

PRODUCT SPECIFICATION

DATE:03/23/2004

cosmo ELECTRONICS CORPORATION	Photocoupler : KMOC3053	NO.60P41008	REV.
		SHEET 1 OF 6	2

Optoisolators TRIAC Driver Output (600V Volts Peak)

●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:

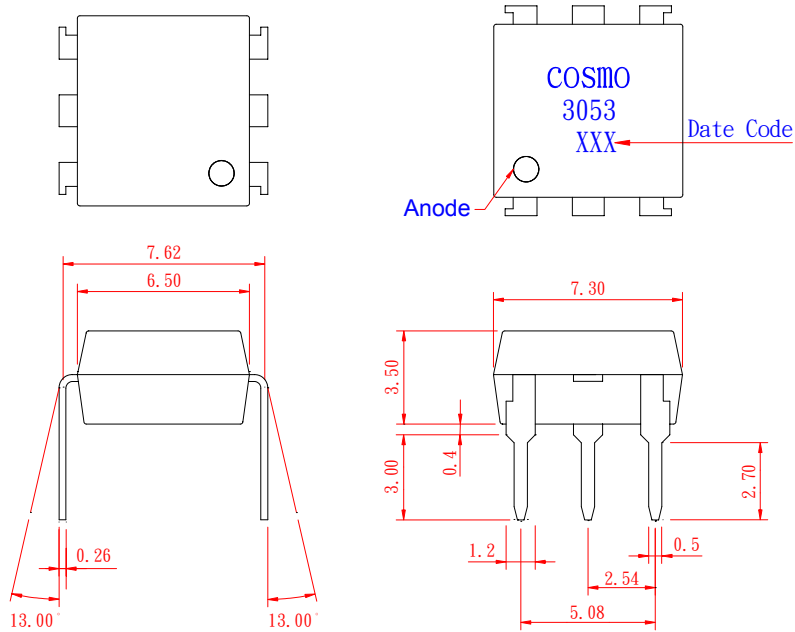
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Staters.
8. Solid State Relays.
9. Programmable controllers.

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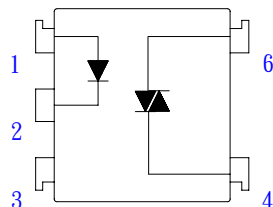
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1. OUTSIDE DIMENSION : UNIT (mm)



TOLERANCE : $\pm 0.2\text{mm}$

2. SCHEMATIC : TOP VIEW



- 1. Anode
- 2. Cathode
- 3. NC
- 4. Main Terminal
- 6. Main Terminal

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●Absolute Maximum Ratings

	Parameter	Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current	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	V_{PEAK}
	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	P_{tot}	330	mW
	Isolation voltage 1 minute	V_{iso}	5000	V_{rms}
	Operating temperature	T_{opr}	-40 to +85	°C
	Storage temperature	T_{sta}	-50 to +125	°C
	Soldering temperature 10 second	T_{sol}	260	°C

●Electro-optical Characteristics

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F=10mA$	-	1.2	1.4	V
	Peak forward voltage	V_{FM}	$I_{FM}=0.5A$	-	-	3.5	V
	Reverse current	I_R	$V_R=4V$	-	-	10	uA
Output	Peak Blocking Current	I_{DRM}	$V_{DRM}=600V$	-	-	100	nA
	ON-State Voltage	V_{TM}	$I_{TM}=100mA$	-	1.6	2.8	V
Transfer characteristics	Holding Current	I_H		-	1.0	-	mA
	Critical rate of rise of OFF-state voltage	dV/dt	$V_{DRM}=(1/\sqrt{2})*Rated$	600	-	-	V/uS
	Isolation resistance	R_{iso}	DC500V	5×10^{10}	10^{11}	-	ohm
	Minimum trigger current	I_{FT}	Main Terminal Voltage=3V	-	-	5	mA
	Turn-on time	T_{on}	$V_D=6V, R_L=100ohm, I_F=20mA$	-	-	100	uS

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Fig.1 Forward Current vs. Ambient Temperature

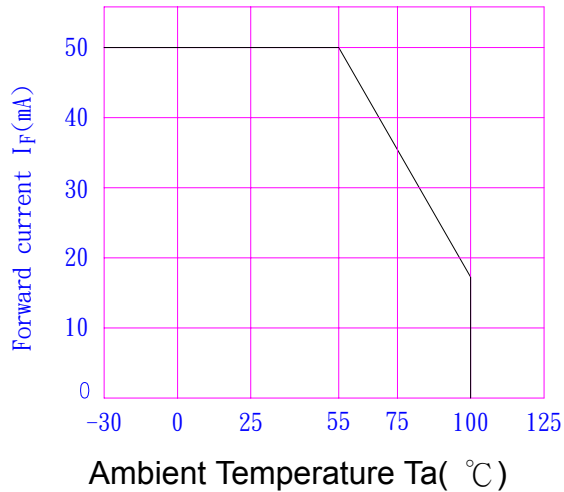


Fig.2 Diode Power Dissipation vs. Ambient Temperature

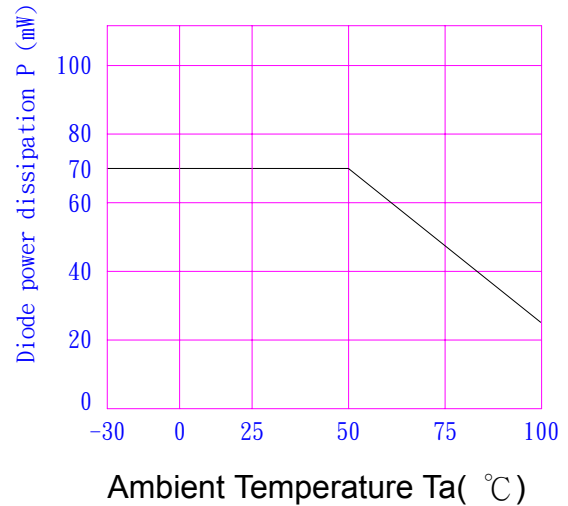


Fig.3 On-State R.M.S. Current vs. Ambient Temperature

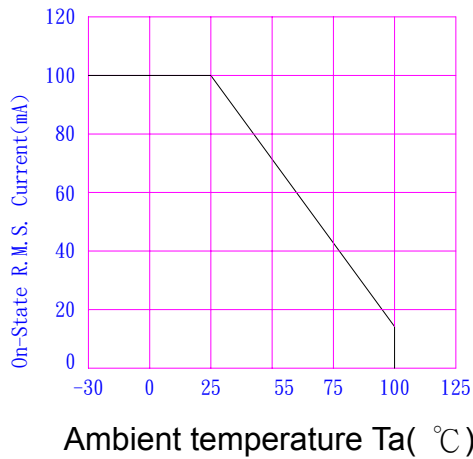


Fig.4 Total Power Dissipation vs. Ambient Temperature

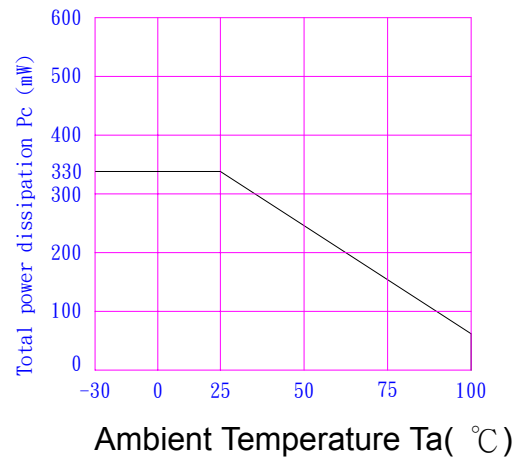


Fig.5 Peak Forward Current vs. Duty Ratio

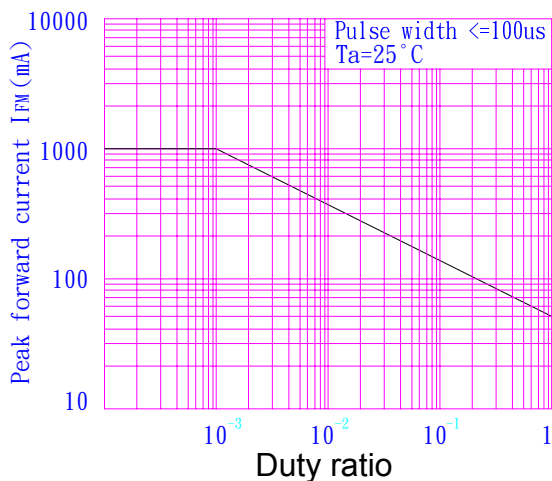
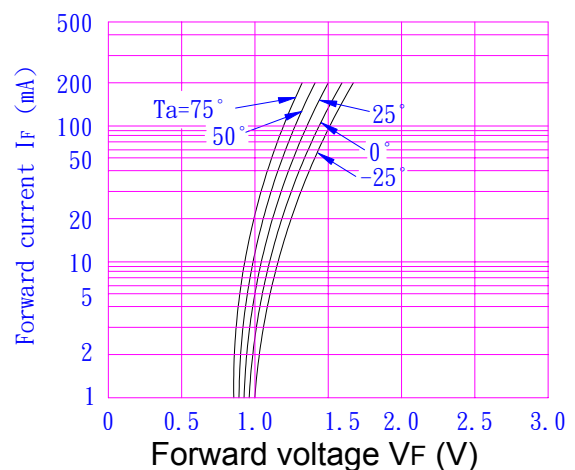


Fig.6 Forward Current vs. Forward Voltage



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Fig.7 On-State Characteristics

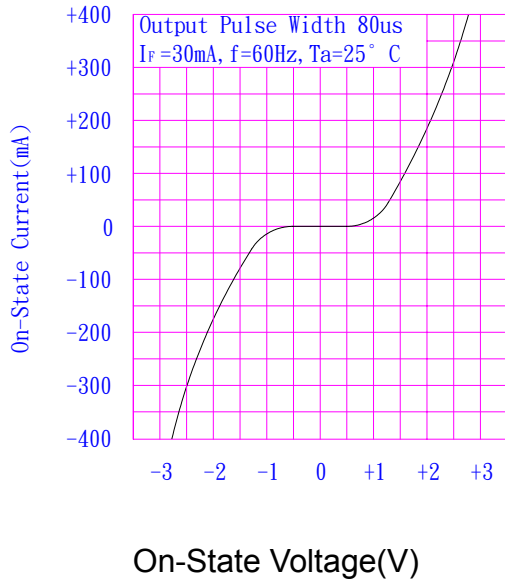


Fig.8 Leakage with LED off vs. Ambient Temperature

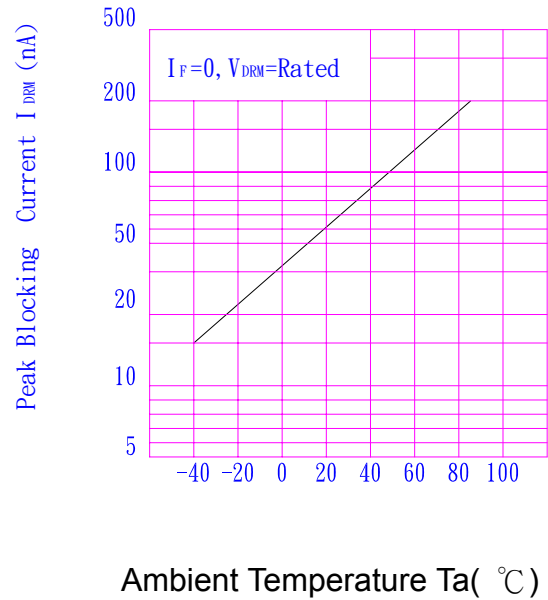
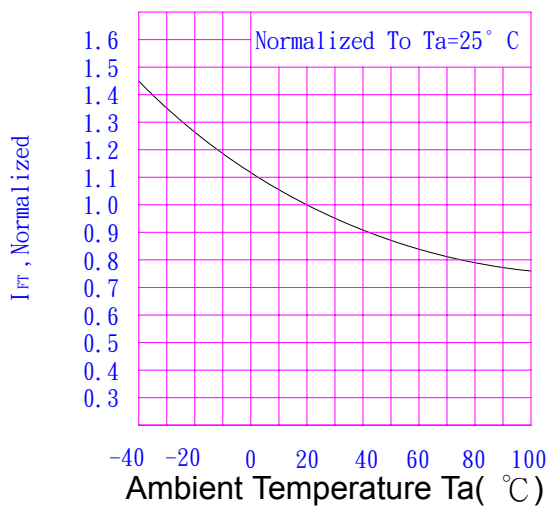


Fig.9 Trigger Current vs. Ambient Temperature



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