

PRODUCT SPECIFICATION

DATE : 05/05/2011

cosmo ELECTRONICS CORPORATION	Photocoupler : KMOC3042	NO.60P42012	REV.
		SHEET 1 OF 6	3

Zero Crossing Optoisolators TRIAC Driver Output (400V Volts Peak)

● Features

1. Compact dual-in-line package.
2. 400V peak blocking voltage.
3. Isolation voltage between input and output (Viso : 5000Vrms).

● For 115/240 Vac(rms) Application :

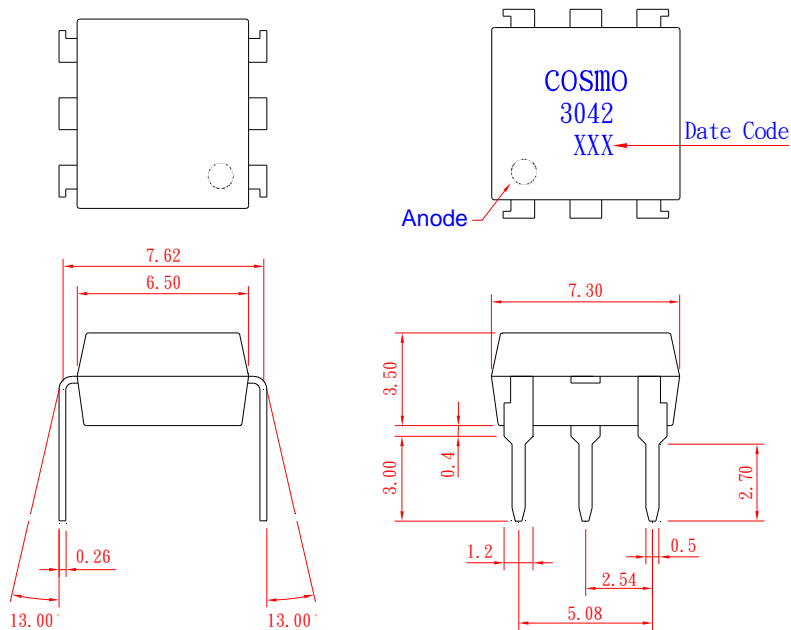
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Starters.
8. Solid State Relays.
9. Programmable controllers.

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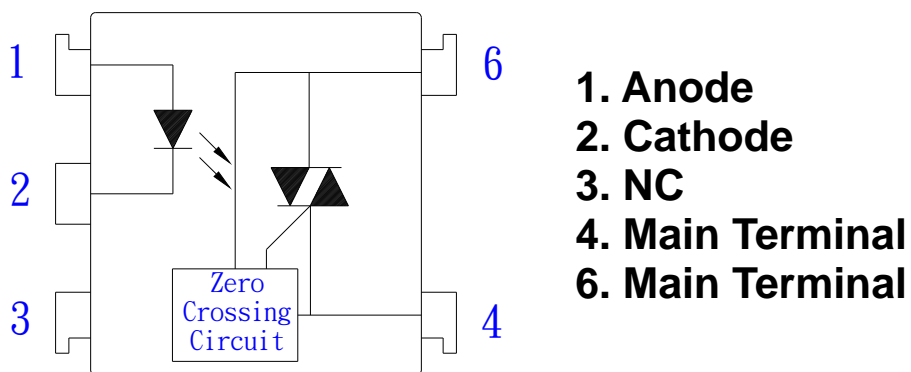
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1. OUTSIDE DIMENSION : UNIT (mm)



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

2. SCHEMATIC : TOP VIEW



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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}	400	V _{PEAK}
	On-State R.M.S. Current	I _{T(RMS)}	100	mA
	Peak Repetitive Surge 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 +100	°C
Storage temperature		T _{stg}	-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
	Reverse current	I _R	V _R =4V	-	-	10	uA
Output	Peak Blocking Current	I _{DRM}	V _{DRM} =400V	-	-	500	nA
	ON-State Voltage	V _{TM}	I _{TM} =100mA	-	1.8	3	V
Transfer characteristics	Holding Current	I _H		-	0.1	-	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V _{DRM} =(1/√2)*Rated	600	-	-	V/uS
	Inhibit Voltage (MT1-MT2 Voltage above which device not trigger.)	V _{INH}	I _F =10mA	-	10	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	5x10 ¹⁰	10 ¹¹	-	Ohm
	Minimum trigger current	I _{FT}	Main Terminal Voltage=3V	-	-	10	mA

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Fig.1 Forward Current vs. Ambient Temperature

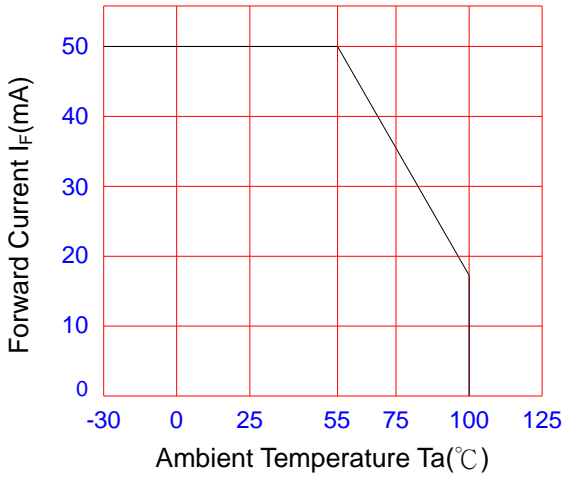


Fig.2 Diode Power Dissipation vs. Ambient Temperature

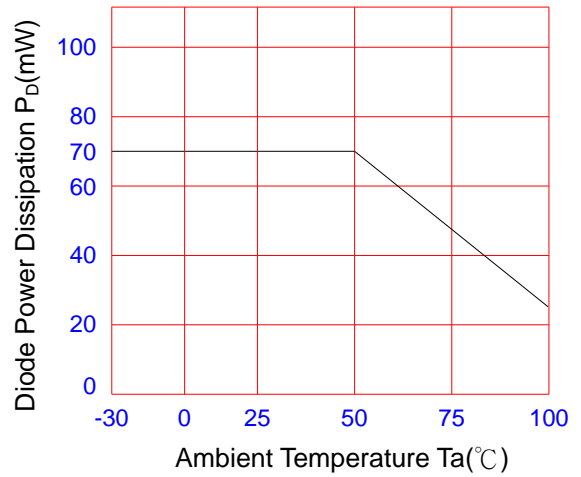


Fig.3 On-State R.M.S. Current vs. Ambient Temperature

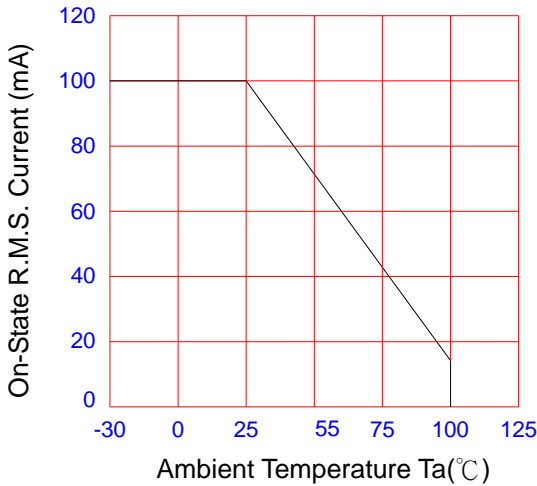


Fig.4 Total Power Dissipation vs. Ambient Temperature

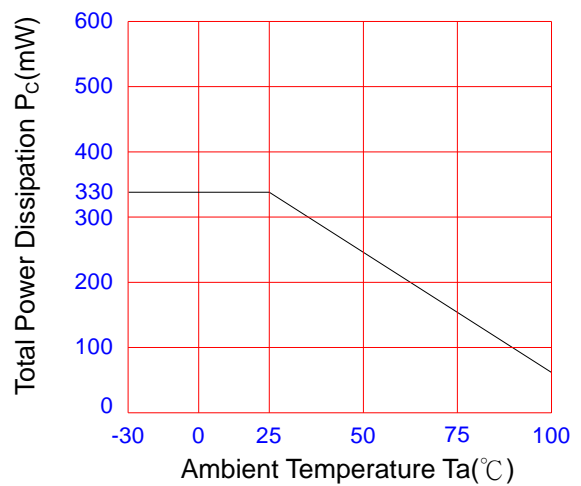


Fig.5 Peak Forward Current vs. Duty Ratio

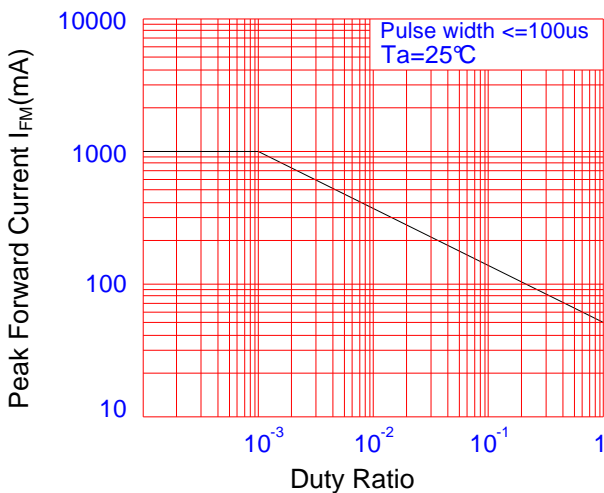
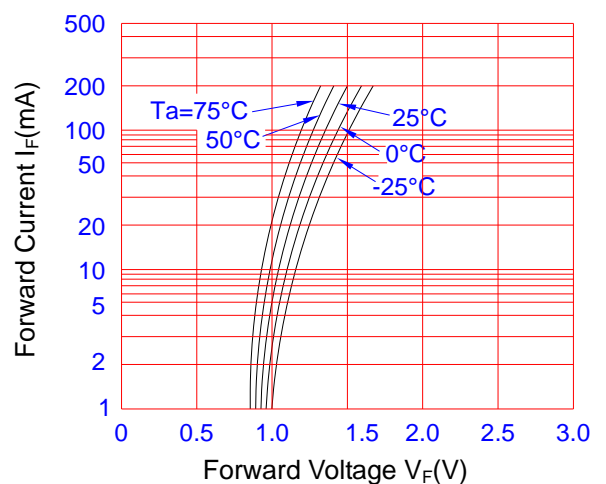


Fig.6 Forward Current vs. Forward Voltage



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Fig.7 On-State Characteristics

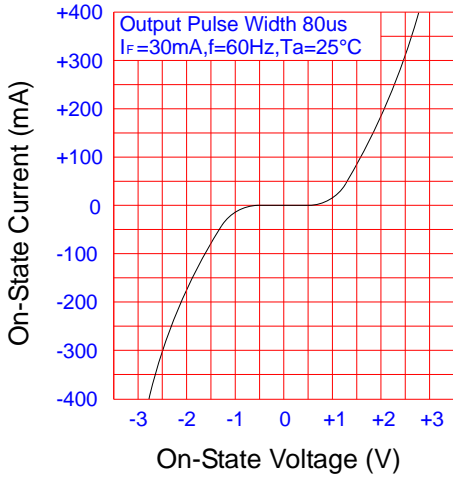


Fig.8 Inhibit Voltage vs. Temperature

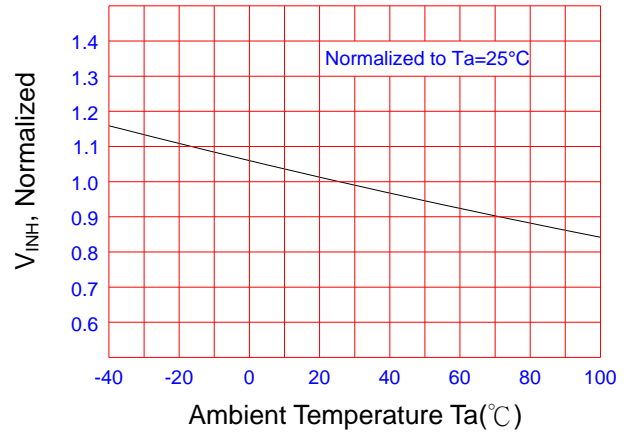


Fig.9 Leakage with LED off vs. Ambient Temperature

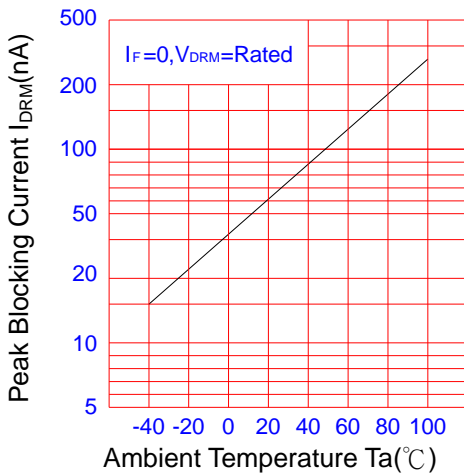


Fig.10 $I_{\text{DRM}2}$, Leakage in Inhibit State vs. Temperature

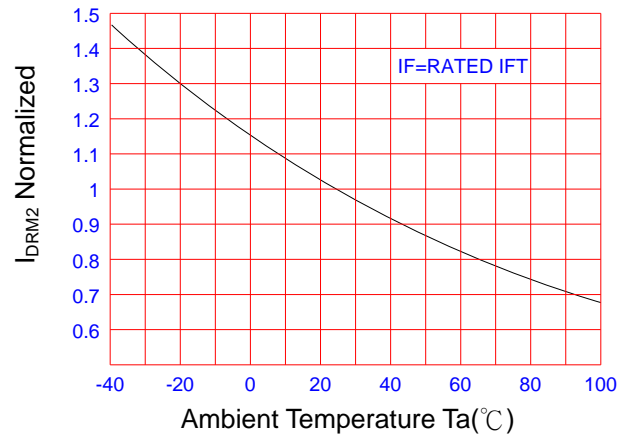
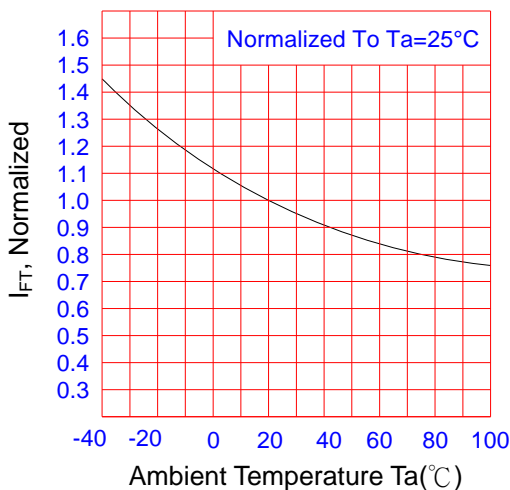


Fig.11 Trigger Current vs. Ambient Temperature



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