

PRODUCT SPECIFICATION

DATE : 02/02/2012

cosmo ELECTRONICS CORPORATION	Photocoupler : KMOC3012H	NO.62P48001	REV.
		SHEET 1 OF 6	1

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

● Features

1. Pb free and RoHS Compliant.
2. Compact long creepage distance type 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 :

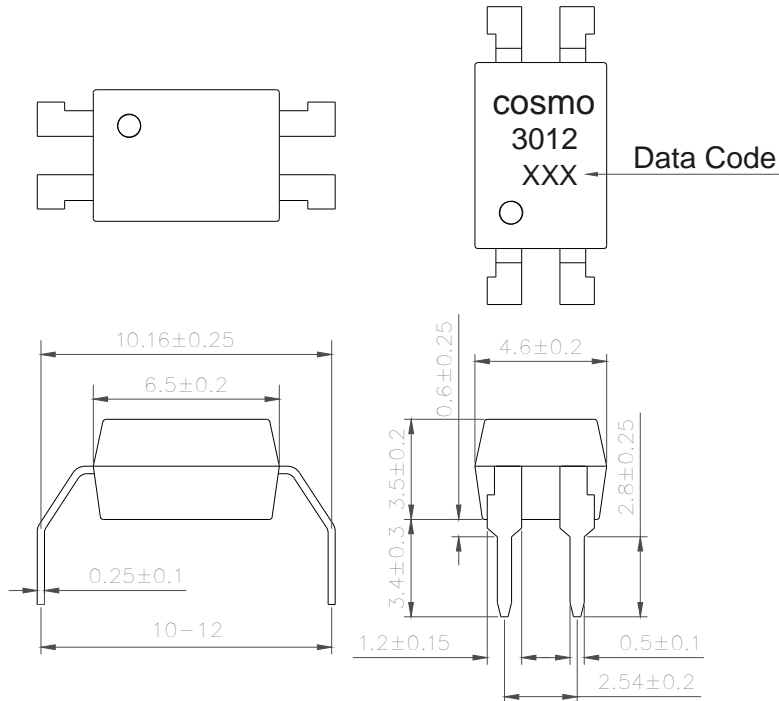
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Starters.
8. Solid State Relays.
9. Programmable controllers.

PRODUCT SPECIFICATION

DATE : 02/02/2012

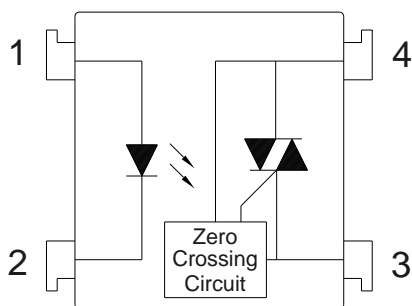
cosmo ELECTRONICS CORPORATION	Photocoupler : KMOC3012H	NO.62P48001	REV. 1
		SHEET 2 OF 6	

1. OUTSIDE DIMENSION : UNIT (mm)



TOLERANCE : ± 0.2 mm

2. SCHEMATIC : TOP VIEW



1. Anode
2. Cathode
3. Main Terminal
4. Main Terminal

PRODUCT SPECIFICATION

DATE : 02/02/2012

cosmo ELECTRONICS CORPORATION	Photocoupler : KMOC3012H	NO.62P48001	REV. 1
		SHEET 3 OF 6	

● 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		P _{tot}	330	mW
Isolation voltage 1 minute		V _{iso}	5300	V _{rms}
Operating temperature		T _{opr}	-40 to +100	°C
Storage temperature		T _{stg}	-55 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 =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
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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DATE : 02/02/2012

cosmo
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Photocoupler :
KMOC3012H

NO.62P48001
SHEET 4 OF 6

REV.
1

Fig.1 Forward Current vs. Ambient Temperature

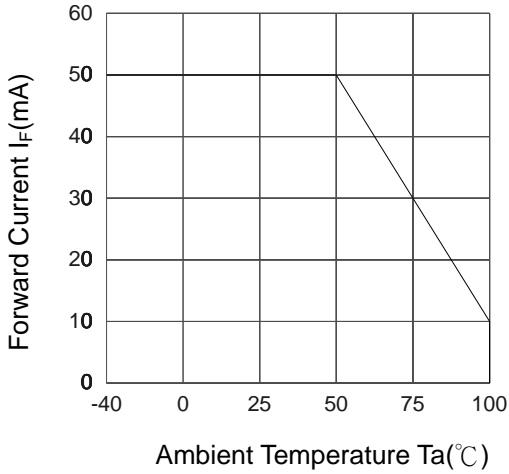


Fig.2 On-State Voltage vs. Ambient Temperature

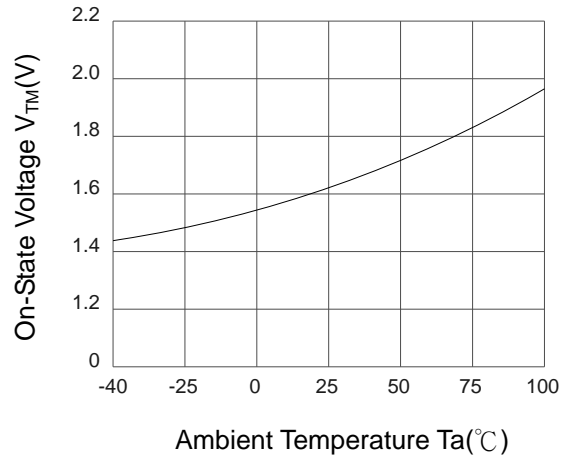


Fig.3 On-State R.M.S. Current vs. Ambient Temperature

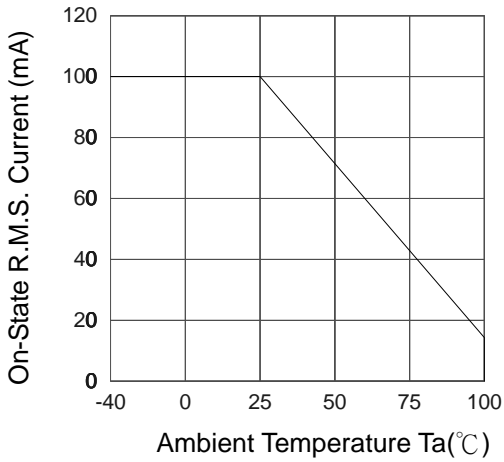


Fig.4 Holding Current vs. Ambient Temperature

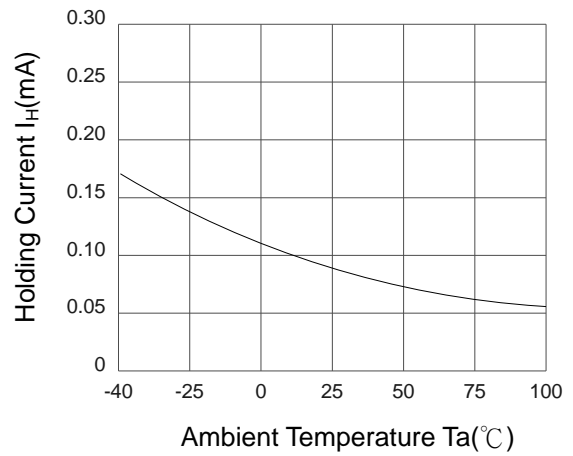


Fig.5 Peak Forward Current vs. Duty Ratio

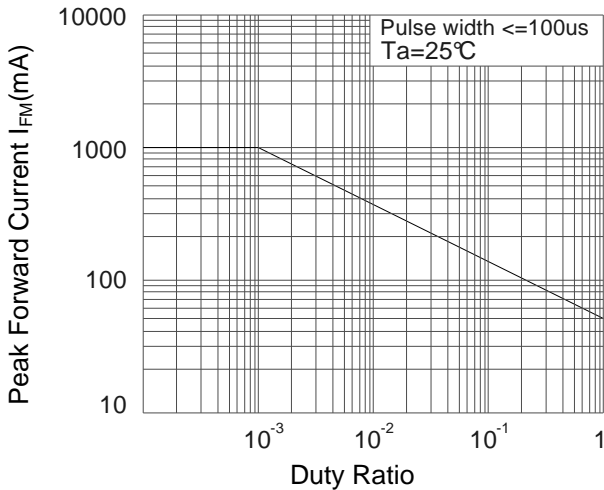
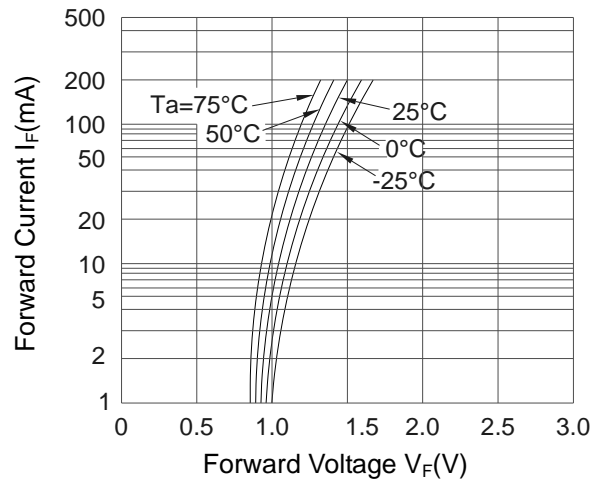


Fig.6 Forward Current vs. Forward Voltage



PRODUCT SPECIFICATION

DATE : 02/02/2012

cosmo
ELECTRONICS CORPORATION

Photocoupler :
KMOC3012H

NO.62P48001
SHEET 5 OF 6

REV.
1

Fig.7 Trigger Current vs. Ambient Temperature

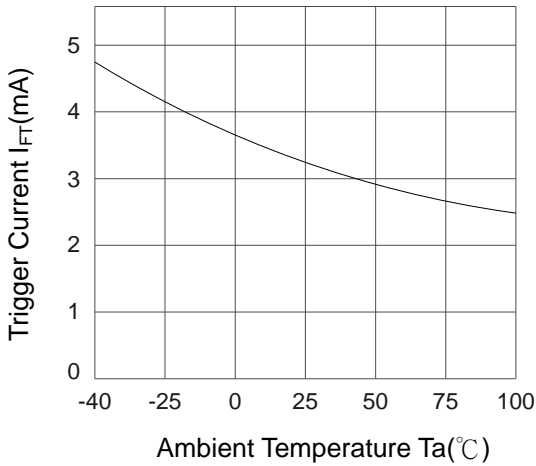


Fig.8 Inhibit Voltage vs. Ambient Temperature

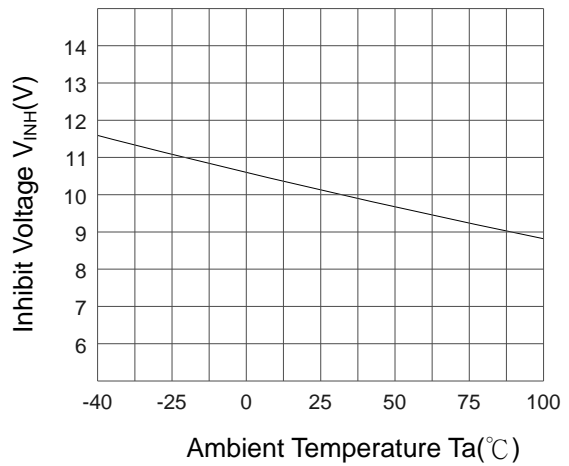


Fig.9 Leakage with LED off vs. Ambient Temperature

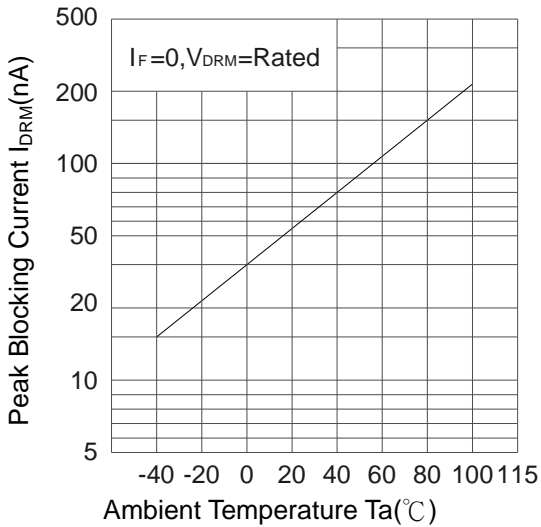
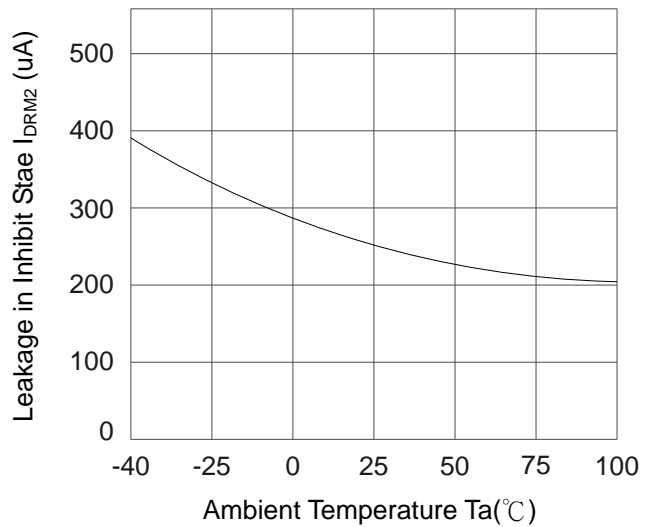


Fig.10 I_{DRM2}, Leakage in Inhibit State vs. Ambient Temperature



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		SHEET 6 OF 6	1

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

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