PRODUCT SPECIFICATION

DATE: 03/17/2003

COSMO ELECTRONICS CORPORATION	Photocoupler : KTLP166J	NO. 61P44003	REV.
		SHEET 1 OF 6	1

Mini-flat package
Zero Crossing Optoisolators Triac Driver Output
(600V Volts Peak)

- 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%)
4. 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 Staters.
8. Solid State Relays.
9. Programmable controllers.

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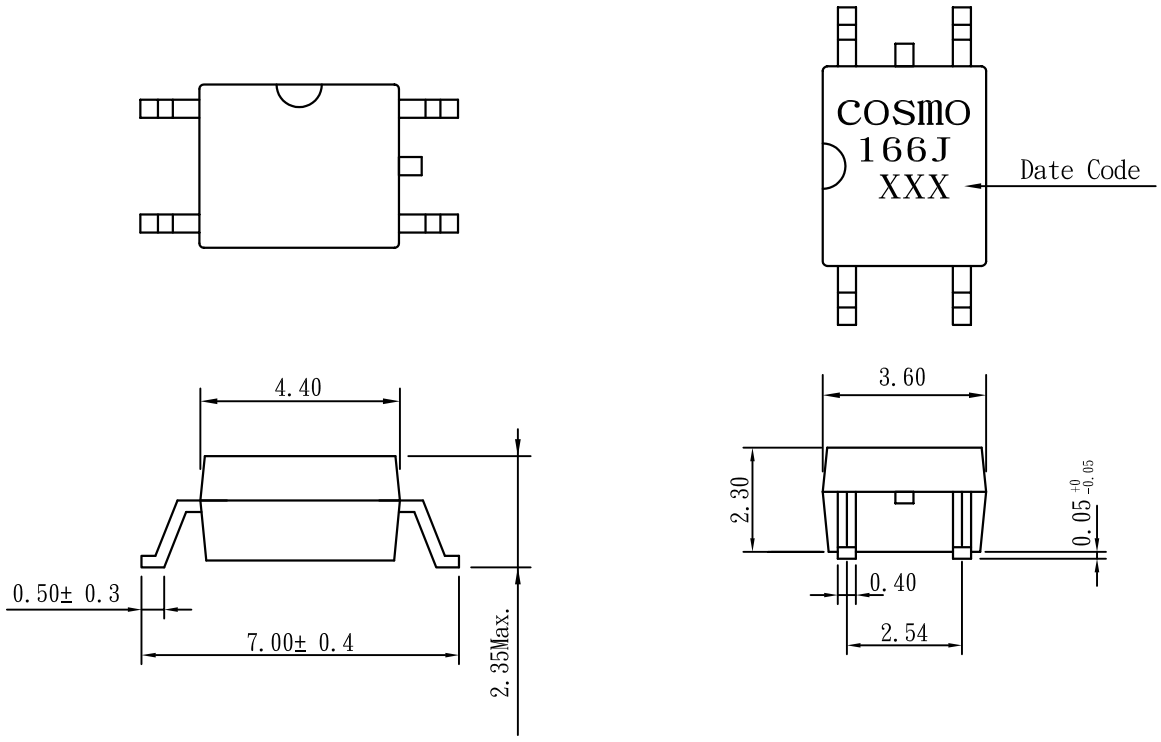
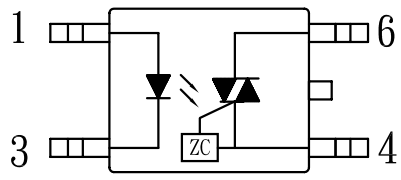
1. OUTSIDE DIMENSION : UNIT(mm)



TOLERANCE : ± 0.2mm

2. SCHEMATIC : TOP VIEW



1. Anode
3. Cathode
4. MAIN TERMINAL
6. MAIN TERMINAL

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• Absolute Maximum Ratings

(Ta=25° C)

	Parameter	Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current(100us)	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	Vpeak
	On-State R.M.S. Current	$I_{T(RMS)}$	70	mA
	Peak Repetitive Surget Current(PW=10ms.DC 10%)	I_{TSM}	1	A
	Power Dissipation	P_D	150	mW
Total power dissipation		P_{tot}	200	mW
Isolation voltage 1 minute		Viso	2500	Vrms
Operating temperature		Topr	-40 to +100	° C
Storage temperature		Tstg	-50 to +125	° C
Soldering temperature 10 seconds		Tsol	260	° C

• Electro-optical Characteristics

(Ta=25° C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	I_F=10mA	-	1.2	1.4	V
	Peak forward voltage	V_{FM}	I_{FM}=0.5A	-	-	3.5	V
	Reverse Leakage Current	I_R	V_R=5V	-	-	10	uA
Output	Peak Blocking Current	I_{DRM}	V_{DRM}=600V	-	-	1.0	uA
	ON-State Voltage	V_{TM}	I_{TM}=70mA	-	1.6	2.8	V
Transfer charac-teristics	Holding Current	I_H		-	1.0	-	mA
	Critical rate of rise of OFF-state voltage	dV/dt	V_{DRM}=(1/$\sqrt{2}$)*Rated	100	500	-	V/uS
	Isolation resistance	Riso	DC500V	$5x10^{10}$	10^{11}	-	ohm
	Minimum trigger current	I_{FT}	Main Terminal Voltage=3V	-	5	10	mA
	Inhibit Voltage(MT1-MT2 Voltage above which device not trigger.)	V_{INH}	I_F=Rated I_{FT}	-	-	50	V
	Leakage in Inhibited State	I_{DRM2}	I_F=Rated I_{FT}, V_T=Rated V_{DRM}		-	600	uA

Classification table of Trigger LED current is shown below.

(Ta=25° C)

Classification	Trigger LED Current (mA)	
	Min.	Max.
1 (Standard)	-	10
2	-	7
3	-	5

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Fig. 1 Forward Current vs. Ambient Temperature

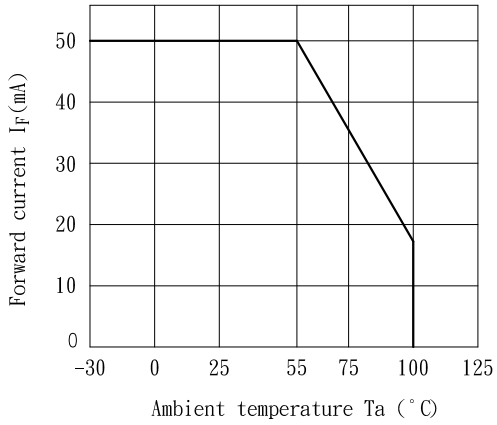

Fig. 2 Diode Power Dissipation vs. Ambient Temperature

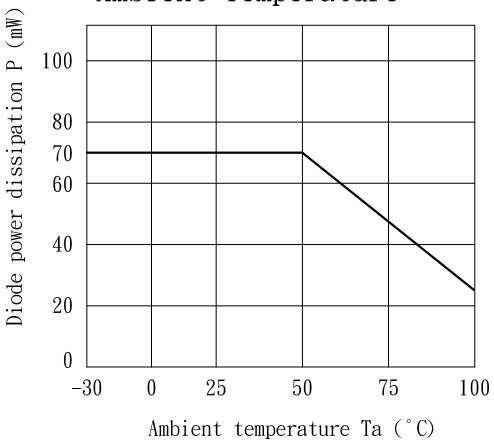

Fig. 3 On-State R.M.S. Current vs. Ambient Temperature

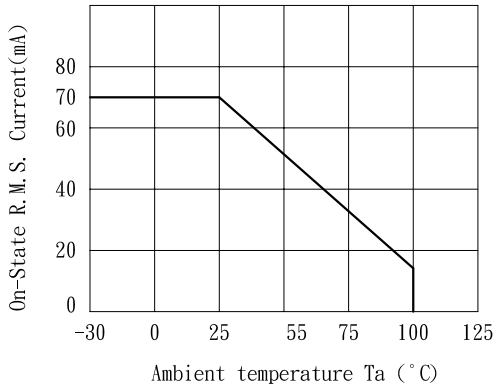

Fig. 4 Total Power Dissipation vs. Ambient Temperature

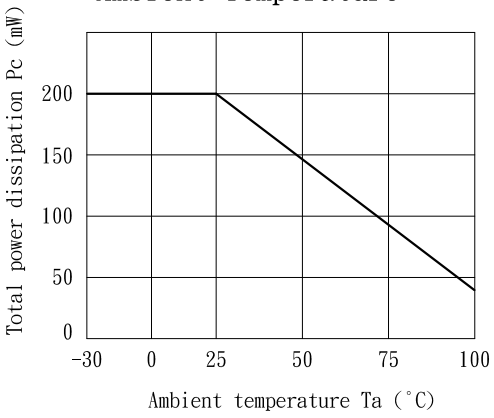

Fig. 5 Peak Forward Current vs. Duty Ratio

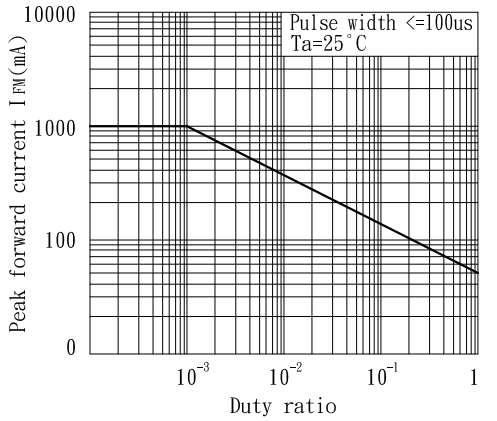

Fig. 6 Forward Current vs. Forward Voltage

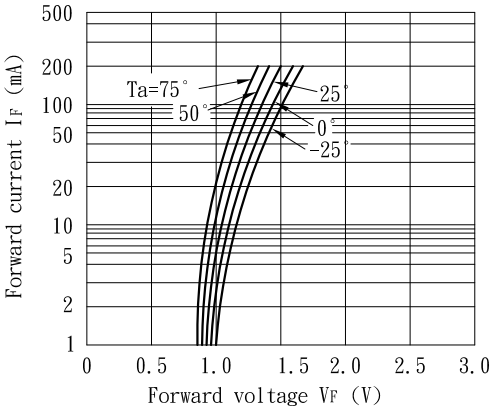

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Fig. 7 On-State Characteristics

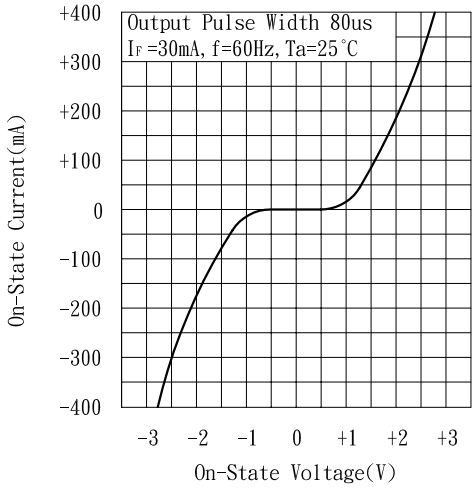


Fig. 8 Leakage with LED off vs. Ambient Temperature

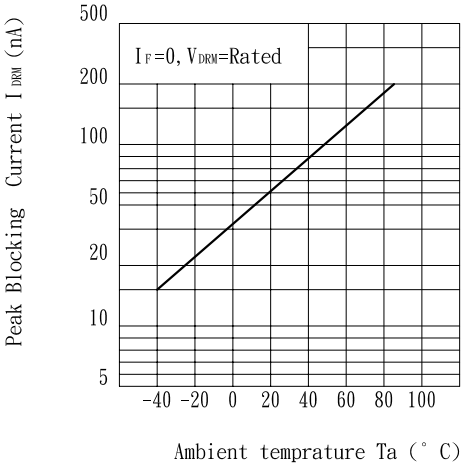


Fig. 9 Trigger Current vs. Ambient Temperature

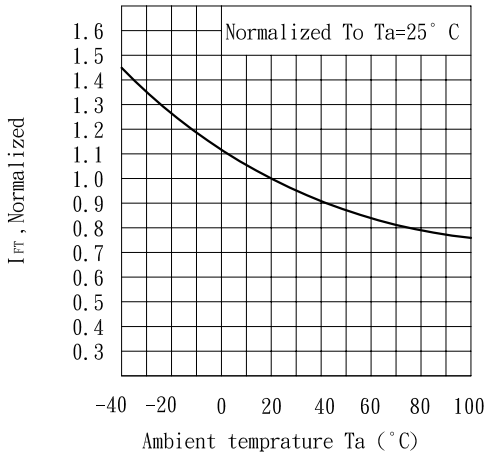


Fig. 10 Inhibit Voltage vs. Ambient Temperature

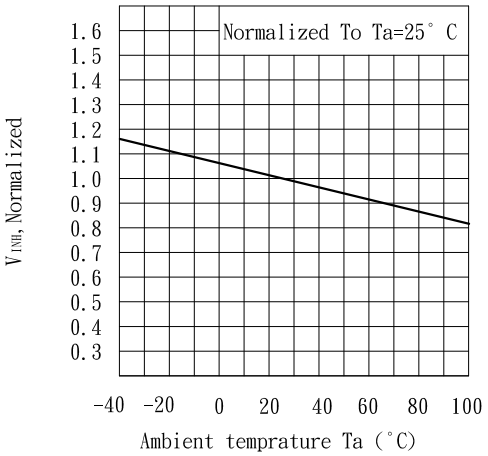
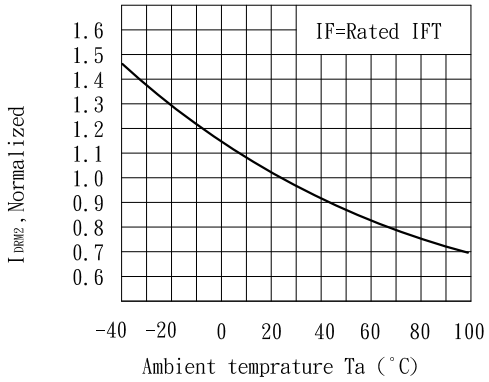


Fig. 11 I_{DRM2} ,Leakage in Inhibit vs. Ambient Temperature



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