

**COSMO**

High Reliability Photocoupler

**KTP166J**

UL 1577 (File No.E169586) VDE EN60747-5-2 (File No.40009235)

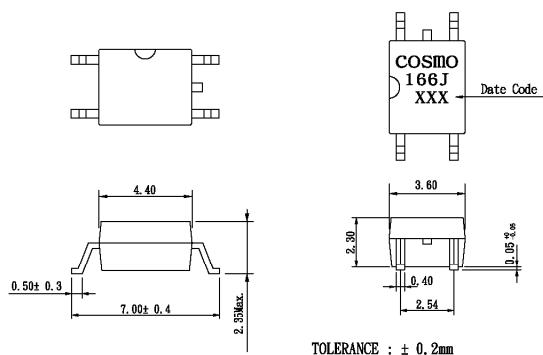
## Features

1. Opaque type, mini-flat package.
2. Subminiature type  
(The volume is smaller than that of our conventional DIP type by as far as 30%)
3. Isolation voltage between input and output (Viso:2500Vrms).

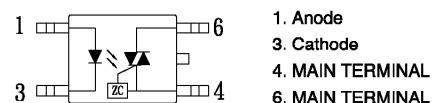
## For 115/240 Vac (rms) Application:

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 Stators.
8. Solid State Relays.
9. Programmable controllers.

## Outside Dimension:Unit (mm)



## Schematic:Top View



## Absolute Maximum Ratings

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I <sub>F</sub>	50	mA
	Peak forward current (100us)	I <sub>FM</sub>	1	A
	Reverse voltage	V <sub>R</sub>	6	V
	Power dissipation	P <sub>D</sub>	70	mW
Output	Off-State Output Terminal voltage	V <sub>DRM</sub>	600	Vpeak
	On-State R. M. S. Current	I <sub>T(RMS)</sub>	70	mA
	Peak Repetitive Surge Current (PW=10ms, DC 10%)	I <sub>TSM</sub>	1	A
	Power dissipation	P <sub>D</sub>	150	mW
	Total power dissipation	P <sub>Tot</sub>	200	mW
	Isolation voltage 1 minute	V <sub>iso</sub>	2500	Vrms
	Operating temperature	T <sub>opr</sub>	-40 to +100	°C
	Storage temperature	T <sub>tsg</sub>	-50 to +125	°C
	Soldering temperature 10 second	T <sub>sol</sub>	260	°C

## Electro-optical Characteristics

(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	—	1.2	1.4	V
	Peak forward voltage	V <sub>FM</sub>	I <sub>FM</sub> =0.5A	—	—	3.5	V
	Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =5V	—	—	10	μA
Output	Peak Blocking Current	I <sub>DRM</sub>	V <sub>DRM</sub> =600V	—	—	1.0	μA
	ON-State Voltage	V <sub>TM</sub>	I <sub>TM</sub> =70mA	—	1.6	2.8	V
Transfer characteristics	Holding Current	I <sub>H</sub>	—	—	1.0	—	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V <sub>DRM</sub> = (1/√2) *Rated	600	—	—	V/μS
	Isolation resistance	R <sub>iso</sub>	DC500V	5x10 <sup>10</sup>	10 <sup>11</sup>	—	ohm
	Minimum trigger current	I <sub>FT</sub>	Main Terminal Voltage=3V	—	5	10	mA
	Inhibit Voltage (MT2 Voltage above which device not trigger.)	V <sub>INH</sub>	I <sub>F</sub> =Rated I <sub>FT</sub>	—	—	50	V
	Leakage in Inhibited State	I <sub>DRM2</sub>	I <sub>F</sub> =Rated I <sub>FT</sub> , V <sub>T</sub> =Rated V <sub>DRM</sub>	—	—	600	μA

