PRODUCT SPECIFICATION

DATE:11/29/2012

cosmo ELECTRONICS CORPORATION	Photocoupler : **KPC354NT**	NO.61P04072	REV. 6
		SHEET 1 OF 6	

Mini-Flat package
AC Input type Photocoupler

● Features

1. Halogen Free.
2. Pb free and RoHS compliant.
3. AC inputs
4. Mini-flat package:
   compact 4 pin SOP with a 2.0mm profile
5. Subminiature type
   (The volume is smaller than that of our
   conventional DIP type by as far as 30%)
6. Isolation voltage between input and output (Viso : 3750vrms).
7. Agency Approvals
   - UL approved：No.E169586
   - VDE approved：No.40014684
   - FIMKO approved：EN 60065 No. FI 23147 A1
     EN 60950 No. FI 24583 A1
   - CQC approved：No. CQC04001010530

● Applications

1. Hybrid substrates that require high density mounting.
2. Programmable controllers.

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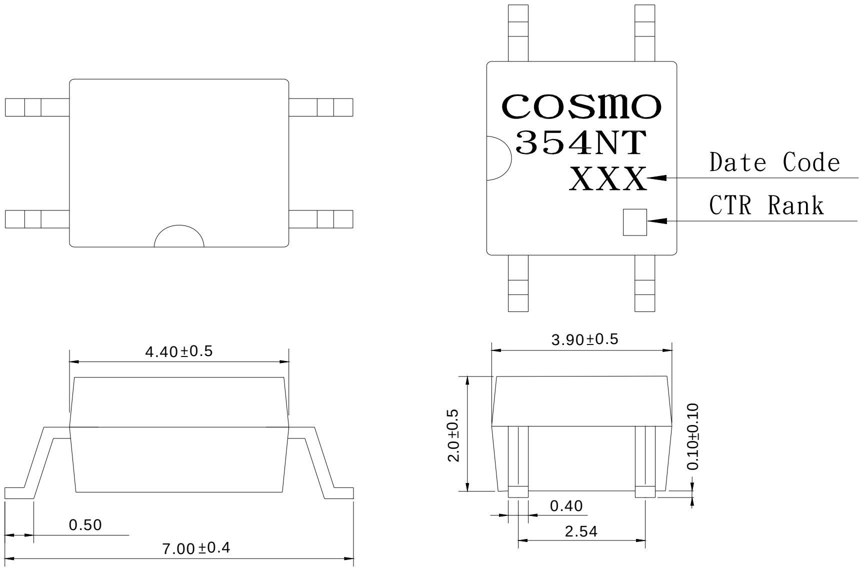
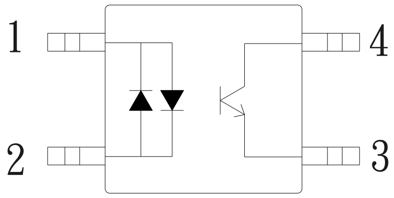
1. OUTSIDE DIMENSION : UNIT (mm)



TOLERANCE : ±0.2mm

2. SCHEMATIC : TOP VIEW



1. Anode, Cathode
2. Anode, Cathode
3. Emitter
4. Collector

●Absolute Maximum Ratings

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	±50	mA
	Peak forward current	I_{FM}	±1	A
	Power dissipation	P	70	mW
Output	Collector-emitter voltage	V_{CEO}	80	V
	Emitter-collector voltage	V_{ECO}	5	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	150	mW
	Total power dissipation	Ptot	170	mW
	Isolation voltage 1 minute	Viso	3750	Vrms
	Operating temperature	Topr	-55 to +115	℃
	Storage temperature	Tstg	-55 to +125	℃
	Soldering temperature 10 second	Tsol	260	℃

●Electro-optical Characteristics

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	IF=±20mA	－	1.2	1.4	V
	Terminal capacitance	Ct	V=0, f=1kHz	－	30	250	pF
Output	Collector dark current	I_{CEO}	V_{CE}=20V, I_F=0	－	－	0.1	uA
	Collector-emitter breakdown voltage	BV_{CEO}	Ic=0.1mA, I_F=0	80	-	-	V
	Emitter-collector breakdown voltage	BV_{ECO}	I_F=100uA, I_F=0	5	-	-	V
Transfer charac-teristics	Current transfer ratio	CTR	I_F=±1mA, V_{CE}=5V	20	－	400	%
	Collector-emitter saturation voltage	V_{CE}(sat)	I_F=±20mA, Ic=1mA	－	0.1	0.3	V
	Isolation resistance	Riso	DC500V 40 to 60%RH	5×10^{10}	10^{11}	－	ohm
	Floating capacitance	C_f	V=0, f=1MHz	－	0.6	1.0	pF
	Response time (Rise)	tr	Vce=2V,Ic=2mA,RL=100ohm	－	4	18	us
	Response time (Fall)	tf		－	3	18	us

●Classification table of current transfer ratio is shown below.

CTR RANK	CTR(%)
KPC354NT0A	**50 TO 150**
KPC354NT0B	**20 TO 400**

Fig.1 Forward Current vs.Ambient Temperature

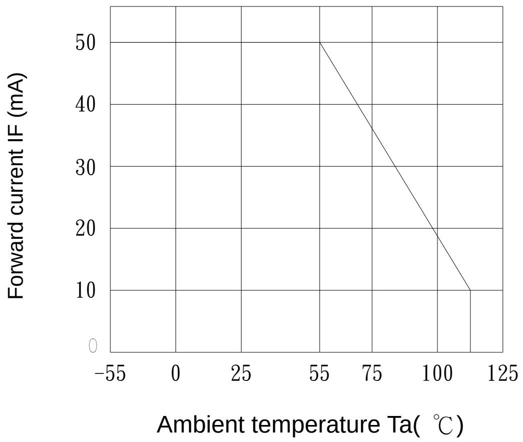


Fig.2 Diode Power Dissipation vs. Ambient Temperature

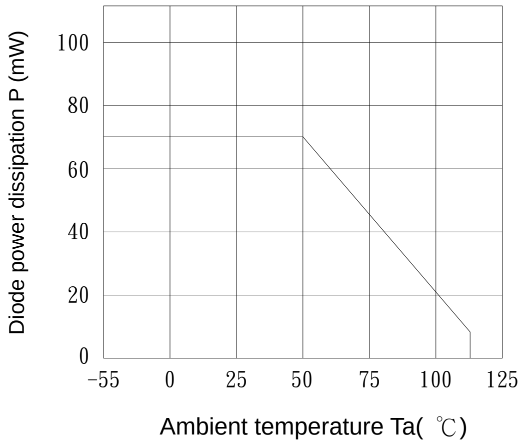


Fig.3 Collector Power Dissipation vs. Ambient Temperature

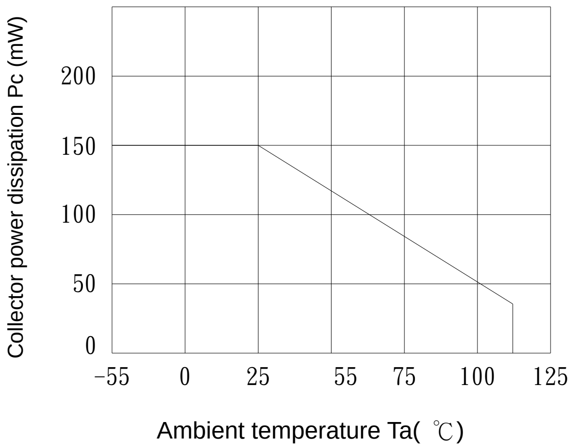


Fig.4 Total Power Dissipation vs. Ambient Temperature

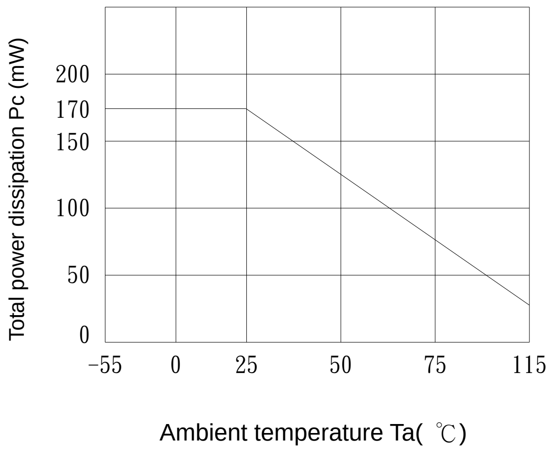


Fig.5 Peak Forward Current vs. Duty Ratio

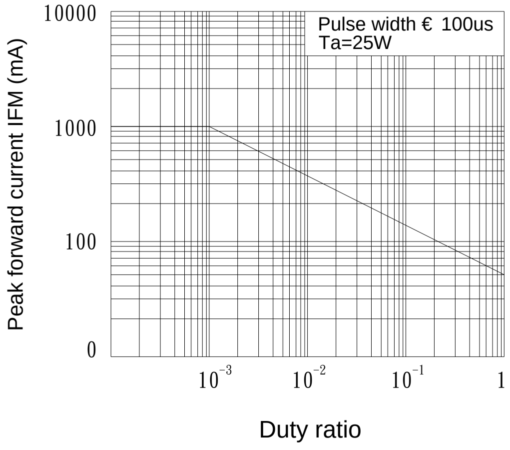
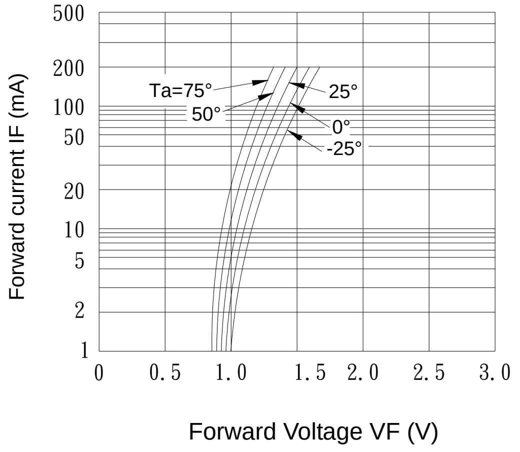


Fig.6 Forward Current vs. Forward Voltage



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-- Telecommunication equipment (trunk lines).
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