cosmo

High Reliability Photocoupler KMOC3051

UL 1577 (File No.E169586) **VDE** EN60747-5-2 / EN60950 / EN60065 (File No.40009235)

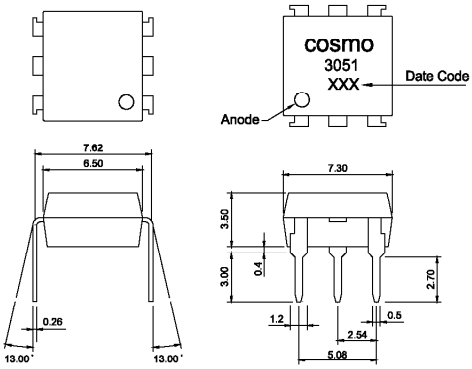
Features

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

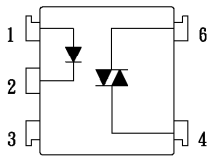
For 115/240 Vac (rms) Application:

1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E. M. Contactors.
7. AC Motor Staters.
8. Solid State Relays.
9. Programmable controllers.

Outside Dimension:Unit (mm)



Schematic:Top View



1. Anode
2. Cathode
3. NC
4. MAIN TERMINAL
6. MAIN TERMINAL

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}	1	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

Electro-optical Characteristics

(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF	I_F=10mA	—	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 charac-teristics	Holding Current	IH		—	1.0	—	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V_{DRM}= (1/√2) *Rated	600	1000	—	V/μS
	Isolation resistance	Riso	DC500V	$5x10^{10}$	10^{11}	—	ohm
	Minimum trigger current	IFT	Main Terminal Voltage=3V	—	—	15	mA
	Tunr-on time	Ton	V_D=6V, R_L=100 ohm, I_F=20mA	—	—	100	μS

Fig.1 Forward Current vs. Ambient Temperature

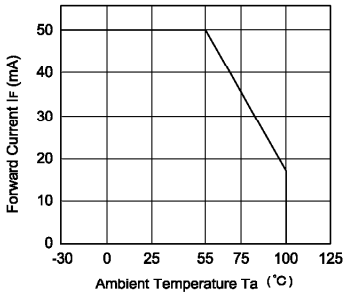


Fig.2 Diode Power Dissipation vs. Ambient Temperature

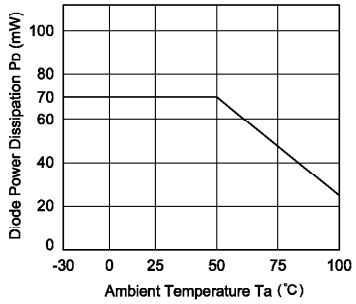


Fig.3 On-State R.M.S. Current vs. Ambient Temperature

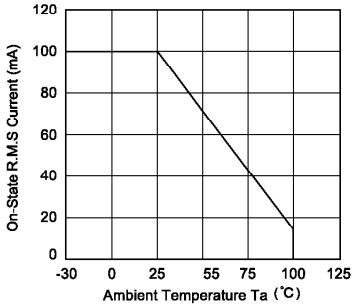


Fig.4 Total Power Dissipation vs. Ambient Temperature

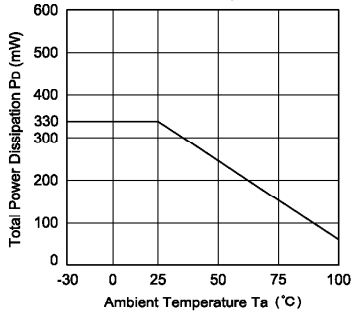


Fig.5 Peak Forward Current vs. Duty Ratio

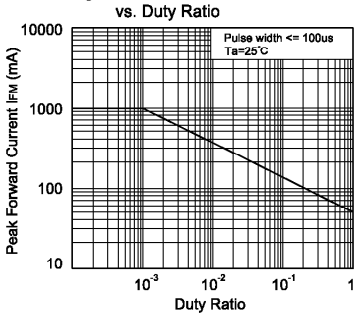


Fig.6 Forward Current vs. Forward Voltage

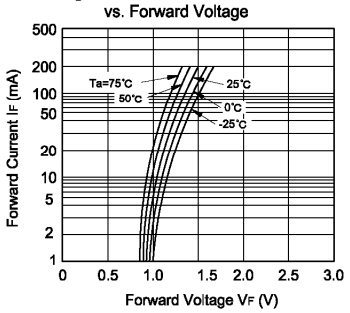


Fig.7 On-State Characteristics

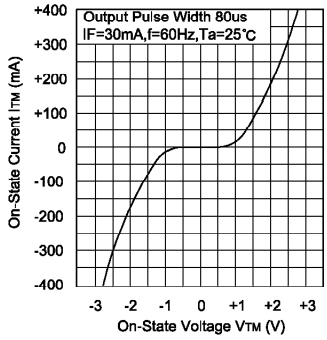


Fig.8 Leakage with LED off vs. Ambient Temperature

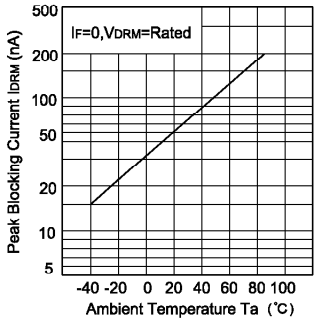


Fig.9 Tigger Current vs. Ambient Temperature