

PRODUCT SPECIFICATION

DATE : 05/05/2011

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|---|------------------------------------|--------------|------|
| cosmo ELECTRONICS CORPORATION | Photocoupler : KMOC3022S | NO.61P41001 | REV. |
| | | SHEET 1 OF 6 | 6 |

Optoisolators TRIAC Driver Output (400V Volts Peak)

● Features

1. Compact surface mount type package.
2. 400V peak blocking voltage.
3. Isolation voltage between input and output (Viso : 5000Vrms).

● For 115/240 Vac(rms) Application :

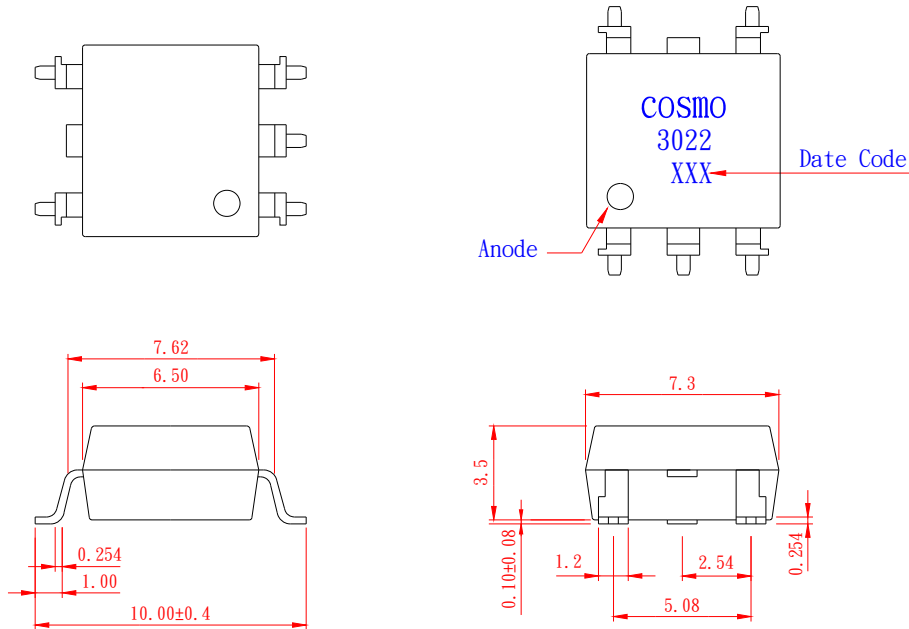
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Starters.
8. Solid State Relays.
9. Programmable controllers.

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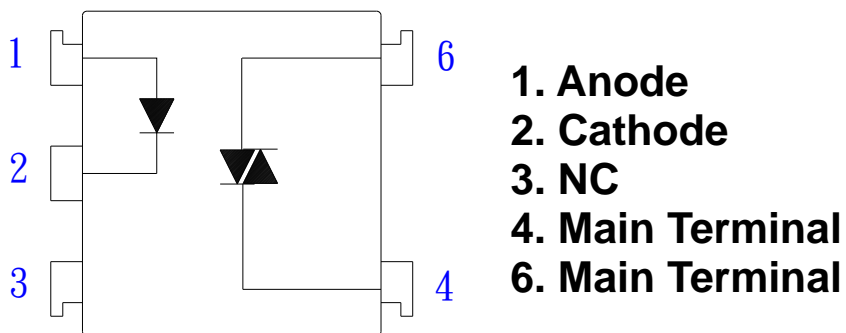
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| cosmo ELECTRONICS CORPORATION | Photocoupler : KMOC3022S | NO.61P41001 | REV. 6 |
| | | SHEET 2 OF 6 | |

1. OUTSIDE DIMENSION : UNIT (mm)



TOLERANCE : ±0.2mm

2. SCHEMATIC : TOP VIEW



PRODUCT SPECIFICATION

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| | | | |
|---|------------------------------------|--------------|-----------|
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| | | SHEET 3 OF 6 | |

● Absolute Maximum Ratings

| Parameter | | Symbol | Rating | Unit |
|---------------------------------|--|---------|-------------|-------|
| Input | Forward current | IF | 50 | mA |
| | Peak forward current | IFM | 1 | A |
| | Reverse voltage | VR | 6 | V |
| | Power dissipation | PD | 70 | mW |
| Output | Off-State Output Terminal voltage | VDRM | 400 | VPEAK |
| | On-State R.M.S. Current | IT(RMS) | 100 | mA |
| | Peak Repetitive Surge Current (PW=10ms.DC 10%) | ITSM | 1 | A |
| | Power dissipation | PD | 300 | mW |
| Total power dissipation | | Ptot | 330 | mW |
| Isolation voltage 1 minute | | Viso | 5000 | Vrms |
| Operating temperature | | Topr | -40 to +100 | °C |
| Storage temperature | | Tstg | -50 to +125 | °C |
| Soldering temperature 10 second | | Tsol | 260 | °C |

● Electro-optical Characteristics

| Parameter | | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|--------------------------|--|--------|--------------------------|--------------------|------------------|------|------|
| Input | Forward voltage | VF | IF=10mA | - | 1.2 | 1.4 | V |
| | Peak forward voltage | VFM | IFM=0.5A | - | - | 3.5 | V |
| | Reverse current | IR | VR=4V | - | - | 10 | uA |
| Output | Peak Blocking Current | IDRM | VDRM=400V | - | - | 100 | nA |
| | ON-State Voltage | VTM | ITM=100mA | - | 1.6 | 3 | V |
| Transfer characteristics | Holding Current | IH | | - | 0.1 | - | mA |
| | Critical rate of rise of OFF-state voltage | dV/dt | VDRM=(1/√2)*Rated | 600 | - | - | V/uS |
| | Isolation resistance | Riso | DC500V | 5x10 ¹⁰ | 10 ¹¹ | - | Ohm |
| | Minimum trigger current | IFT | Main Terminal Voltage=3V | - | - | 10 | mA |
| | Turn-on time | Ton | VD=6V,RL=100Ohm,IF=20mA | - | - | 100 | uS |

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Photocoupler :
KMOC3022S

NO.61P41001
SHEET 4 OF 6

REV.
6

Fig.1 Forward Current vs. Ambient Temperature

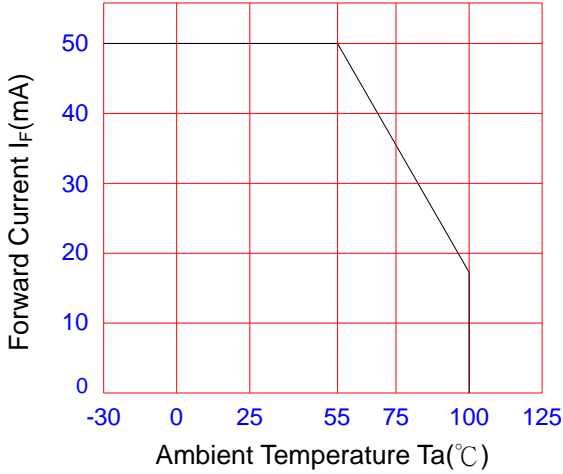


Fig.2 Diode Power Dissipation vs. Ambient Temperature

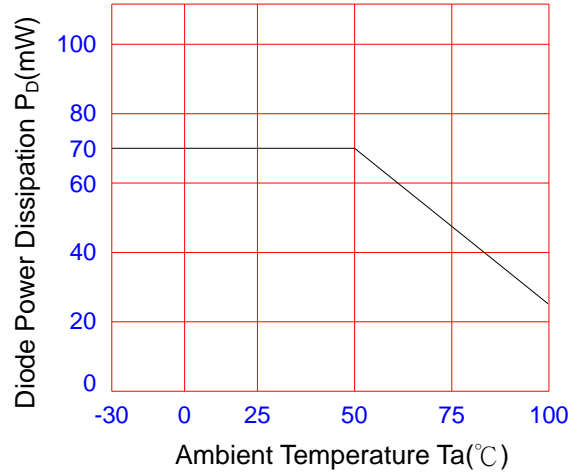


Fig.3 On-State R.M.S. Current vs. Ambient Temperature

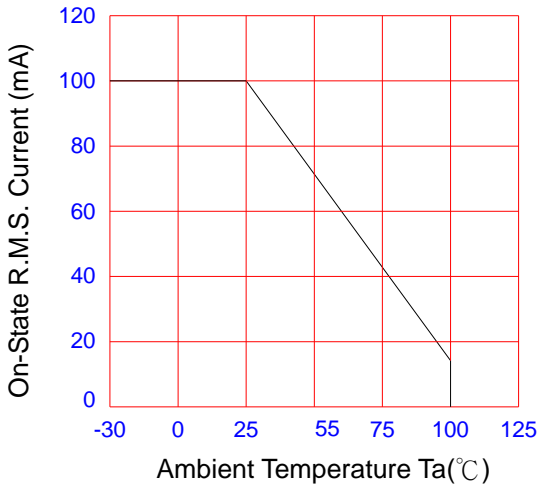


Fig.4 Total Power Dissipation vs. Ambient Temperature

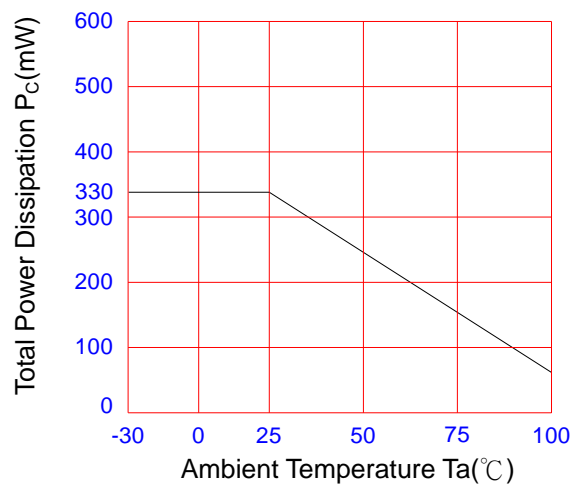
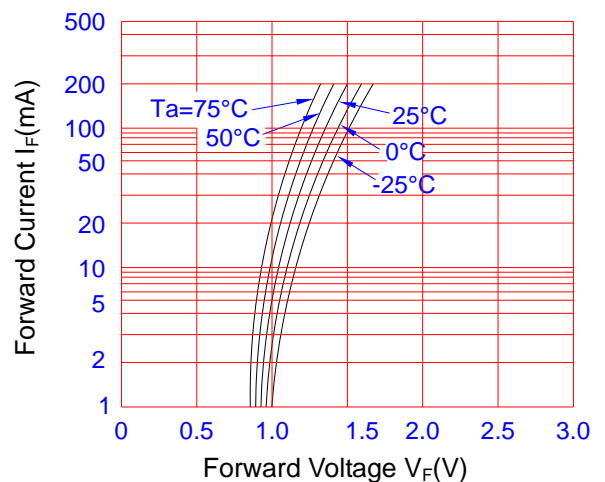


Fig.5 Peak Forward Current vs. Duty Ratio



Fig.6 Forward Current vs. Forward Voltage



PRODUCT SPECIFICATION

DATE : 05/05/2011

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Photocoupler :
KMOC3022S

NO.61P41001
SHEET 5 OF 6

REV.
6

Fig.7 On-State Characteristics

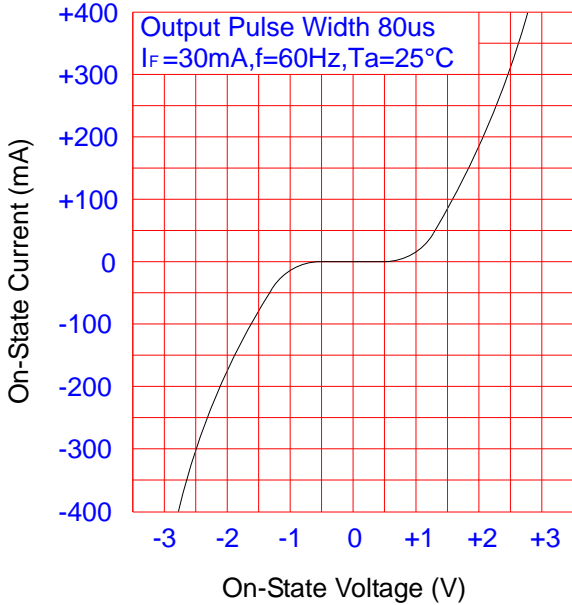


Fig.8 Leakage with LED off vs. Ambient Temperature

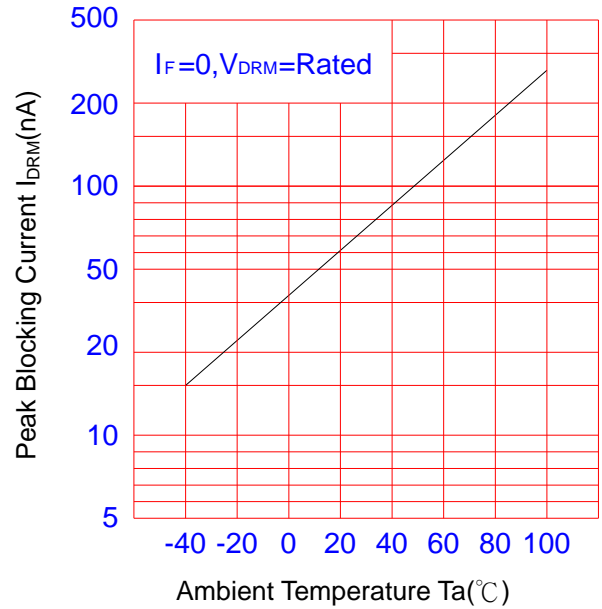
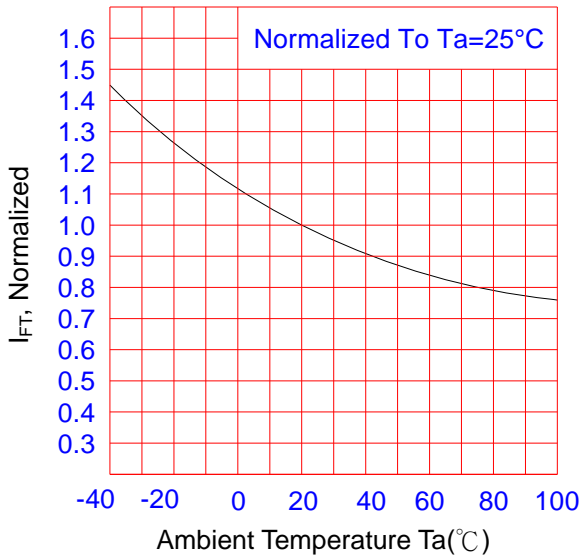


Fig.9 Trigger Current vs. Ambient Temperature



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|---|------------------------------------|--------------|------|
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| | | SHEET 6 OF 6 | 6 |

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