

# PRODUCT SPECIFICATION

DATE:03/24/2004

<b>cosmo</b> ELECTRONICS CORPORATION	Photocoupler : <b>KMOC3081</b>	NO.60P42005	REV.
		SHEET 1 OF 6	2

## Zero Crossing Optoisolators TRIAC

Driver Output (800V Volts Peak)

### ●Features

1. Compact dual-in-line package.
2. 800V peak blocking voltage.
3. Isolation voltage between input and output (Viso:5000Vrms).

### ●For 115/240 Vac(rms) Application:

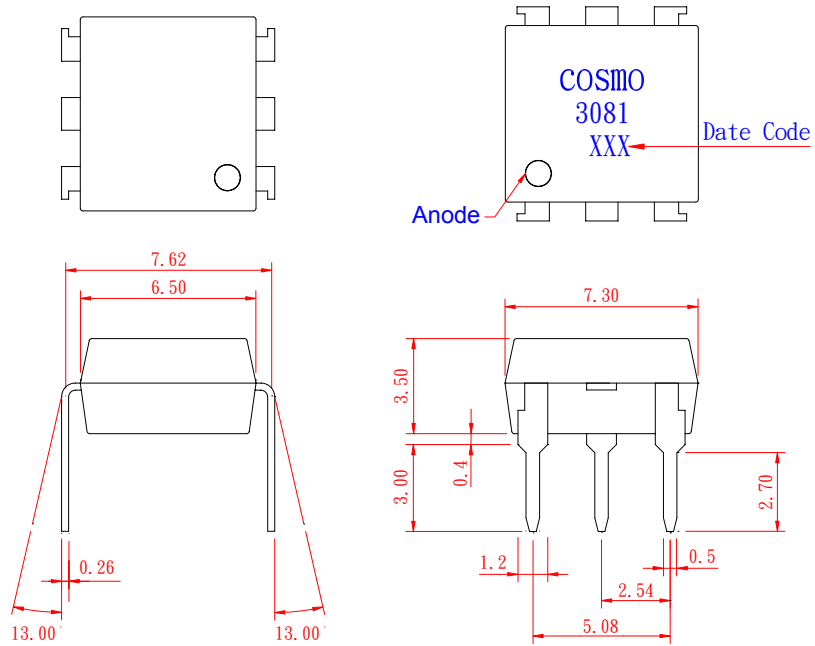
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Staters.
8. Solid State Relays.
9. Programmable controllers.

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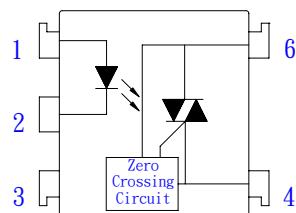
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## 1. OUTSIDE DIMENSION : UNIT (mm)



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	$V_{DRM}$	800	$V_{PEAK}$
	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 +80	°C
	Storage temperature	$T_{sta}$	-40 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
	Reverse current	$I_R$	$V_R=4V$	-	-	10	uA
Output	Peak Blocking Current	$I_{DRM}$	$V_{DRM}=800V$	-	60	500	nA
	ON-State Voltage	$V_{TM}$	$I_{TM}=100mA$	-	1.8	3	V
Transfer characteristics	Holding Current	$I_H$		-	100	-	uA
	Critical rate of rise of OFF-state voltage	$dV/dt$	$V_{DRM}=(1/\sqrt{2})*Rated$	600	-	-	V/uS
	Inhibit Voltage(MT1-MT2 Voltage above which device not trigger)	$V_{INH}$	$I_F=Rated I_{FT}$	-	8	20	V
	Leakage in Inhibited State	$I_{DRM2}$	$I_F=Rated I_{FT}, Rated V_{DRM}, Off State$	-	-	500	uA
	Isolation resistance	$R_{iso}$	DC500V	$5 \times 10^{10}$	$10^{11}$	-	ohm
	Minimum trigger current	$I_{FT}$	Main Terminal Voltage=3V	-	-	15	mA

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Fig.1 Forward Current vs. Ambient Temperature

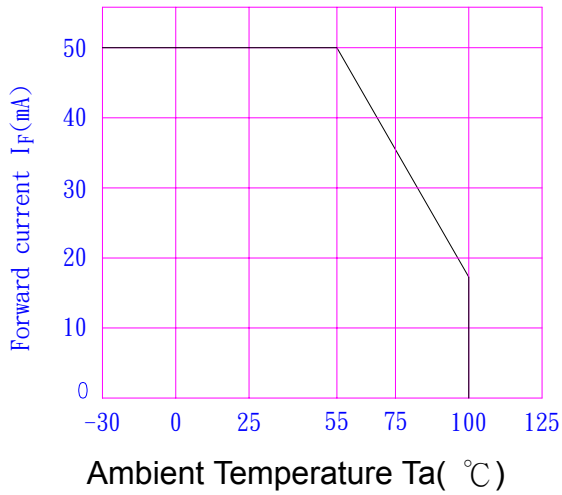


Fig.2 Diode Power Dissipation vs. Ambient Temperature

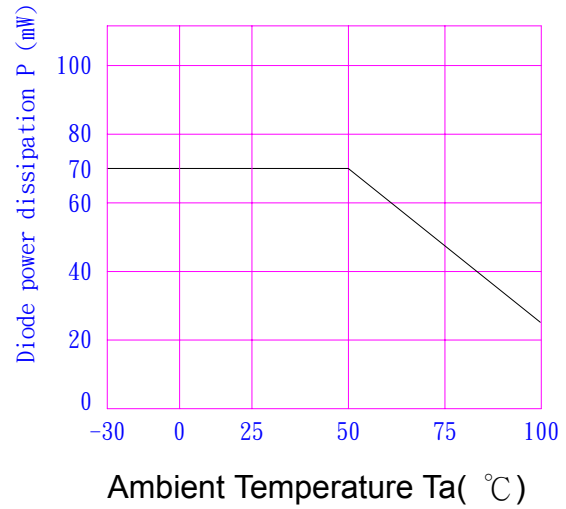


Fig.3 On-State R.M.S. Current vs. Ambient Temperature

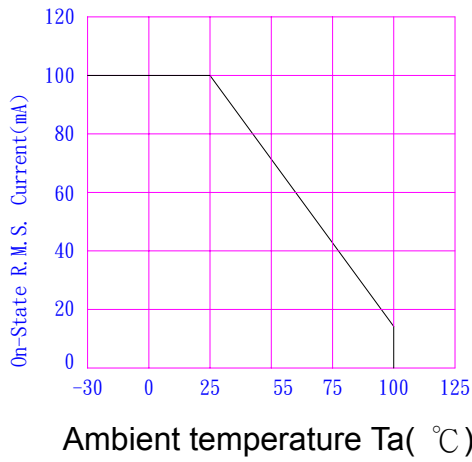


Fig.4 Total Power Dissipation vs. Ambient Temperature

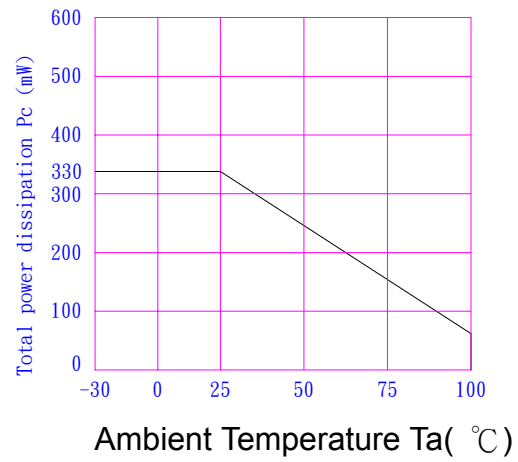


Fig.5 Peak Forward Current vs. Duty Ratio

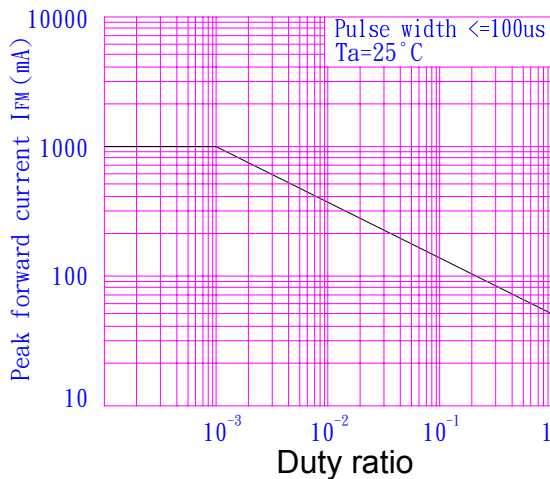
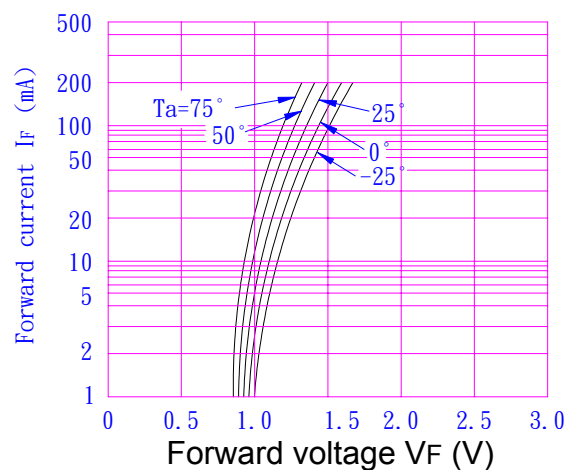


Fig.6 Forward Current vs. Forward Voltage



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Fig.7 On-State Characteristics

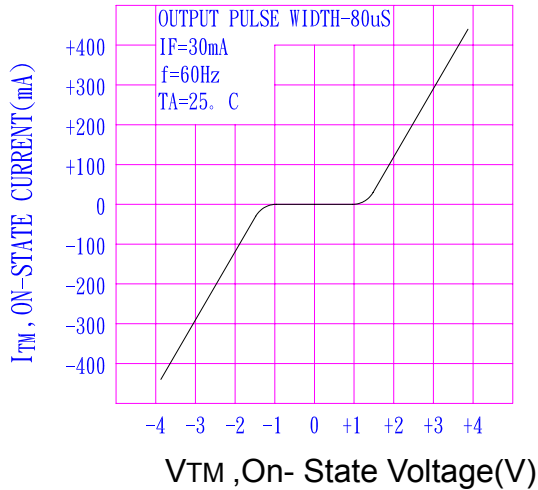


Fig.8 Inhibit Voltage vs. Temperature

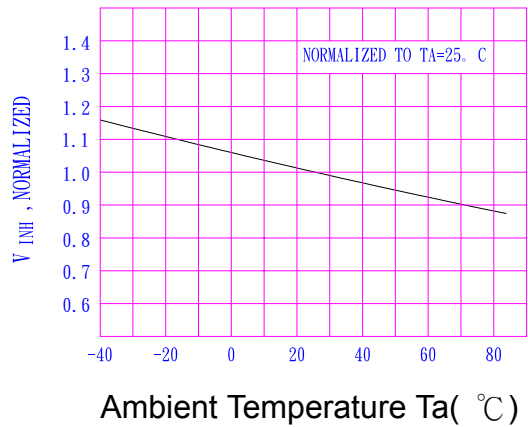


Fig.9 Leakage with LED Off vs. Temperature

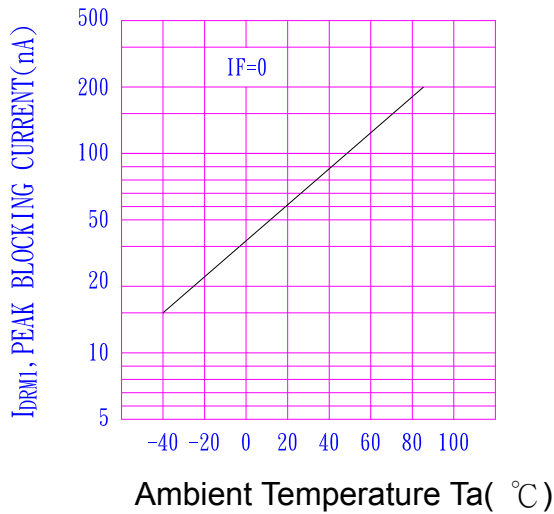


Fig.10 I\_DRM2, Leakage in Inhibit State vs. Temperature

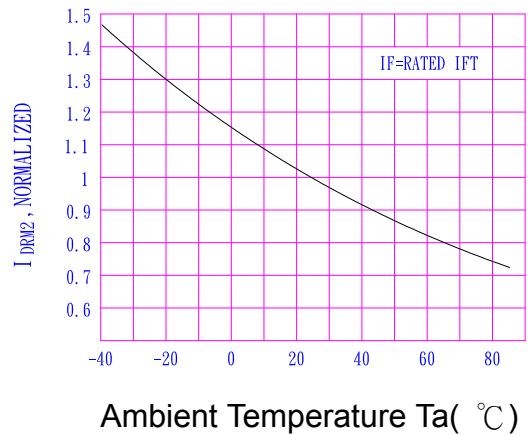
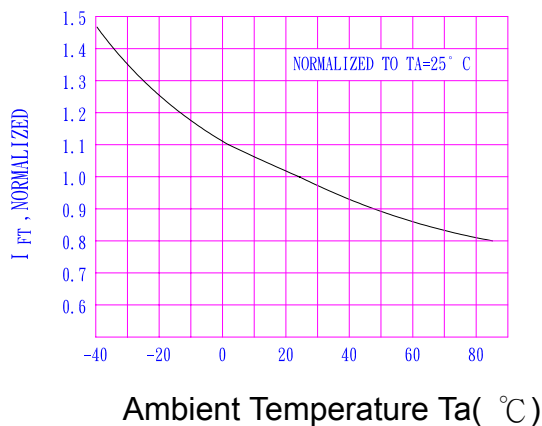


Fig.11 Trigger Current vs. Temperature



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