PRODUCT SPECIFICATION

DATE：01/04/2013

cosmo ELECTRONICS CORPORATION	Photocoupler： KTLP161L	NO. 61P44005	REV. 4
		SHEET 1 OF 6	

Mini-flat package
Zero Crossing Optoisolators Triac Drive Output
(800V Volts Peak)

- **Features**

1. Pb free and RoHS compliant.
2. Opaque type,mini-flat package.
3. 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：3750Vrms).
5. Safety Approval：
   UL approved：UL1577 , No.E169586
   CUL approved：C22.2 No.1 & NTC No.5 , No.E169586
   VDE approved：EN60747-5-2 , No.40020973

- **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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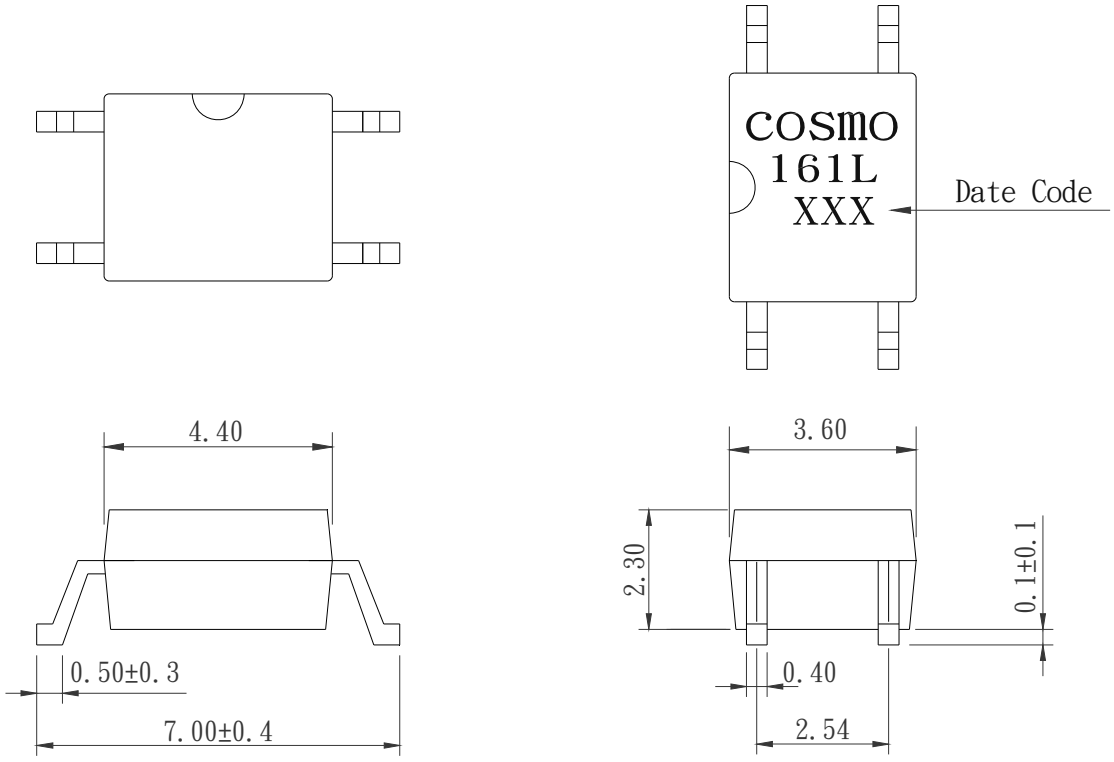
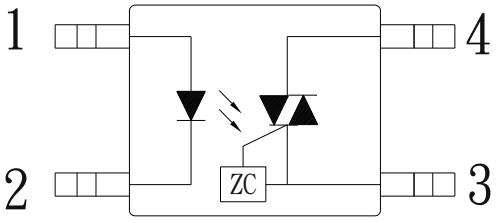
● Outside dimension：Unit (mm)



Tolerance：±0.2mm

● Schematic：Top View



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

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● Absolute Maximum Ratings

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current (100us)	I_{FP}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	70	mW
Output	Off-State Output Terminal voltage	V_{DRM}	800	V
	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		Ptot	200	mW
Isolation voltage 1 minute		V_{iso}	3750	V_{rms}
Operating temperature		T_{opr}	-40 to +115	℃
Storage temperature		T_{stg}	-50 to +125	℃
Soldering temperature 10 second		T_{sol}	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	μA
Output	Peak Blocking Current	I_{DRM}	V_{DRM} = Rated	-	-	1.0	μA
	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	$V_{DRM} = (1/\sqrt{2}) \cdot$ Rated	600	-	-	V/μs
	Isolation resistance	R_{iso}	DC500V	5×10^{10}	10^{11}	-	Ω
	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}, Rated V_{DRM}, Off State	-	500	1000	μA

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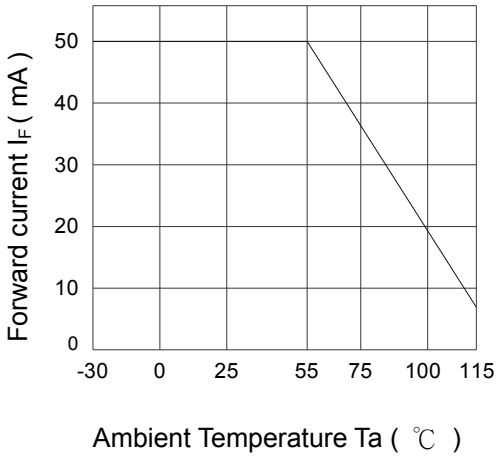
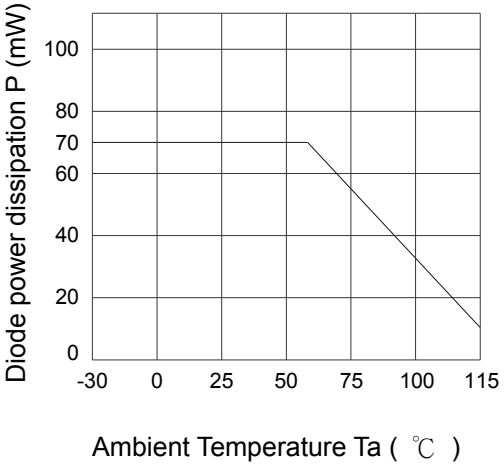
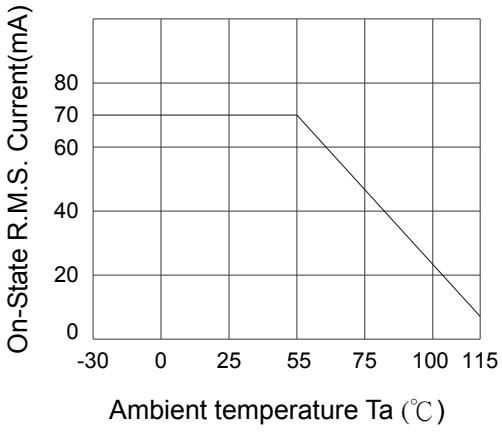
Forward Current vs. Ambient Temperature



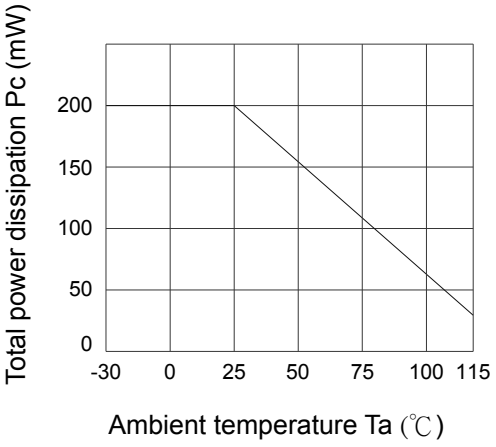
Diode Power Dissipation vs. Ambient Temperature



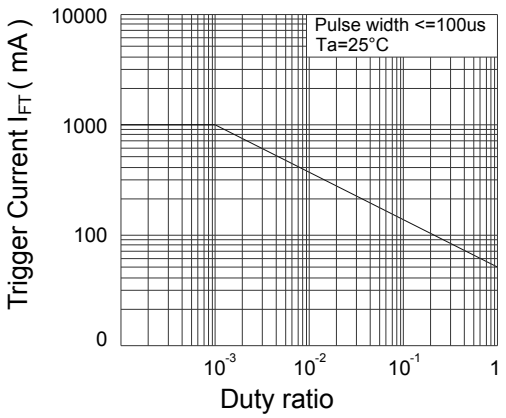
On-State R.M.S. Current vs. Ambient Temperature



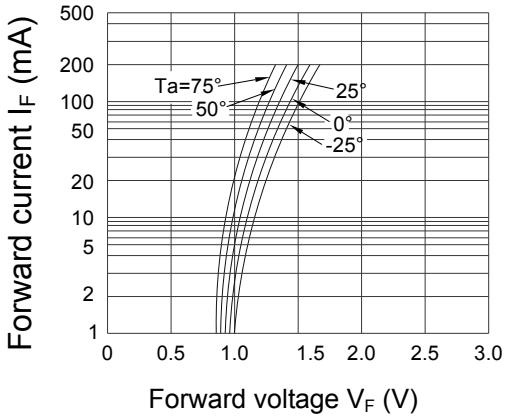
Total Power Dissipation vs. Ambient Temperature



Peak Forward Current vs. Duty Ratio



Forward Current vs. Forward Voltage



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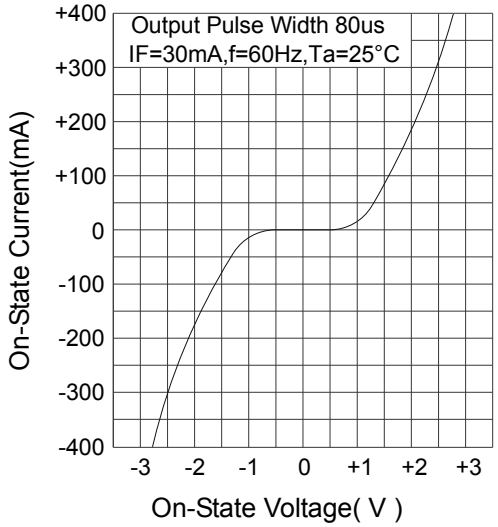
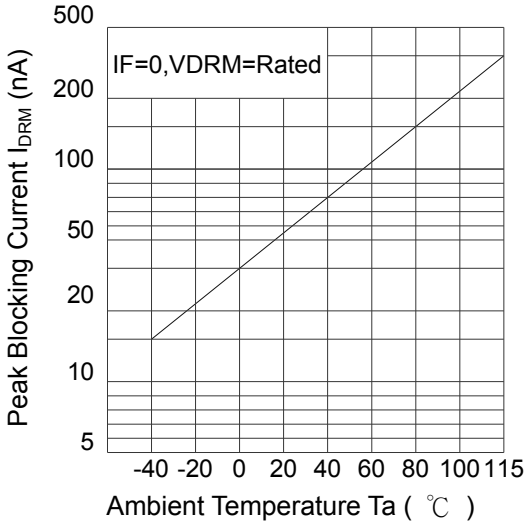
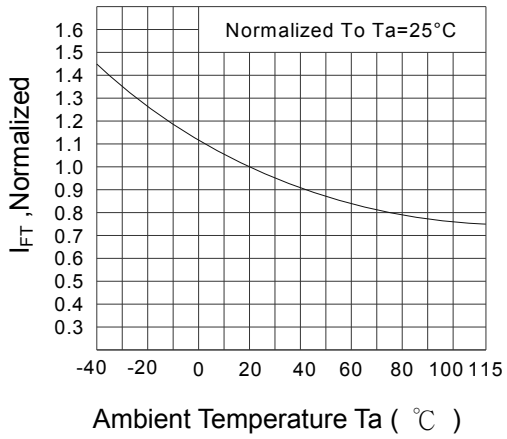
On-State Characteristics



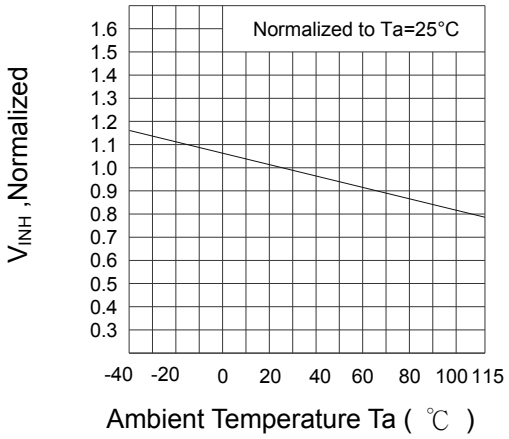
Leakage with LED off vs. Ambient Temperature



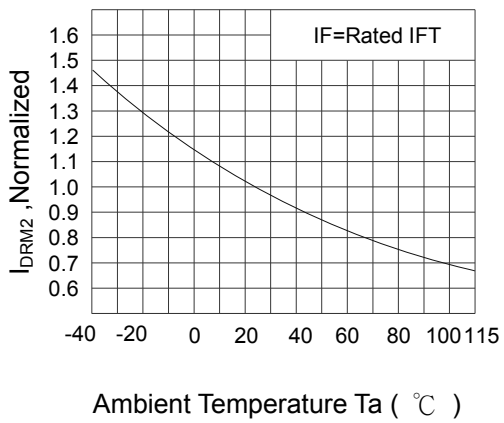
Trigger Current vs. Ambient Temperature



Inhibit Voltage vs. Ambient Temperature



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



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