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：**

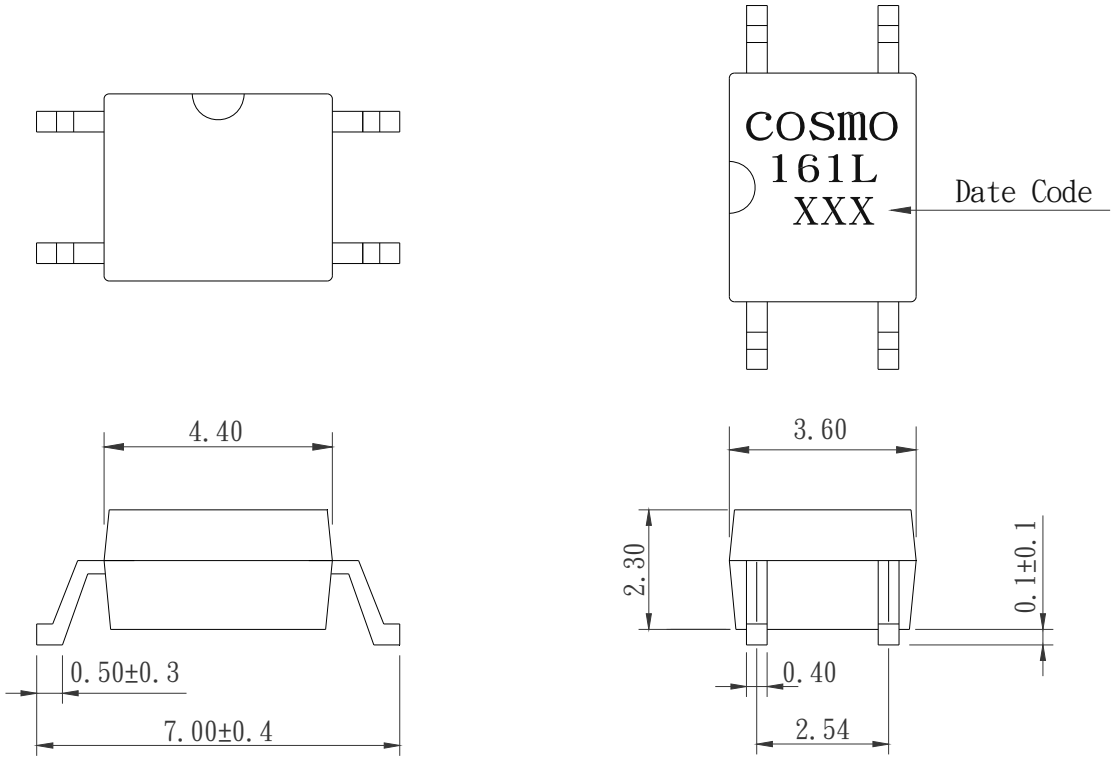
1. Solenoid/Valve Controls.
2. Lighting Controls.
3. Static Power Switches.
4. AC Motor Drives.
5. Temperature Controls.
6. E.M. Contactors.
7. AC Motor Staters.
8. Solid State Relays.
9. Programmable controllers.

PRODUCT SPECIFICATION

DATE：01/04/2013

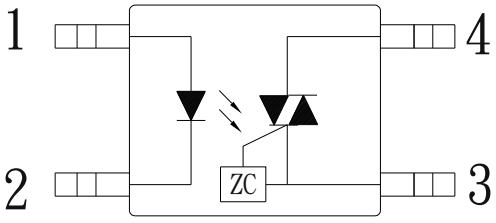
cosmo ELECTRONICS CORPORATION	Photocoupler： KTLP161L	NO. 61P44005	REV. 4
		SHEET 2 OF 6	

● Outside dimension：Unit (mm)



Tolerance：±0.2mm

● Schematic：Top View



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

PRODUCT SPECIFICATION

DATE：01/04/2013

cosmo ELECTRONICS CORPORATION	Photocoupler： KTLP161L	NO. 61P44005	REV. 4
		SHEET 3 OF 6	

● 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

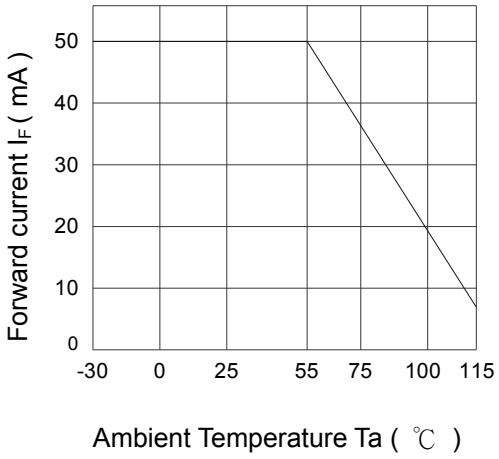
Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	I_F = 10mA	-	1.2	1.4	V
	Reverse current	I_R	V_R = 6V	-	-	10	μA
Output	Peak Blocking Current	I_{DRM}	V_{DRM} = Rated	-	-	1.0	μA
	On-State Voltage	V_{TM}	I_{TM} = 70mA	-	1.6	2.8	V
Transfer charac-teristics	Holding Current	I_H		-	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

PRODUCT SPECIFICATION

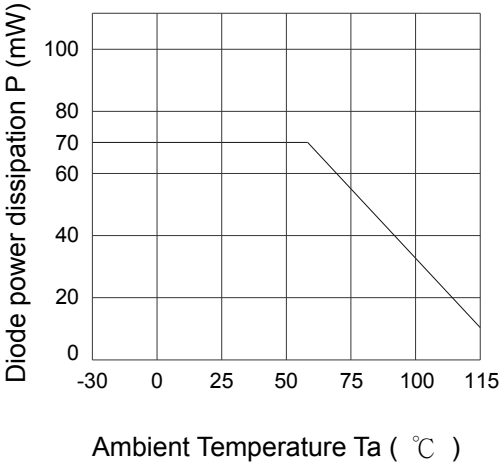
DATE：01/04/2013

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

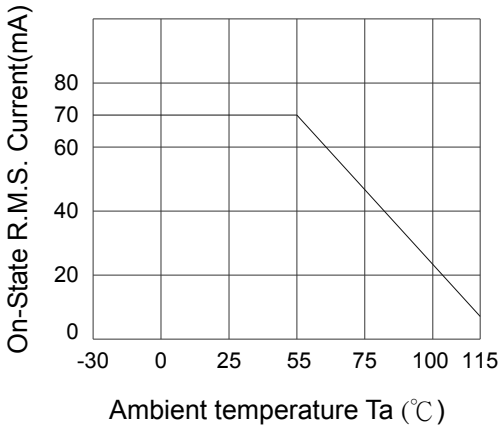
Forward Current vs. Ambient Temperature



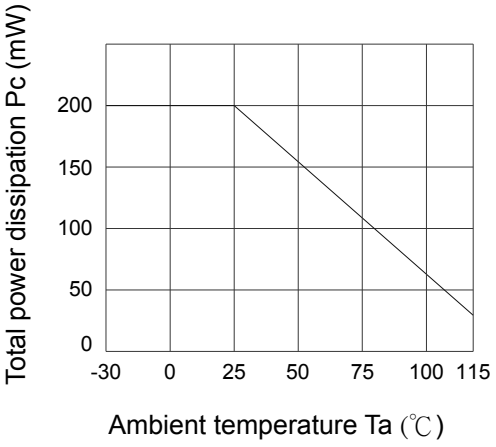
Diode Power Dissipation vs. Ambient Temperature



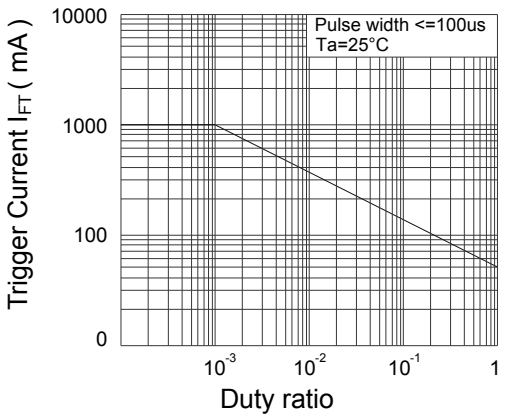
On-State R.M.S. Current vs. Ambient Temperature



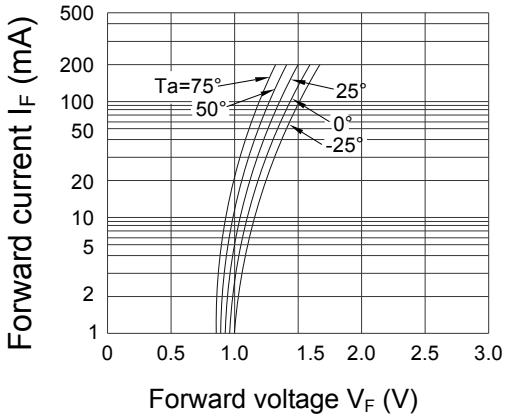
Total Power Dissipation vs. Ambient Temperature



Peak Forward Current vs. Duty Ratio



Forward Current vs. Forward Voltage

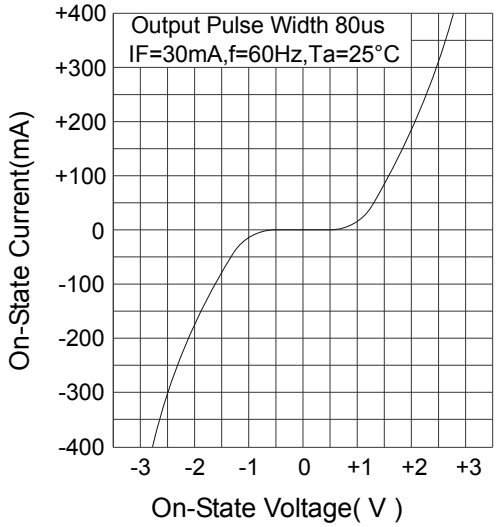


PRODUCT SPECIFICATION

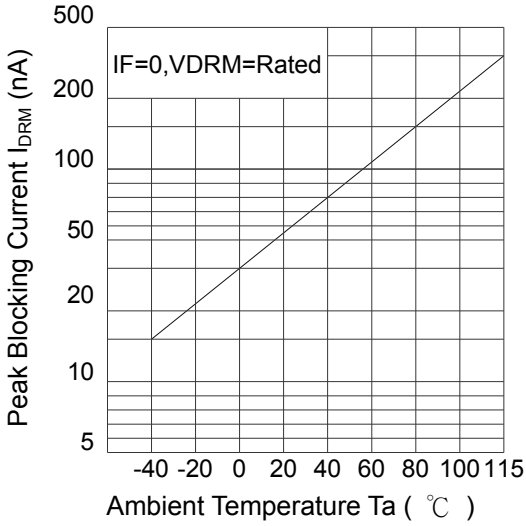
DATE：01/04/2013

cosmo ELECTRONICS CORPORATION	Photocoupler： KTLP161L	NO. 61P44005	REV. 4
		SHEET 5 OF 6	

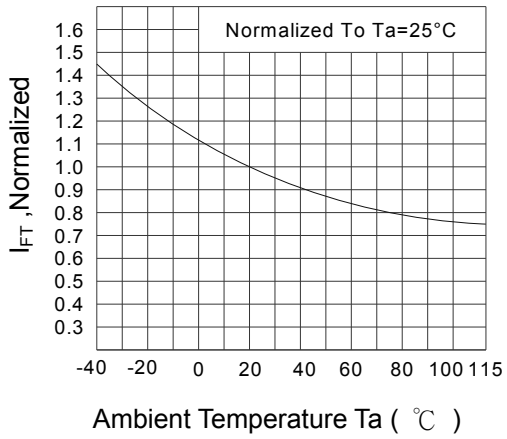
On-State Characteristics



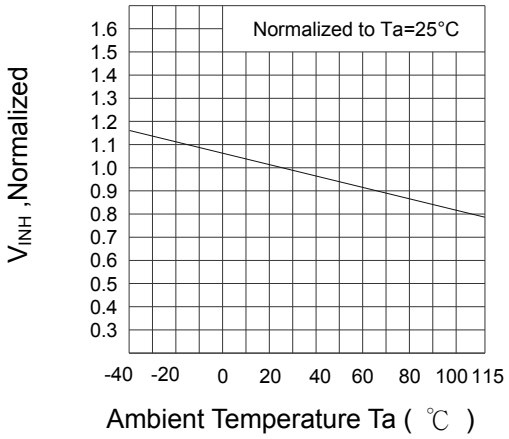
Leakage with LED off vs. Ambient Temperature



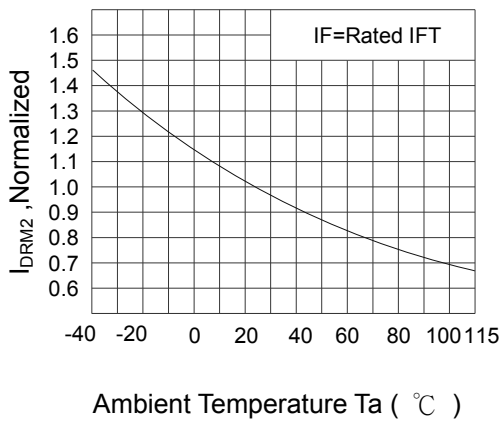
Trigger Current vs. Ambient Temperature



Inhibit Voltage vs. Ambient Temperature



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



PRODUCT SPECIFICATION

DATE：01/04/2013

cosmo ELECTRONICS CORPORATION	Photocoupler： KTLP161L	NO. 61P44005	REV. 4
		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.