

cosmo

**Mini-flat package General purpose
Photo Coupler**

KPC357NT

UL 1577 (File No.E169586)

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%).
3. Current transfer ratio
(CTR:MIN.50% at $I_F=5mA$, $V_{ce}=5V$)
4. Isolation voltage between input and output (Viso:3750Vrms).

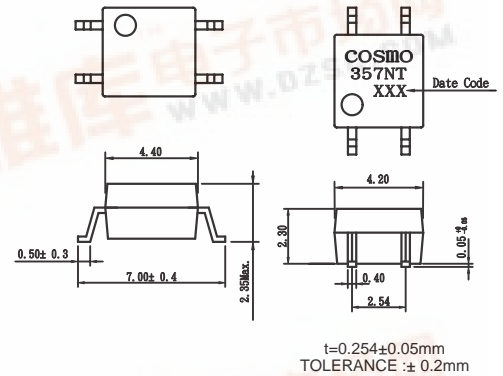
Applications

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

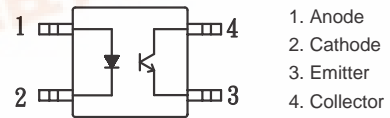
Classification table of current transfer ratio is shown below.

Model NO.	CTR (%)
A	80 TO 160
B	130 TO 260
C	200 TO 400
D	300 TO 600
E	50 TO 600

Outside Dimension : Unit (mm)



Schematic : Top View



Absolute Maximum Ratings

($T_a=25^\circ C$)

	Parameter	Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	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	P_{tot}	170	mW
	Isolation voltage 1 minute	Viso	3750	Vrms
	Operating temperature	T_{opr}	-30 to +100	$^\circ C$
	Storage temperature	T_{stg}	-40 to +125	$^\circ C$
	Soldering temperature 10 seconds	T_{sol}	260	$^\circ C$

Electro-optical Characteristics

($T_a=25^\circ C$)

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F=20mA$	—	1.2	1.4	V
	Reverse current	I_R	$V_R=4V$	—	—	10	μA
	Terminal capacitance	C_t	$V=0, f=1kHz$	—	30	250	pF
Output	Collector dark current	I_{CEO}	$V_{CE}=20V, I_F=0$	—	—	0.1	μA
	Collector-emitter breakdown voltage	BV_{CEO}	$I_C=0.1mA, I_F=0$	60	—	—	V
	Emitter-collector breakdown voltage	BV_{ECO}	$I_E=100\mu A, I_F=0$	5	—	—	V
Transfer characteristics	Current transfer ratio	CTR	$I_F=5mA, V_{CE}=5V$	50	—	600	%
	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	5×10^{10}	10^{11}	—	ohm
	Floating capacitance	C_f	$V=0, f=1MHz$	—	0.6	1.0	pF
	Response time (Rise)	t_r	$V_{CE}=2V, I_C=2mA, R_L=100ohm$	—	5	20	μs
Response time (Fall)	t_f	—		4	20	μs	



Fig.1 Forward Current vs. Ambient Temperature

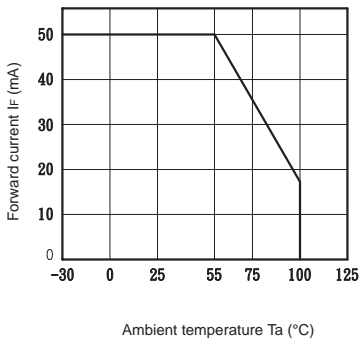


Fig.2 Diode Power Dissipation vs. Ambient Temperature

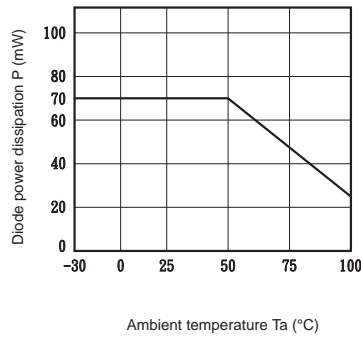


Fig.3 Collector Power Dissipation vs. Ambient temperature

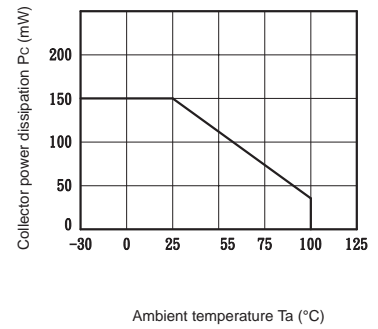


Fig.4 Total Power Dissipation vs. Ambient temperature

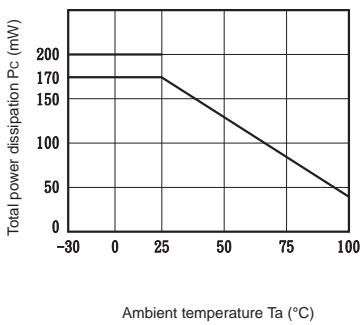


Fig.5 Peak Forward Current vs. Duty Ratio

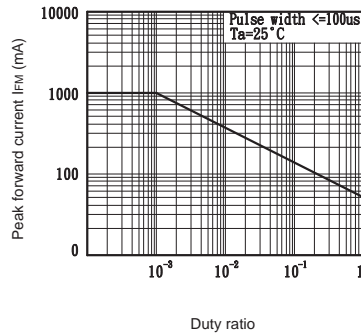


Fig.6 Forward Current vs. Forward Voltage

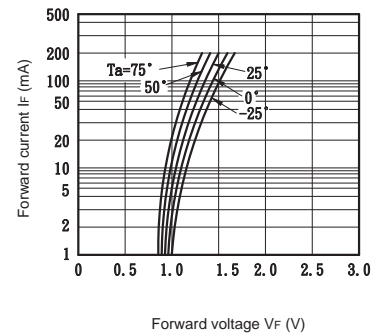


Fig.7 Current Transfer Ratio vs. Forward Current

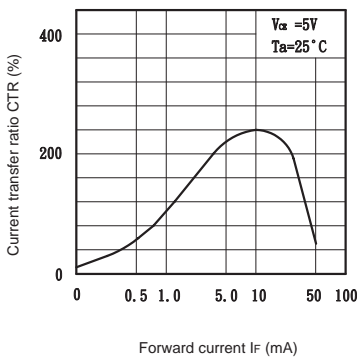


Fig.8 Collector Current vs. Collector-emitter Voltage

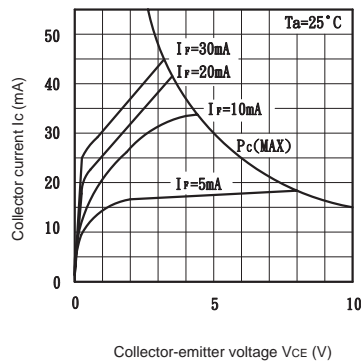


Fig.9 Relative Current Transfer Ratio vs. Ambient Temperature

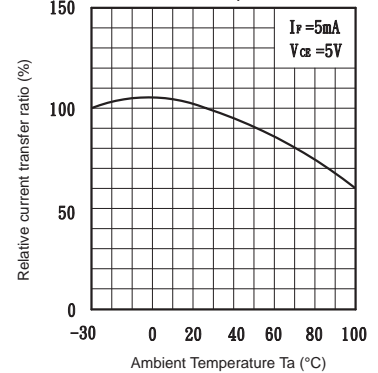


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

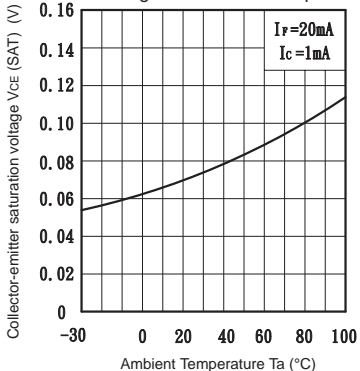


Fig.11 Collector Dark Current vs. Ambient Temperature

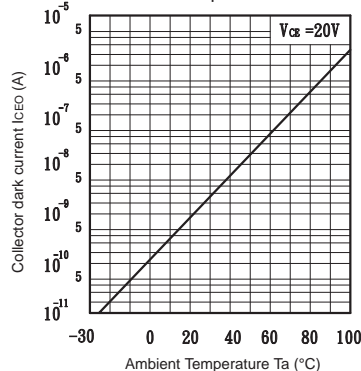


Fig.12 Response Time vs. Load Resistance

