Mini-flat package AC Input type Photo Coupler KPC354NT

UL 1577 (File No.E169586)

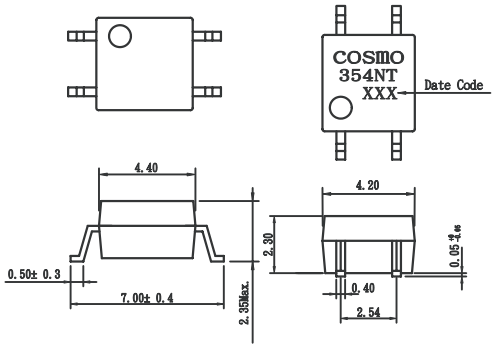
Features

1. AC inputs.
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).

Applications

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

Outside Dimension : Unit (mm)

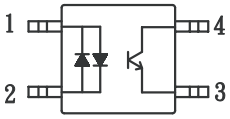


t=0.254±0.05mm
TOLERANCE :± 0.2mm

Classification table of current transfor ratio is shown below.

RANK MARK	CTR(%)
A	50 TO 150
B	20 TO 400

Schematic : Top View



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

Absolute Maximum Ratings

(Ta=25℃)

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}	60	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	-30 to +100	°C
Storage temperature		Tstg	-40 to +125	°C
Soldering temperature 10 second		Tsol	260	°C

Electro-optical Characteristics

(Ta=25℃)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	I_F =± 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}	I_C =0.1mA, I_F=0	60	—	—	V
	Emitter- collector breakdown voltage	BV_{ECO}	I_E =100uA, I_F=0	5	—	—	V
Transfer charac-teristics	Current transfer ratio	C_{TR}	I_F =± 1mA, V_{CE}=5V	20	–	400	%
	Collector-emitter saturation voltage	V_{CE} (sat)	I_F =± 20mA, I_C=1mA	—	0.1	0.3	V
	Isolation resistance	Riso	DC500V,40 to 60%RH	$5X10^{10}$	10^{11}	—	ohm
	Floating capacitance	Cf	V =0, f =1MHz	—	0.6	1.0	pF
	Respone time (Rise)	tr	V_{CE} =2V, I_C =2mA, R_L =100ohm	—	4	18	us
	Respone time (Fall)	tf		—	3	18	us

Fig.1 Forward Current vs. Ambient Temperature

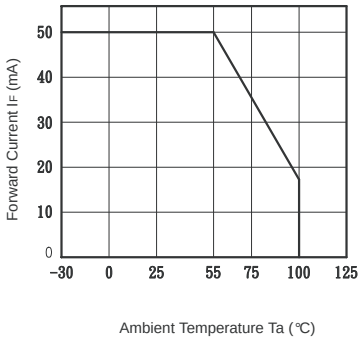


Fig.2 Diode Power Dissipation vs. Ambient Temperature

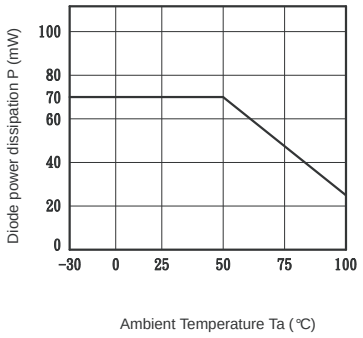


Fig.3 Collector Power Dissipation vs. Ambient Temperature

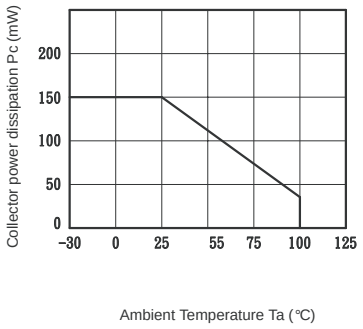


Fig.4 Total Power Dissipation vs. Ambient Temperature

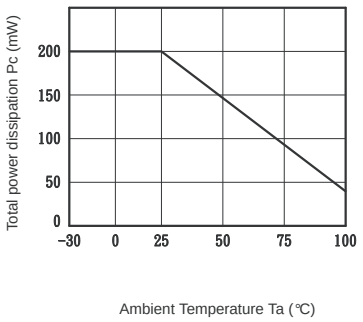


Fig.5 Peak Forward Current vs. Duty Ratio

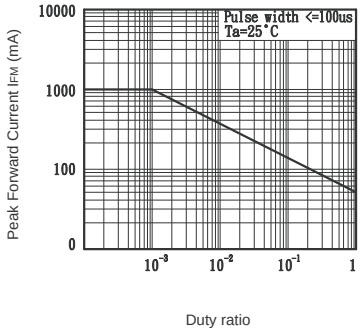


Fig.6 Forward Current vs. Forward Voltage

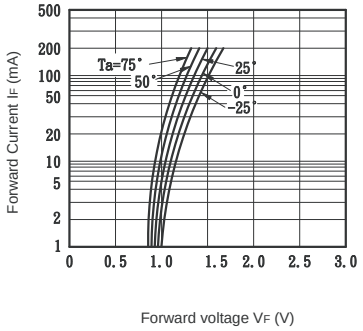


Fig.7 Current Transfer Ratio vs. Forward Current

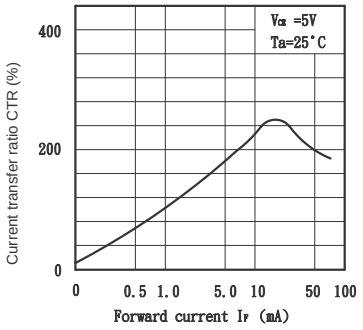


Fig.8 Collector Current vs. Collector-emitter Voltage

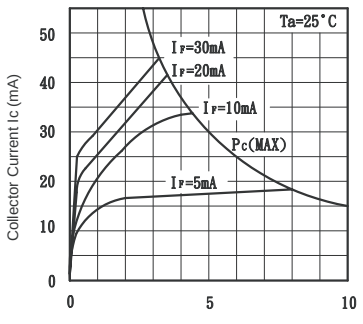


Fig.9 Relative Current Transfer Ratio vs. Ambient Temperature

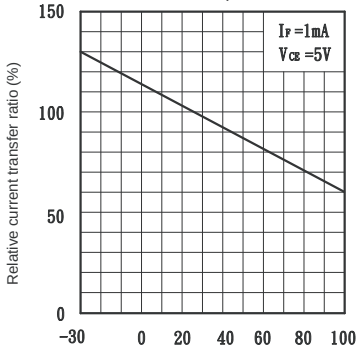


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

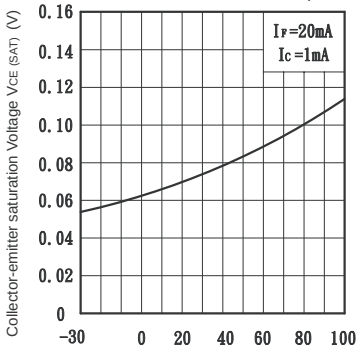


Fig.11 Collector Dark Current vs. Ambient Temperature

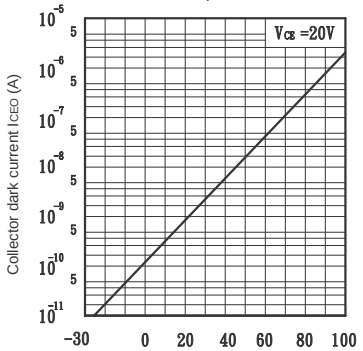


Fig.12 Response Time vs. Load Resistance