# PRODUCT SPECIFICATION

DATE：02/02/2012

| cosmo ELECTRONICS CORPORATION | Photocoupler： KMOC3011S | NO.61P47001 | REV. 1 |
|---|---|---|---|
| | | SHEET 1 OF 6 | |

## Non 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：

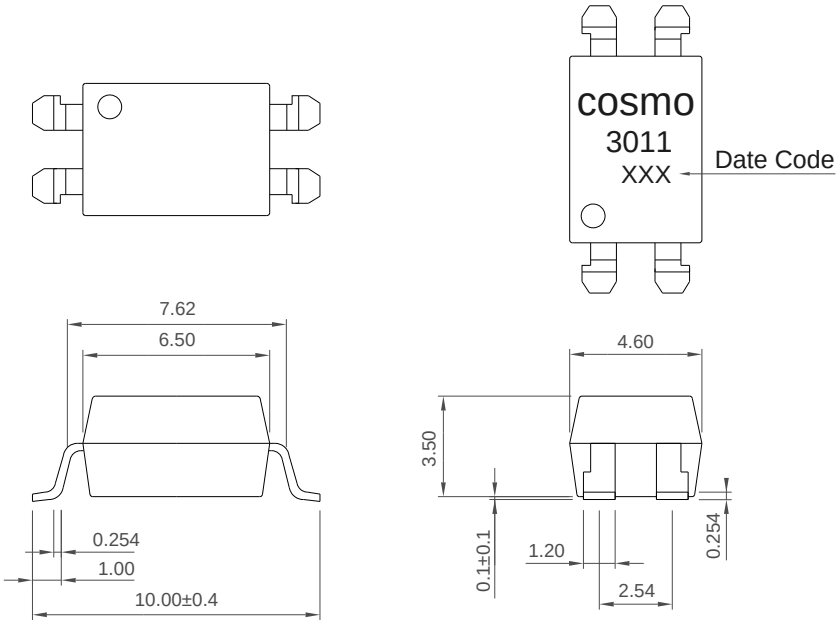
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Starters.
8. Solid State Relays.
9. Programmable controllers.

# PRODUCT SPECIFICATION

DATE：02/02/2012

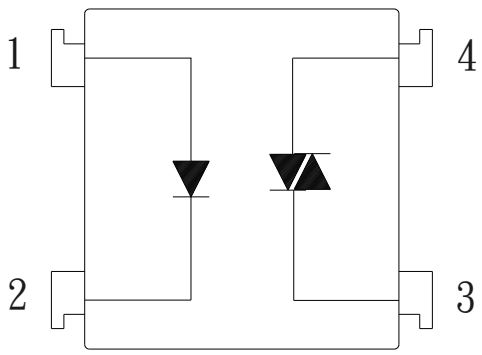
| cosmo ELECTRONICS CORPORATION | Photocoupler： KMOC3011S | NO.61P47001 | REV. 1 |
|---|---|---|---|
| | | SHEET 2 OF 6 | |

## 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： KMOC3011S | NO.61P47001 | 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 | | 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 |
| | Isolation resistance | Riso | DC500V | $5x10^{10}$ | $10^{11}$ | - | Ohm |
| | Minimum trigger current | $I_{FT}$ | Main Terminal Voltage=3V | - | - | 10 | mA |
| | Turn-on time | Ton | $V_D$=6V,$R_L$=100Ohm,$I_F$=20mA | - | - | 100 | uS |

# PRODUCT SPECIFICATION

DATE：02/02/2012

| cosmo ELECTRONICS CORPORATION | Photocoupler： KMOC3011S | NO.61P47001 | REV. 1 |
|---|---|---|---|
| | | SHEET 4 OF 6 | |

Fig.1 Forward Current vs. Ambient Temperature

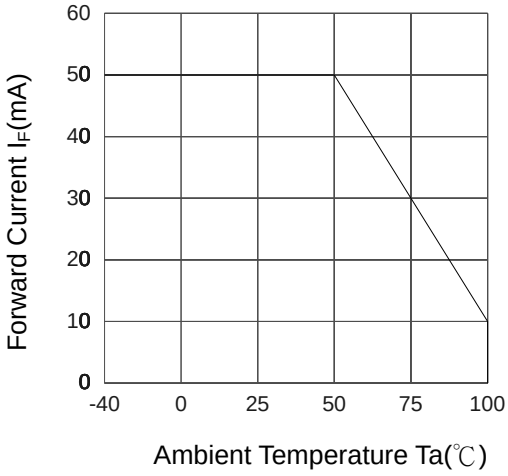



Fig.2 On-State Voltage vs. Ambient Temperature

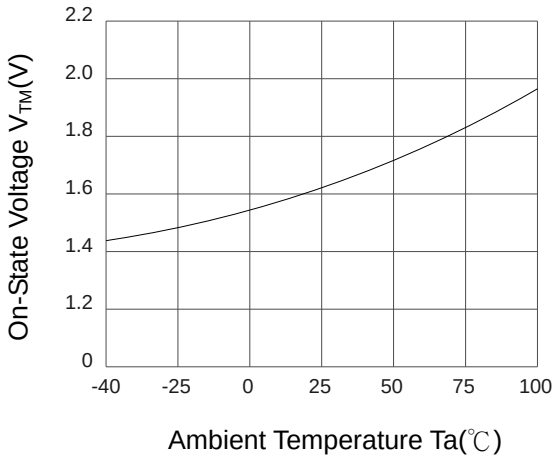



Fig.3 On-State R.M.S. Current vs. Ambient Temperature

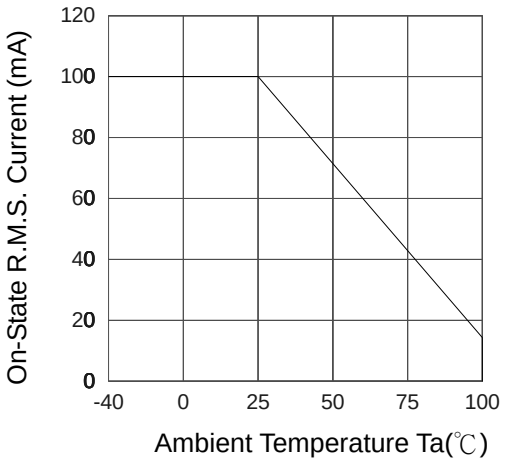



Fig.4 Holding Current vs. Ambient Temperature

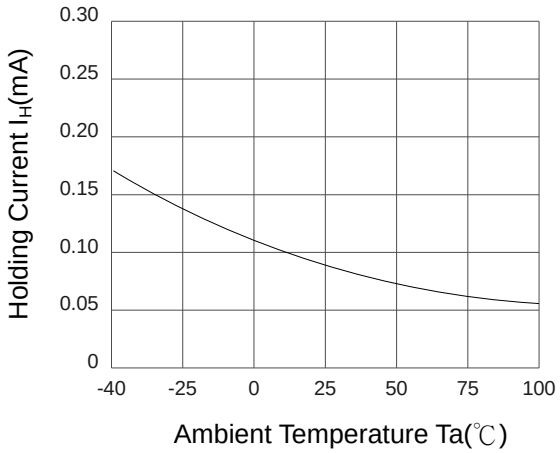



Fig.5 Peak Forward Current vs. Duty Ratio

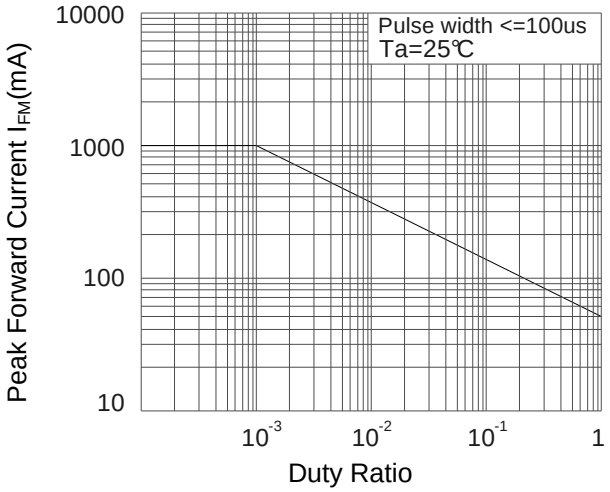
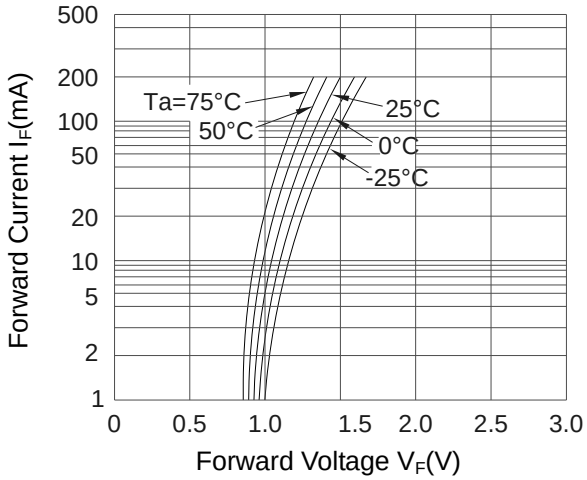



Fig.6 Forward Current vs. Forward Voltage



# PRODUCT SPECIFICATION

DATE：02/02/2012

| cosmo ELECTRONICS CORPORATION | Photocoupler： KMOC3011S | NO.61P47001 | REV. 1 |
|---|---|---|---|
| | | SHEET 5 OF 6 | |

Fig.7 Trigger Current vs. Ambient Temperature

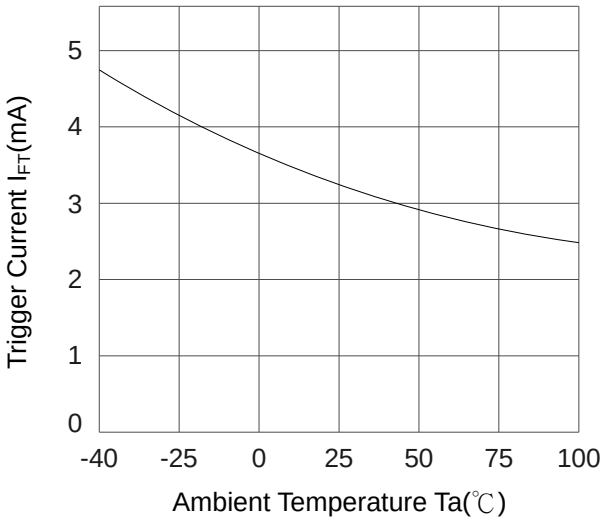
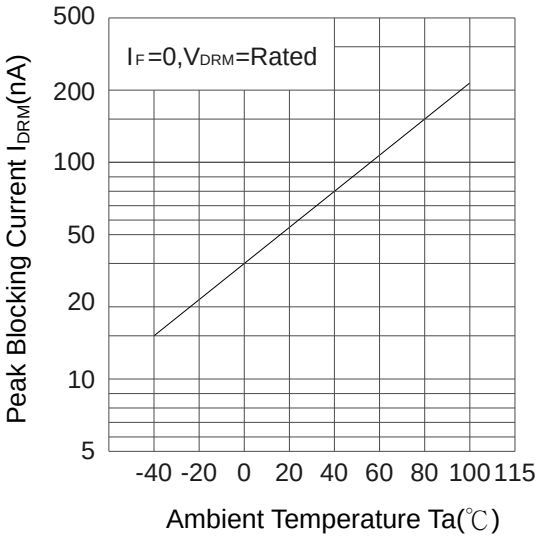



Fig.8 Leakage with LED off vs. Ambient Temperature



# PRODUCT SPECIFICATION

DATE：02/02/2012

| cosmo ELECTRONICS CORPORATION | Photocoupler： KMOC3011S | NO.61P47001 | REV. 1 |
|---|---|---|---|
| | | 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.