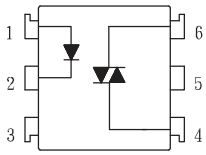
MOC3053

UL # E244343

Schematic:



For dimensions and pin-outs, see the last page of this document.

Features:

1. Compact dual-in-line package
2. 600V peak blocking voltage
3. Isolation voltage between input and output (Viso:5000Vrms).

Ordering:

Suffix to Standard Part Number

- V = VDE Approved
- G = 10mm Lead Spread
- S = Surface Mount Lead-form
- T = Tape & Reel

Equivalents:

This part equals/exceeds all specifications of:

O MOC3051, 2

Absolute Maximum Ratings:

(Ta=25°C)

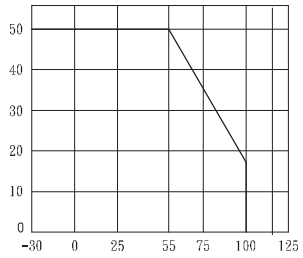
Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current (100us)	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	70	mW
Output	Off-State Output Terminal voltage	V_{DRM}	600	Vpeak
	On-State R. M. S. Current	$I_{T(RMS)}$	100	mA
	Peak Repetitive Surget Current (PW=10ms, DC 10%)	I_{TSM}	6	A
	Power dissipation	P_D	300	mW
Total power dissipation		Ptot	330	mW
Isolation voltage 1 minute		Viso	5000	Vrms
Operating temperature		Topr	-40 to +85	°C
Storage temperature		Tstg	-50 to +125	°C
Soldering temperature 10 second		Tsol	260	°C

Electrical Characteristics:

(Ta=25°C)

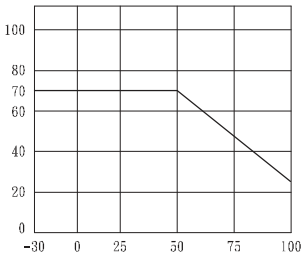
Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF		—	1.2	1.4	V
	Peak forward voltage	VFM	I_{FM}=0.5A	—	—	3.5	V
	Reverse Leakage Current	IR	V_R=4V	—	—	10	μA
Output	Peak Blocking Current	IDRM	V_{DRM}=600V	—	—	100	nA
	ON-State Voltage	VTM	I_{TM}=100mA	—	1.6	2.8	V
Transfer characteristics	Holding Current	IH		—	1.0	—	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V_{DRM}= (1/	600	—	—	V/μS
	Isolation resistance	Riso	DC500V	$5x10^{10}$	10^{11}	—	ohm
	Minimum trigger current	IFT	Main Terminal Voltage=3V	—	—	5	mA
	Tunr-on time	Ton	V_D=6V, R_L=100 ohm, I_F=20mA	—	—	100	μS

Fig.1 Forward Current vs. Ambient Temperature



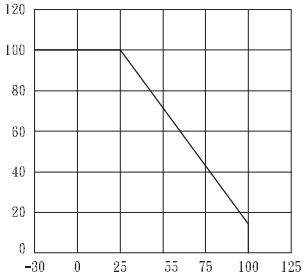
Ambient Temperature Ta (°C)

Fig.2 Diode Power Dissipation vs. Ambient Temperature



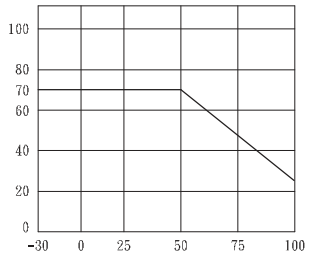
Ambient Temperature Ta (°C)

Fig.3 On-State R. M. S. Current vs. Ambient Temperature



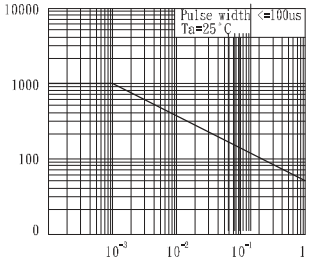
Ambient Temperature Ta (°C)

Fig.4 Total Power Dissipation vs. Ambient Temperature



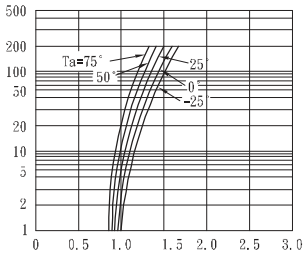
Ambient Temperature Ta (°C)

Fig.5 Peak Forward Current vs. Duty Ratio



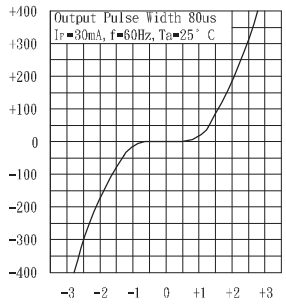
Duty Ratio

Fig.6 Forward Current vs. Forward Voltage



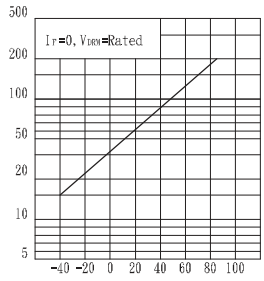
Forward Voltage V_F (V)

Fig.7 On-State Characteristics



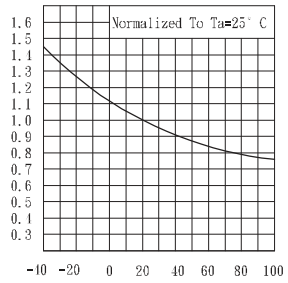
Ambient Temperature Ta (°C)

Fig.8 Leakage with LED off vs. Ambient Temperature



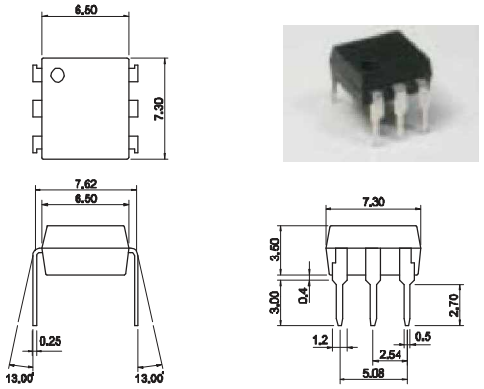
Ambient Temperature Ta (°C)

Fig.9 Trigger Current vs. Ambient Temperature



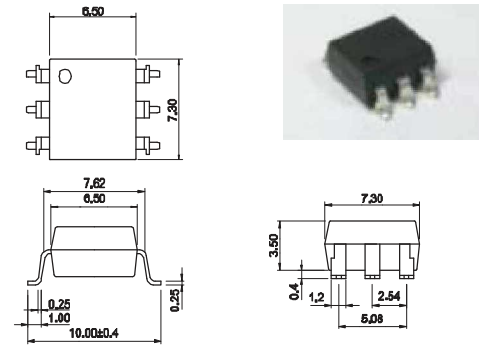
Ambient Temperature Ta (°C)

Fig.4 : 6-pin DIP type



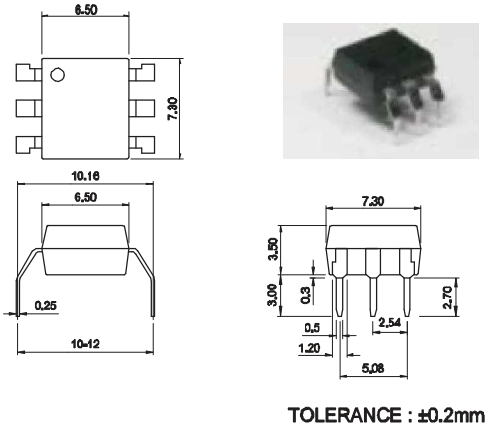
TOLERANCE : ±0.2mm

Fig.5 : 6-pin SMD type



TOLERANCE : ±0.2mm

Fig.6 : 6-pin type



TOLERANCE : ±0.2mm

