PRODUCT SPECIFICATION

DATE：02/02/2012

cosmo ELECTRONICS CORPORATION	Photocoupler： KMOC3012S	NO.61P48001	REV. 3
		SHEET 1 OF 6	

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

● Features

1. Pb free and RoHS Compliant.
2. Compact surface mount 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：

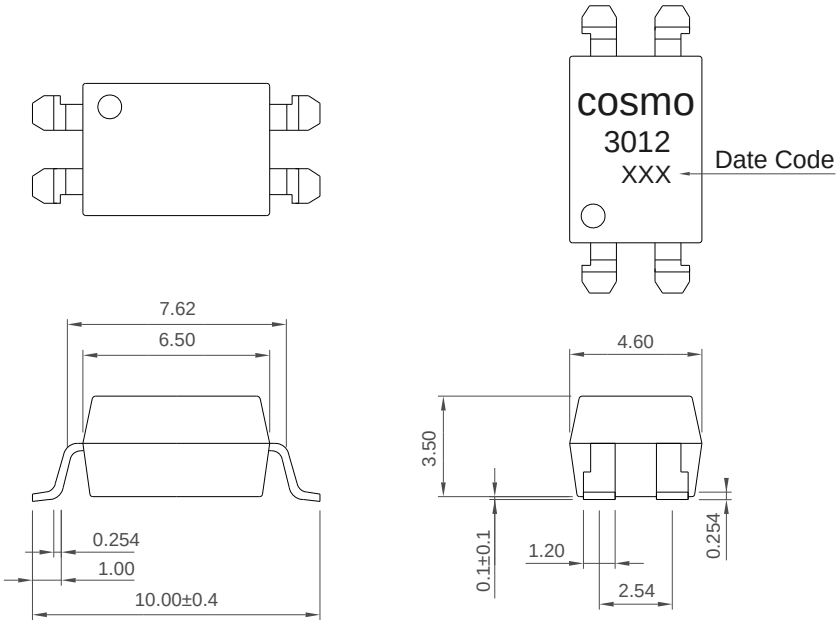
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Starters.
8. Solid State Relays.
9. Programmable controllers.

PRODUCT SPECIFICATION

DATE：02/02/2012

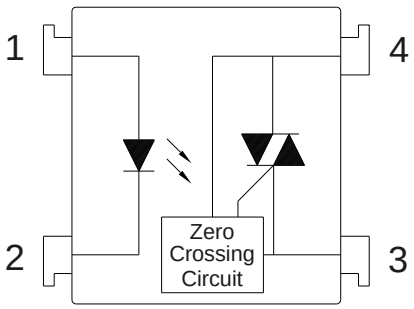
cosmo ELECTRONICS CORPORATION	Photocoupler： KMOC3012S	NO.61P48001	REV. 3
		SHEET 2 OF 6	

1. OUTSIDE DIMENSION：UNIT (mm)



TOLERANCE：±0.2mm

2. SCHEMATIC：TOP VIEW



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

PRODUCT SPECIFICATION

DATE：02/02/2012

cosmo ELECTRONICS CORPORATION	Photocoupler： KMOC3012S	NO.61P48001	REV. 3
		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		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

PRODUCT SPECIFICATION

DATE：02/02/2012

cosmo ELECTRONICS CORPORATION	Photocoupler： KMOC3012S	NO.61P48001	REV. 3
		SHEET 4 OF 6	

Fig.1 Forward Current vs. Ambient Temperature

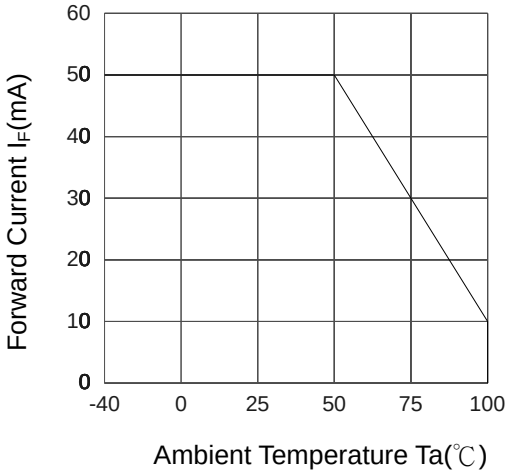


Fig.2 On-State Voltage vs. Ambient Temperature

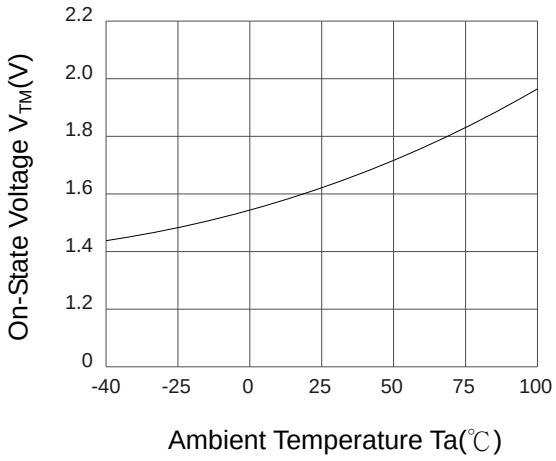


Fig.3 On-State R.M.S. Current vs. Ambient Temperature

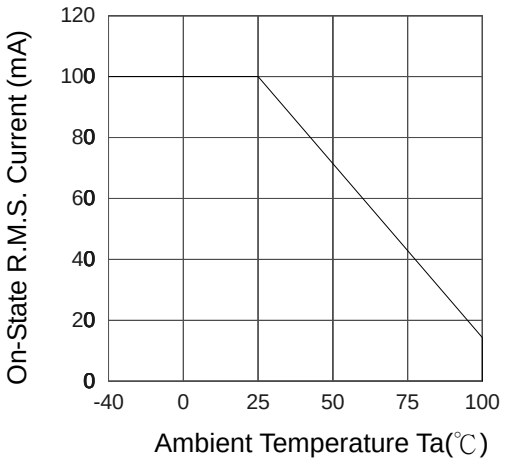


Fig.4 Holding Current vs. Ambient Temperature

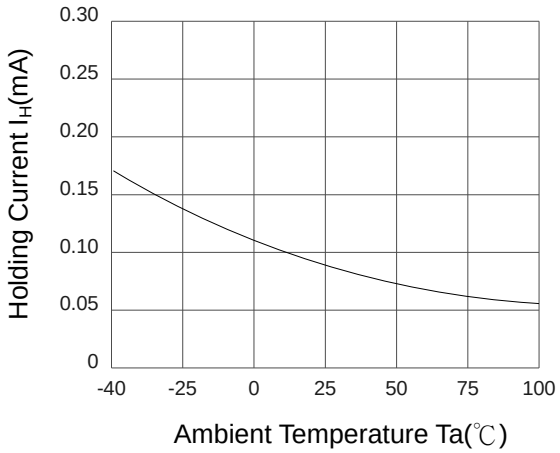


Fig.5 Peak Forward Current vs. Duty Ratio

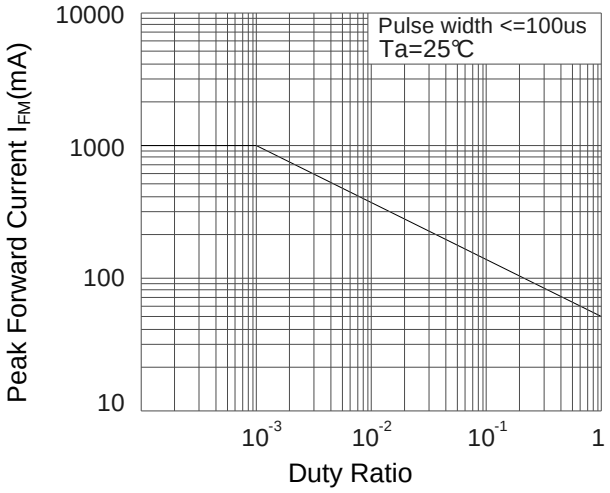
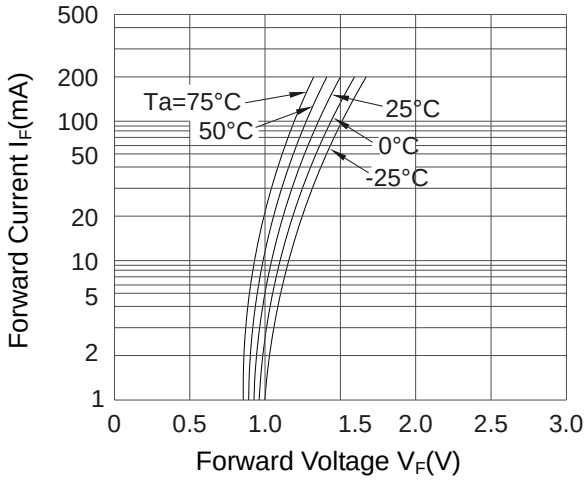


Fig.6 Forward Current vs. Forward Voltage



PRODUCT SPECIFICATION

DATE：02/02/2012

cosmo ELECTRONICS CORPORATION	Photocoupler： KMOC3012S	NO.61P48001	REV. 3
		SHEET 5 OF 6	

Fig.7 Trigger Current vs. Ambient Temperature

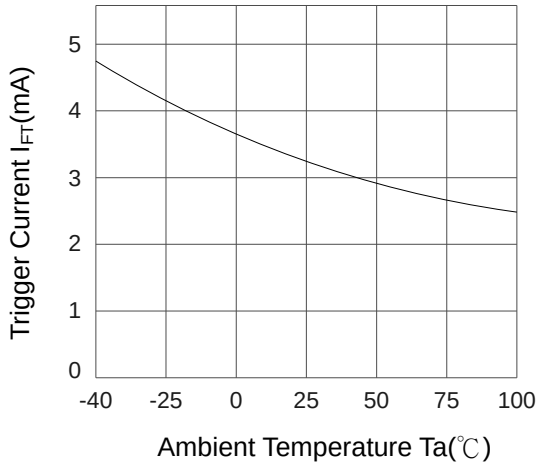


Fig.8 Inhibit Voltage vs. Ambient Temperature

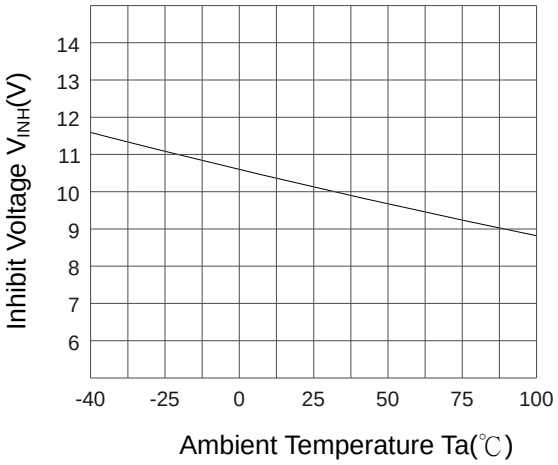


Fig.9 Leakage with LED off vs. Ambient Temperature

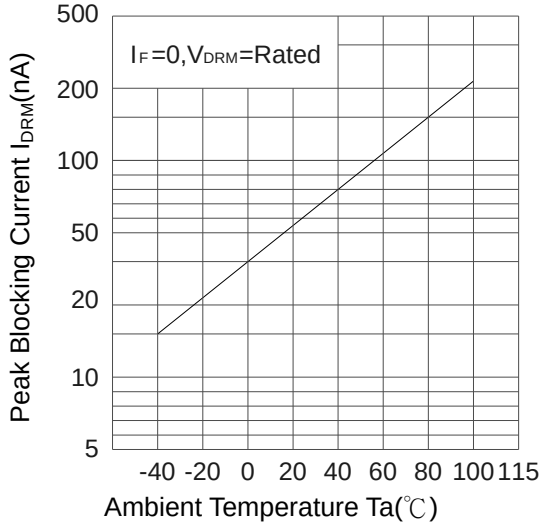
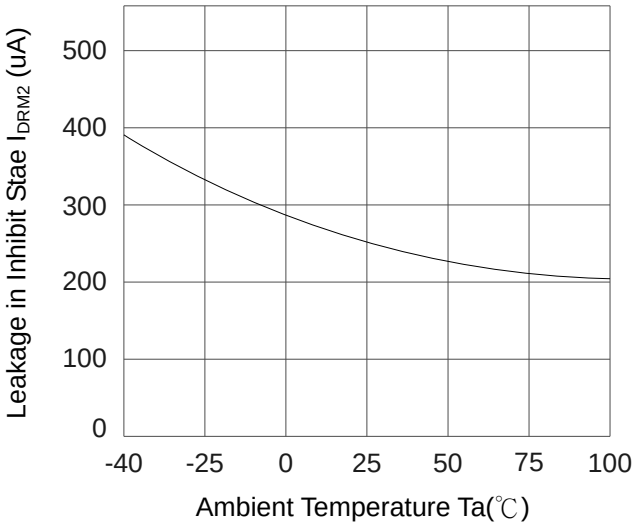


Fig.10 I_{DRM2} ,Leakage in Inhibit State vs. Ambient Temperature



PRODUCT SPECIFICATION

DATE：02/02/2012

cosmo ELECTRONICS CORPORATION	Photocoupler： KMOC3012S	NO.61P48001	REV. 3
		SHEET 6 OF 6	

NOTICE

The information contained in this document is intended to be a general product description and is subject to change without notice. Please contact cosmo in order to obtain the latest device data sheets before using any cosmo device. cosmo does not assume any responsibility for use of any circuitry described. No circuit patent licenses are implied. This publication is the property of cosmo . No part of this publication may be reproduced or copied in any form or by any means, or transferred to any third party without the prior written consent of cosmo Electronics Corporation.

The devices listed in this document are designed for general applications only in electronic equipment. No devices shall be deployed which require higher level of reliability such as：

- Medical and other life support equipments.
- Space application.
- Telecommunication equipment (trunk lines).
- Nuclear power control equipment.

Unless it received prior written approval from cosmo.

cosmo takes no responsibility for damages arise form the improper usage of our device. Please contact cosmo for further information regarding the above notices.