



## Features

1. AC inputs.
2. Opaque type, SOP 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)

**Part Numbering System:** Page 2. **Part Marking System:** Page 3.

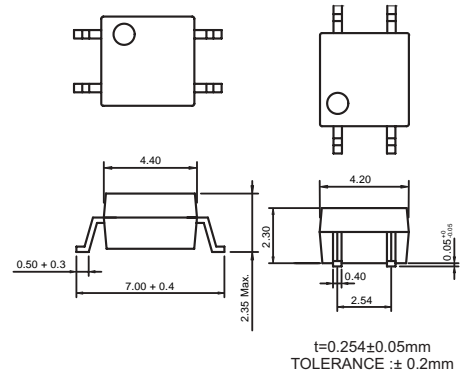
## Applications

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

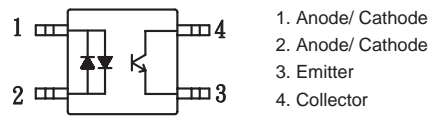
Classification table of current transfer ratio is shown below.

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

## Outside Dimension: Unit (mm)



## Schematic: Top View



## Absolute Maximum Ratings

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	± 50	mA
	Peak forward current	IFM	± 1	A
	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 second		Tsol	260	°C

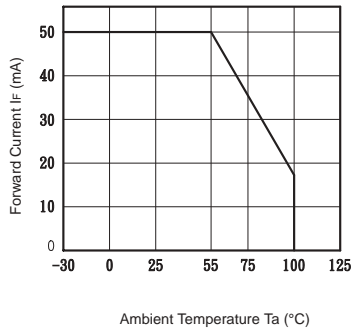
## Electro-optical Characteristics

(Ta=25°C)

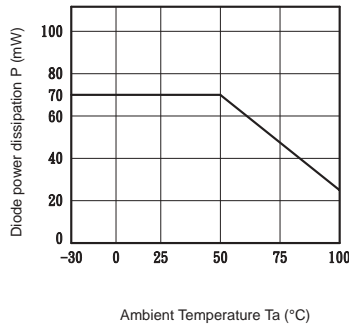
Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF	IF = ± 20mA	—	1.2	1.4	V
	Terminal capacitance	Ct	V = 0, f = 1kHz	—	30	250	pF
Output	Collector dark current	ICEO	VCE = 20V, IF = 0	—	—	0.1	uA
	Collector-emitter breakdown voltage	BVCEO	IC = 0.1mA, IF = 0	60	—	—	V
	Emitter-collector breakdown voltage	BVECO	IE = 100uA, IF = 0	5	—	—	V
Transfer characteristics	Current transfer ratio	CTR	IF = ± 1mA, VCE = 5V	20	—	400	%
	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	—	4	18	us
	Response time (Fall)	tf		—	3	18	us



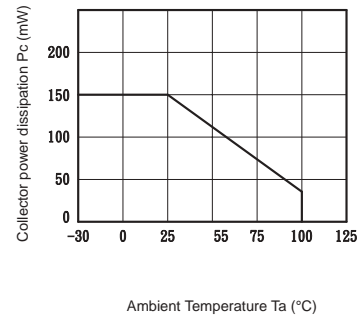
**Fig.1 Forward Current vs. Ambient Temperature**



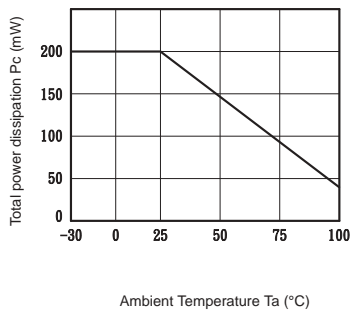
**Fig.2 Diode Power Dissipation vs. Ambient Temperature**



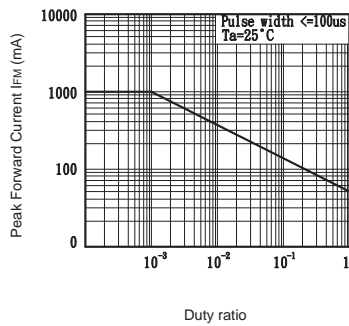
**Fig.3 Collector Power Dissipation vs. Ambient Temperature**



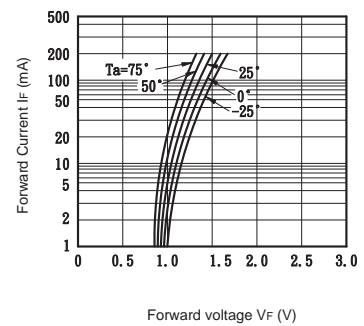
**Fig.4 Total Power Dissipation vs. Ambient Temperature**



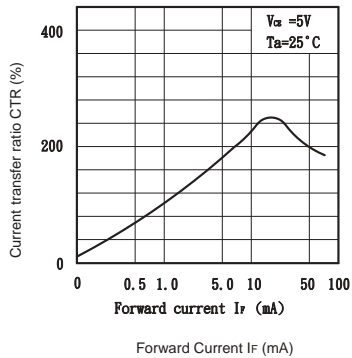
**Fig.5 Peak Forward Current vs. Duty Ratio**



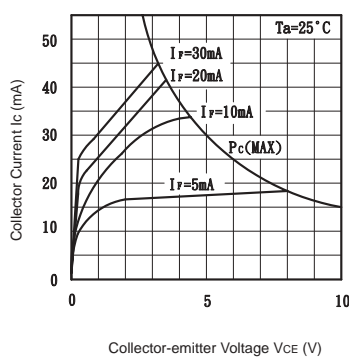
**Fig.6 Forward Current vs. Forward Voltage**



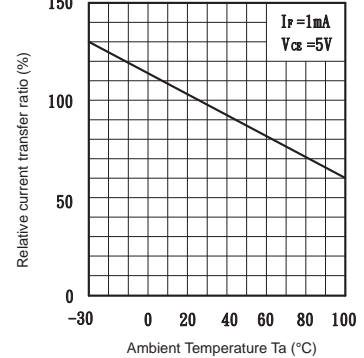
**Fig.7 Current Transfer Ratio vs. Forward Current**



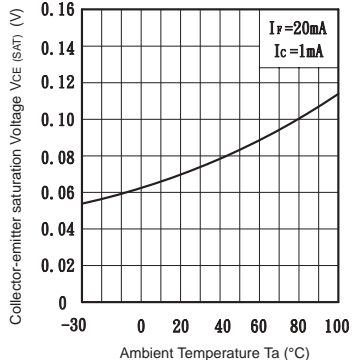
**Fig.8 Collector Current vs. Collector-emitter Voltage**



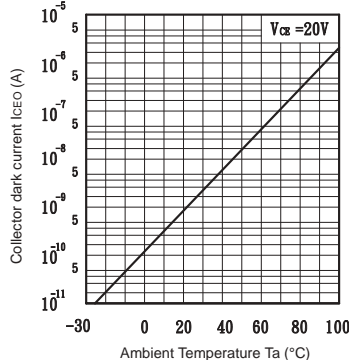
**Fig.9 Relative Current Transfer Ratio vs. Ambient Temperature**



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



**Fig.11 Collector Dark Current vs. Ambient Temperature**



**Fig.12 Response Time vs. Load Resistance**

