PRODUCT SPECIFICATION

DATE：12/30/2011

cosmo ELECTRONICS CORPORATION	Photocoupler： KMOC3012	NO.60P48001	REV. 2
		SHEET 1 OF 6	

Zero Crossing Optoisolators TRIAC Driver Output (600V Volts Peak)

● Features

1. Pb free and RoHS Compliant.
2. Compact dual-in-line package.
3. 600V peak blocking voltage.
4. Isolation voltage between input and output (Viso：5300Vrms).
5. Safety Approval：
   UL approved：No.E169586
   CUL approved：No.E169586
   VDE approved：No.101347

● 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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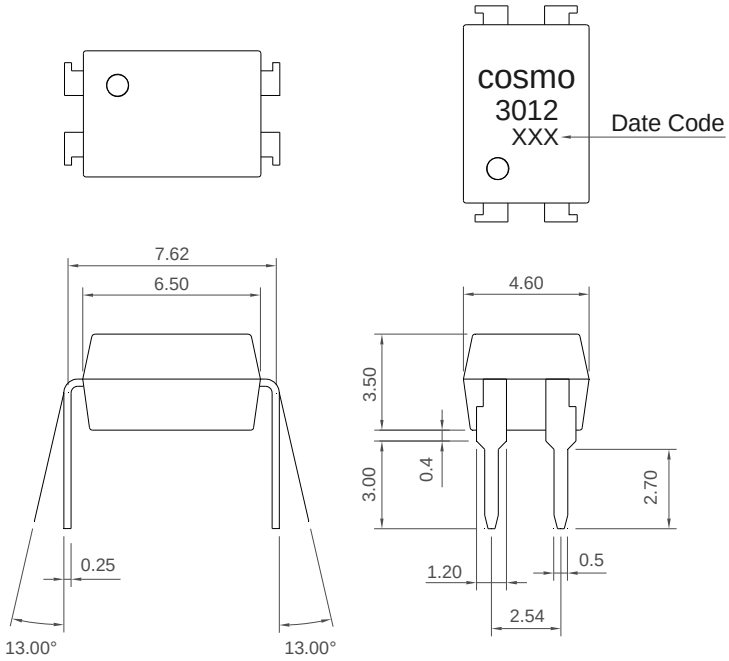
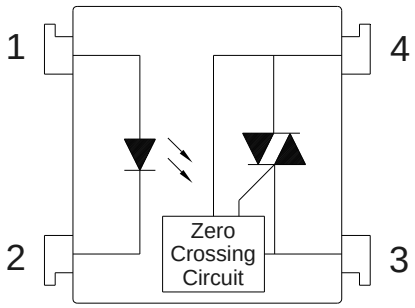
1. OUTSIDE DIMENSION：UNIT (mm)



TOLERANCE：±0.2mm

2. SCHEMATIC：TOP VIEW



1. Anode
2. Cathode
3. Main Terminal
4. 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 Surge 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	5300	Vrms
Operating temperature		Topr	-40 to +100	℃
Storage temperature		Tstg	-55 to +125	℃
Soldering temperature 10 second		Tsol	260	℃

● 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=6V	-	-	10	uA
Output	Peak Blocking Current	I_{DRM}	V_{DRM}=600V	-	-	500	nA
	ON-State Voltage	V_{TM}	I_{TM}=100mA	-	1.6	3	V
Tranfer charac-teristics	Holding Current	I_H		-	0.1	-	mA
	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}	IF=10mA	-	10	20	V
	Leakage in Inhibited State	I_{DRM2}	I_F=Rated I_{FT}, Rated V_{DRM}, Off State	-	-	500	uA
	Isolation resistance	Riso	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

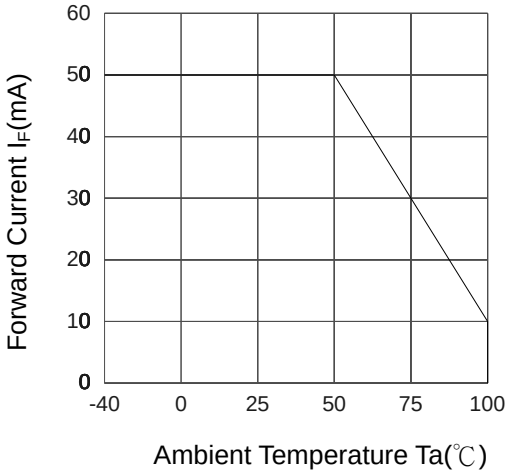

Fig.2 On-State Voltage vs. Ambient Temperature

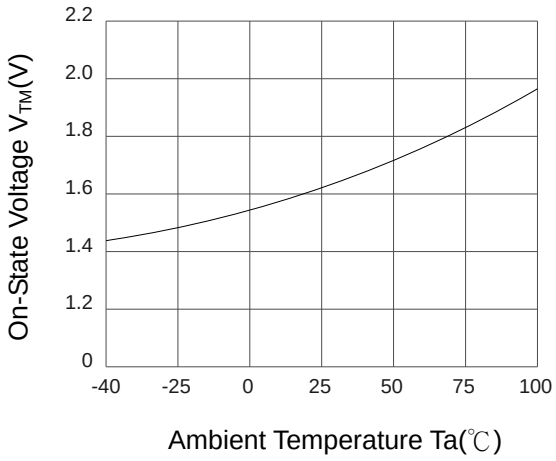

Fig.3 On-State R.M.S. Current vs. Ambient Temperature

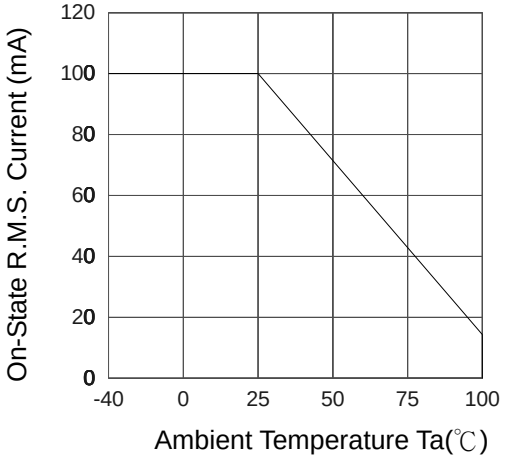

Fig.4 Holding Current vs. Ambient Temperature

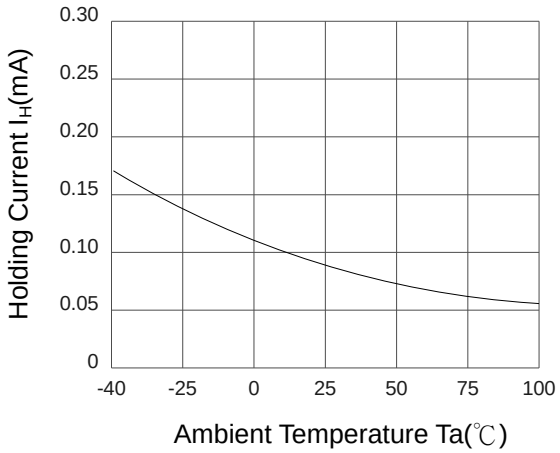

Fig.5 Peak Forward Current vs. Duty Ratio

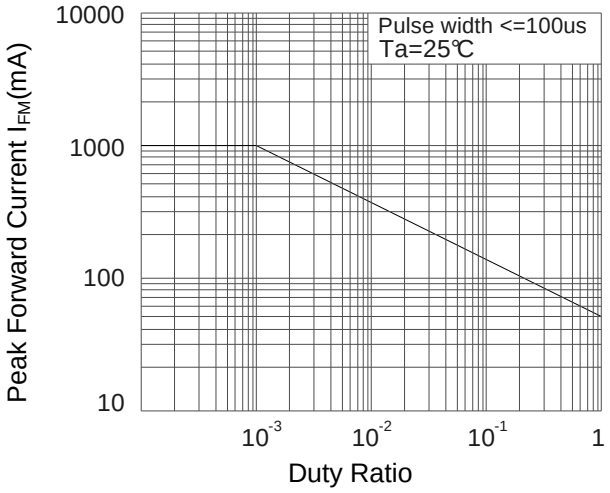

Fig.6 Forward Current vs. Forward Voltage

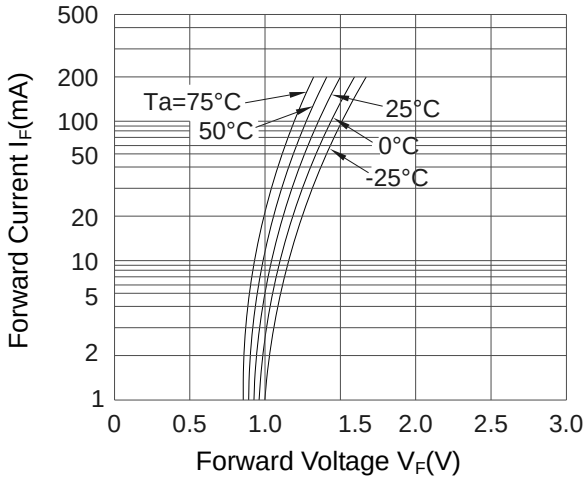

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Fig.7 Trigger Current vs. Ambient Temperature

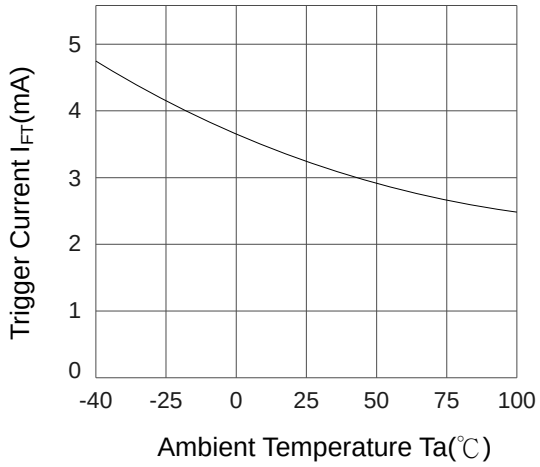


Fig.8 Inhibit Voltage vs. Ambient Temperature

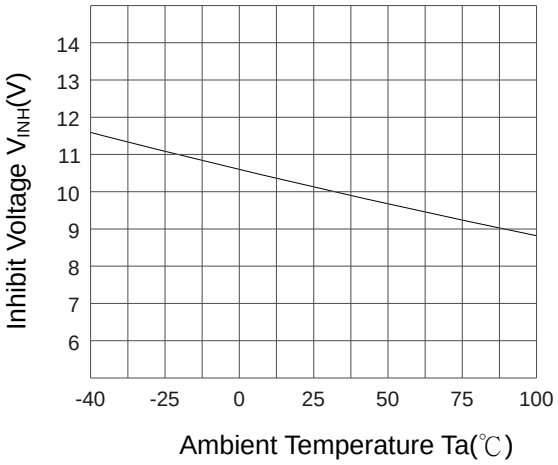


Fig.9 Leakage with LED off vs. Ambient Temperature

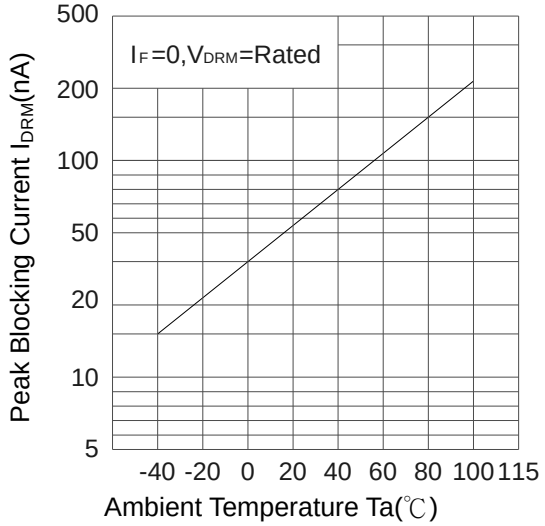
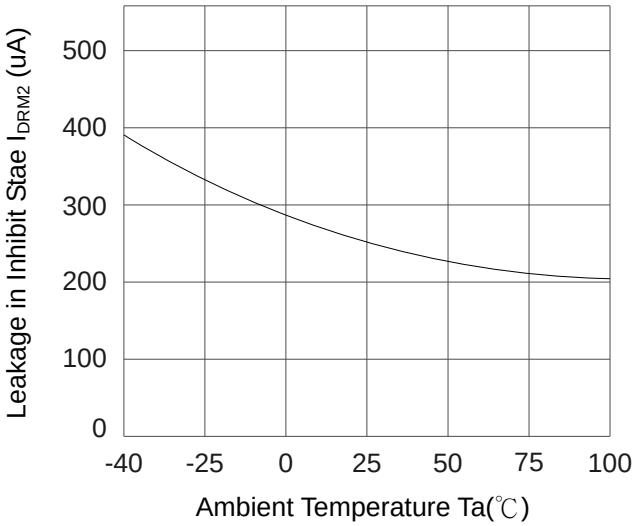


Fig.10 I_{DRM2} ,Leakage in Inhibit State vs. Ambient Temperature



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- Telecommunication equipment (trunk lines).
- Nuclear power control equipment.

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