

**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 If=5mA, Vce=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 280
C	200 TO 400
D	300 TO 600
E	50 TO 600

**Absolute Maximum Ratings**

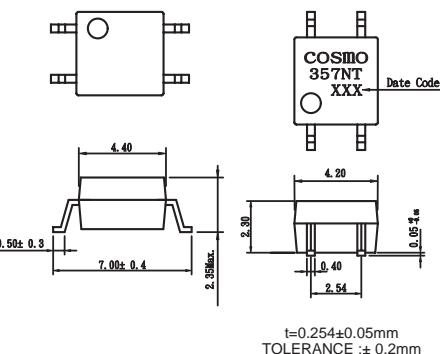
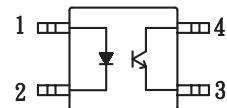
(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	If	50	mA
	Peak forward current	Ifm	1	A
	Reverse voltage	Vr	6	V
	Power dissipation	P	70	mW
Output	Collector-emitter voltage	VCEO	60	V
	Emitter-collector voltage	VECO	5	V
	Collector current	Ic	50	mA
	Collector power dissipation	Pc	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 seconds	Tsol	260	°C

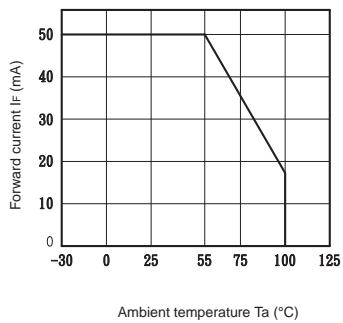
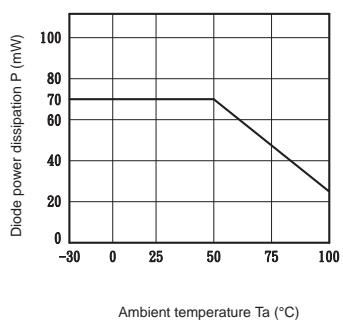
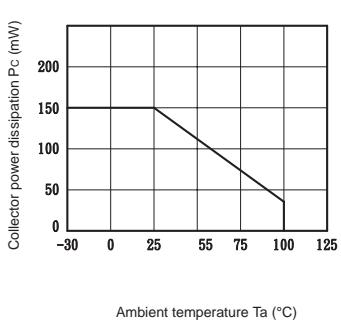
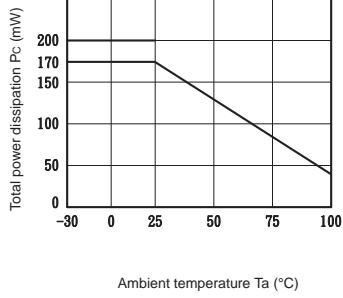
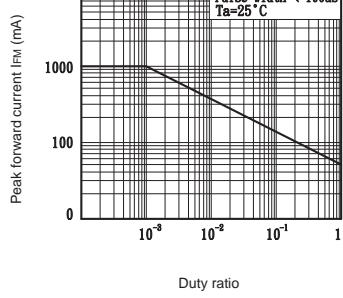
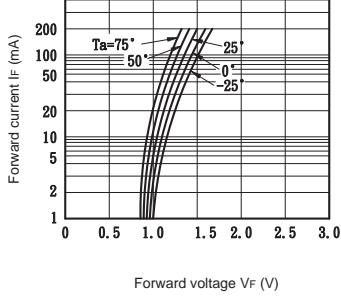
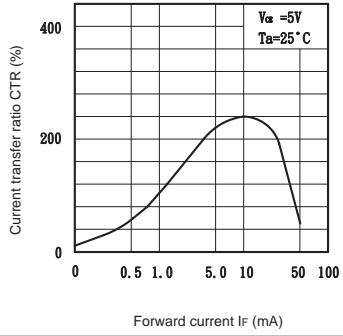
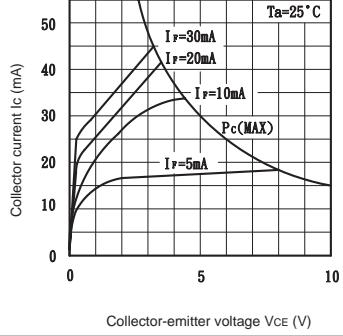
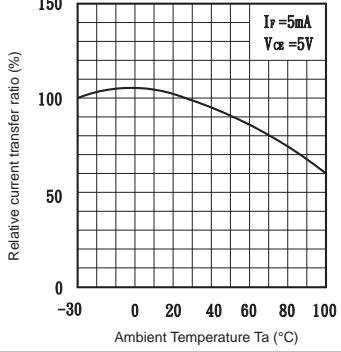
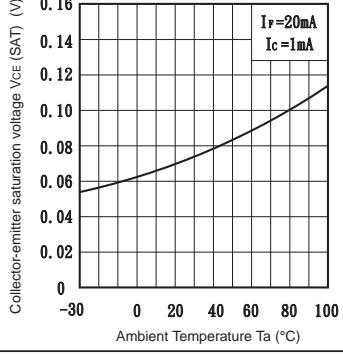
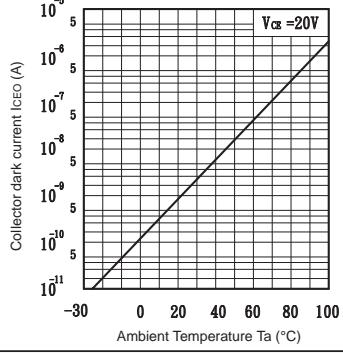
**Electro-optical Characteristics**

(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	Vf	If = 20mA	—	1.2	1.4	V
	Reverse current	Ir	VR = 4V	—	—	10	uA
	Terminal capacitance	Ct	V=0, f=1kHz	—	30	250	pF
Output	Collector dark current	ICeo	Vce = 20V, If = 0	—	—	0.1	uA
	Collector-emitter breakdown voltage	BVCEO	Ic = 0.1mA, If = 0	60	—	—	V
	Emitter-collector breakdown voltage	BVECO	Ie = 100uA, If = 0	5	—	—	V
Transfer characteristics	Current transfer ratio	CTR	If = 5mA, Vce = 5V	50	—	600	%
	Collector-emitter saturation voltage	Vce (sat)	If = 20mA, Ic = 1mA	—	0.1	0.3	V
	Isolation resistance	Riso	DC500V, 40 to 60%RH	5X10 <sup>10</sup>	10 <sup>11</sup>	—	ohm
	Floating capacitance	Cf	V=0, f=1MHz	—	0.6	1.0	pF
	Response time (Rise)	tr	Vce = 2V, Ic = 2mA, RL = 100ohm	—	5	20	us
	Response time (Fall)	tf		—	4	20	us

**Outside Dimension : Unit (mm)****Schematic : Top View**

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

**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