

# PRODUCT SPECIFICATION

DATE:03/23/2004

<b>cosmo</b> ELECTRONICS CORPORATION	Photocoupler : <b>KMOC3051</b>	NO.60P41010	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:

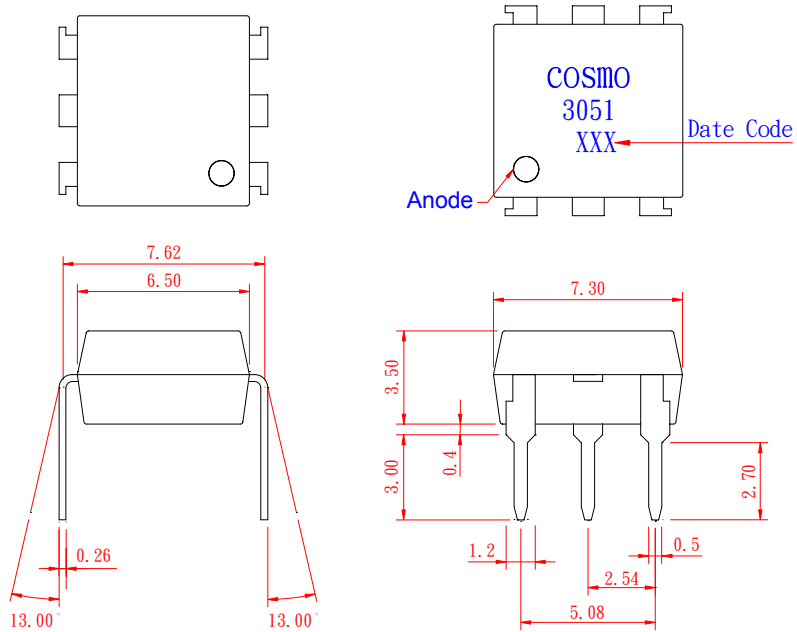
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Staters.
8. Solid State Relays.
9. Programmable controllers.

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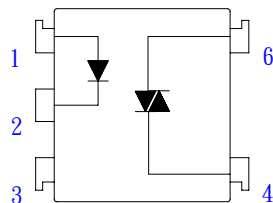
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## 1. OUTSIDE DIMENSION : UNIT (mm)



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 <sub>F</sub>	50	mA
	Peak forward current	I <sub>FM</sub>	1	A
	Reverse voltage	V <sub>R</sub>	6	V
	Power dissipation	P <sub>D</sub>	70	mW
Output	Off-State Output Terminal voltage	V <sub>DRM</sub>	600	V <sub>PEAK</sub>
	On-State R.M.S. Current	I <sub>T(RMS)</sub>	100	mA
	Peak Repetitive Surget Current (PW=10ms.DC 10%)	I <sub>TSM</sub>	1	A
	Power dissipation	P <sub>D</sub>	300	mW
Total power dissipation		P <sub>tot</sub>	330	mW
Isolation voltage 1 minute		V <sub>iso</sub>	5000	V <sub>rms</sub>
Operating temperature		T <sub>opr</sub>	-40 to +85	°C
Storage temperature		T <sub>sta</sub>	-50 to +125	°C
Soldering temperature 10 second		T <sub>sol</sub>	260	°C

## ●Electro-optical Characteristics

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	-	1.2	1.4	V
	Peak forward voltage	V <sub>FM</sub>	I <sub>FM</sub> =0.5A	-	-	3.5	V
	Reverse current	I <sub>R</sub>	V <sub>R</sub> =4V	-	-	10	uA
Output	Peak Blocking Current	I <sub>DRM</sub>	V <sub>DRM</sub> =600V	-	-	100	nA
	ON-State Voltage	V <sub>TM</sub>	I <sub>TM</sub> =100mA	-	1.6	2.8	V
Transfer characteristics	Holding Current	I <sub>H</sub>		-	1.0	-	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V <sub>DRM</sub> =(1/√2)*Rated	600	1000	-	V/uS
	Isolation resistance	R <sub>iso</sub>	DC500V	5x10 <sup>10</sup>	10 <sup>11</sup>	-	ohm
	Minimum trigger current	I <sub>FT</sub>	Main Terminal Voltage=3V	-	-	15	mA
	Turn-on time	T <sub>on</sub>	V <sub>D</sub> =6V,R <sub>L</sub> =100ohm,I <sub>F</sub> =20mA	-	-	100	uS

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Fig.1 Forward Current vs. Ambient Temperature

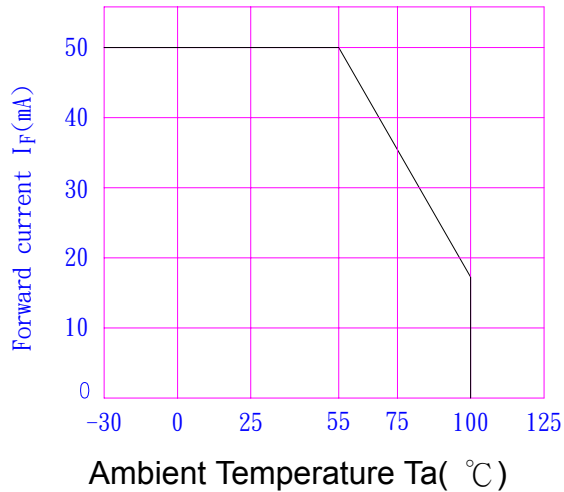


Fig.2 Diode Power Dissipation vs. Ambient Temperature

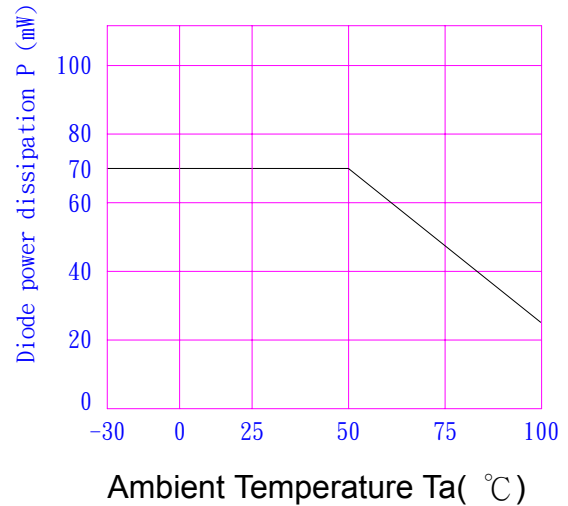


Fig.3 On-State R.M.S. Current vs. Ambient Temperature

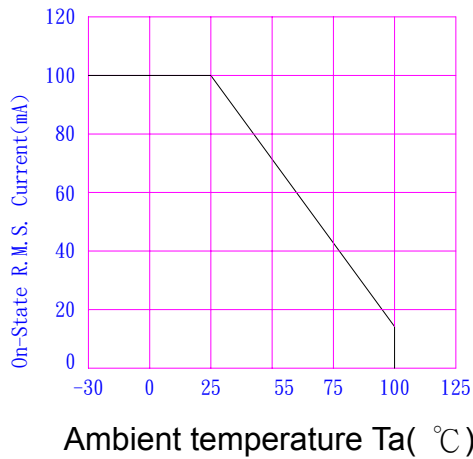


Fig.4 Total Power Dissipation vs. Ambient Temperature

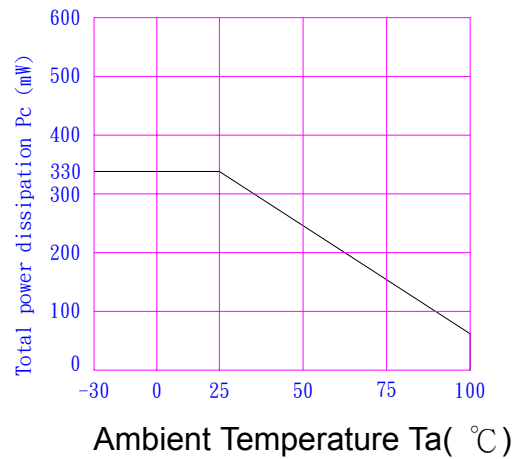


Fig.5 Peak Forward Current vs. Duty Ratio

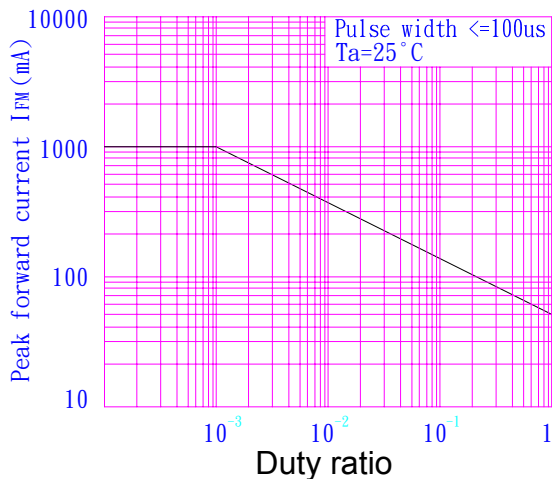
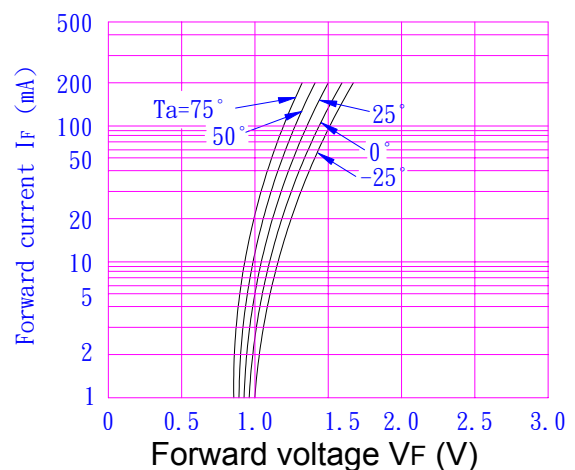


Fig.6 Forward Current vs. Forward Voltage



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Fig.7 On-State Characteristics

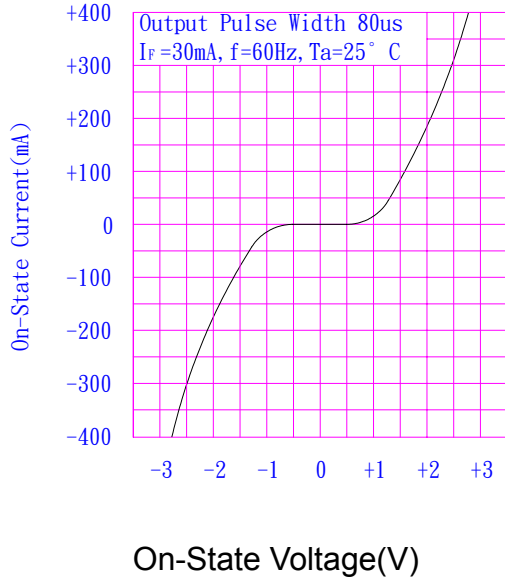


Fig.8 Leakage with LED off vs. Ambient Temperature

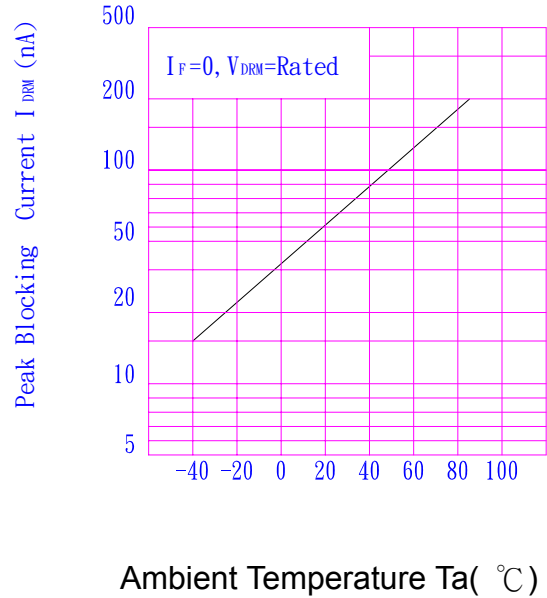
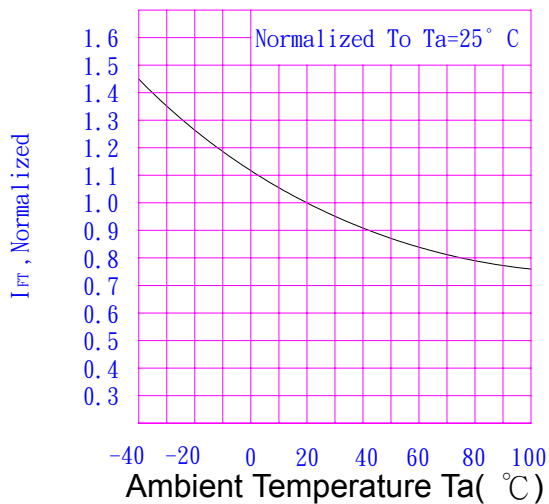


Fig.9 Trigger Current vs. Ambient Temperature



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