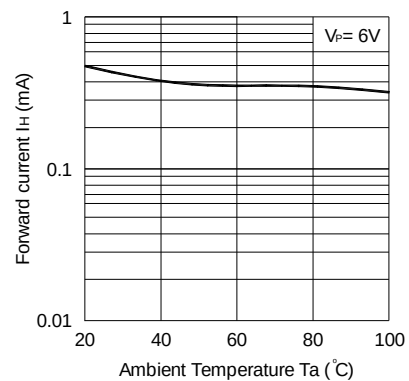


Fig.6 Holding Current vs. Ambient Temperature



CHARACTERISTICS CURVES

Fig.7 Turn-on Time vs. Forward Current

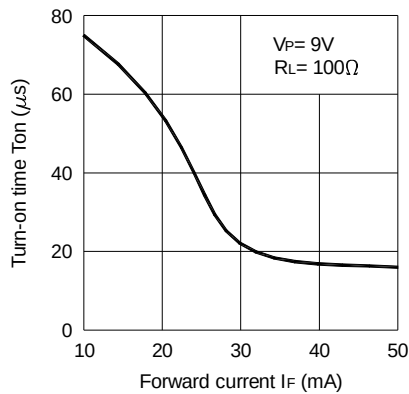


Fig.8 Repetitive Peak Off-state Current vs. Temperature

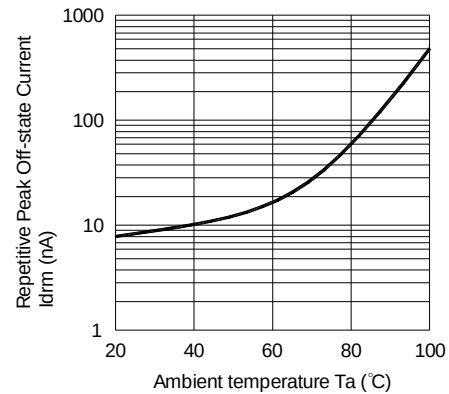
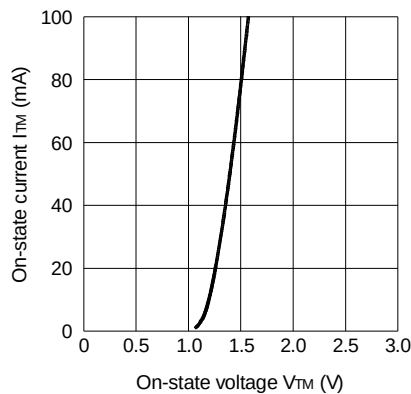
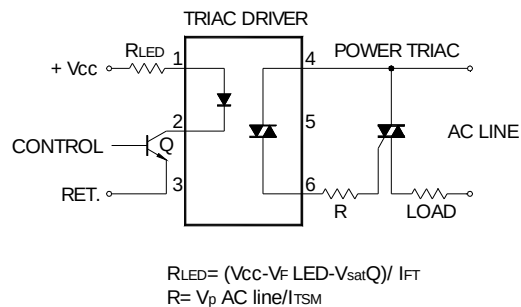


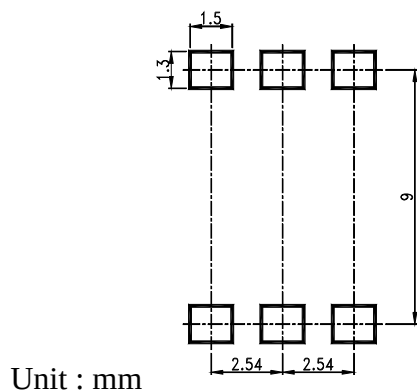
Fig.9 On-state Current vs. On-state Voltage



Basic Driver Circuit



RECOMMENDED FOOT PRINT PATTERNS (MOUNT PAD)



Notes

- Lite-On is continually improving the quality, reliability, function or design and Lite-On reserves the right to make changes without further notices.
- The products shown in this publication are designed for the general use in electronic applications such as office automation equipment, communications devices, audio/visual equipment, electrical application and instrumentation.
- For equipment/devices where high reliability or safety is required, such as space applications, nuclear power control equipment, medical equipment, etc, please contact our sales representatives.
- When requiring a device for any " specific" application, please contact our sales in advice.
- If there are any questions about the contents of this publication, please contact us at your convenience.
- The contents described herein are subject to change without prior notice.
- No contacting with pin 5.
- Inhibit immersing unit's body in solder paste.