

## ■ Absolute Maximum Ratings (T<sub>a</sub>=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I <sub>F</sub>	50	mA
	Reverse voltage	V <sub>R</sub>	6	V
	Power dissipation	P <sub>D</sub>	75	mW
Output	Collector-emitter voltage	V <sub>CEO</sub>	35	V
	Emitter-collector voltage	V <sub>ECO</sub>	6	V
	Collector current	I <sub>C</sub>	20	mA
	Collector power dissipation	P <sub>C</sub>	75	mW
Total power dissipation		P <sub>tot</sub>	100	mW
Operating temperature		T <sub>opr</sub>	-25 to +85	°C
Storage temperature		T <sub>stg</sub>	-40 to +100	°C
*1 Soldering temperature		T <sub>sol</sub>	260	°C

\*1 For 5s or less

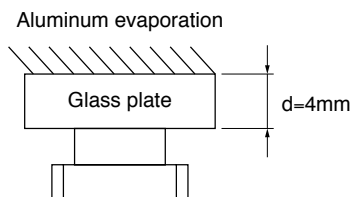
## ■ Electro-optical Characteristics (T<sub>a</sub>=25°C)

Parameter		Symbol	Condition	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	-	1.2	1.4	V
	Reverse current	I <sub>R</sub>	V <sub>R</sub> =6V	-	-	10	μA
Output	Collector dark current	I <sub>CEO</sub>	V <sub>CE</sub> =20V	-	1	100	nA
Transfer characteristics	*2 Collector current	I <sub>C</sub>	I <sub>F</sub> =4mA, V <sub>CE</sub> =2V	60	-	410	μA
	*3 Leak current	I <sub>LEAK</sub>	I <sub>F</sub> =4mA, V <sub>CE</sub> =2V	-	-	700	nA
	Response time	Rise time	t <sub>r</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =100μA, R <sub>L</sub> =1kΩ, d=4mm	-	20	100
Fall time		t <sub>f</sub>	-		20	100	

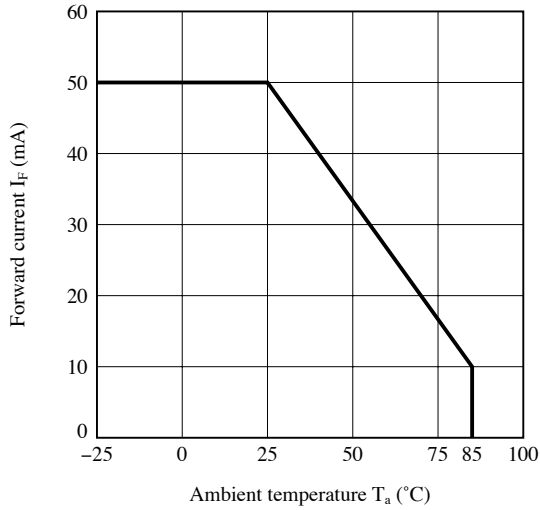
\*2 The condition and arrangement of the reflective object are shown below.

\*3 Without reflective object.

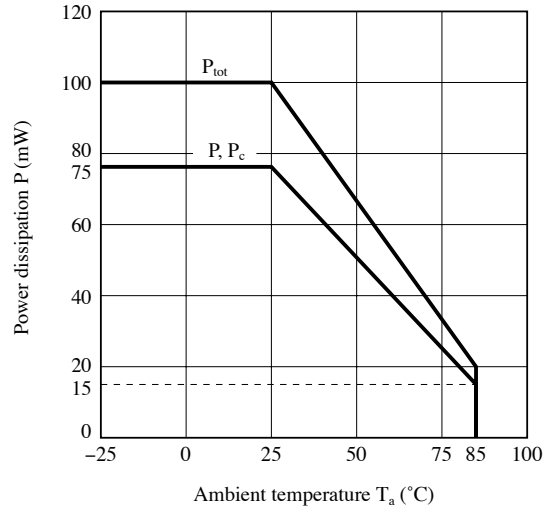
### ● Test Condition and Arrangement for Collector Current



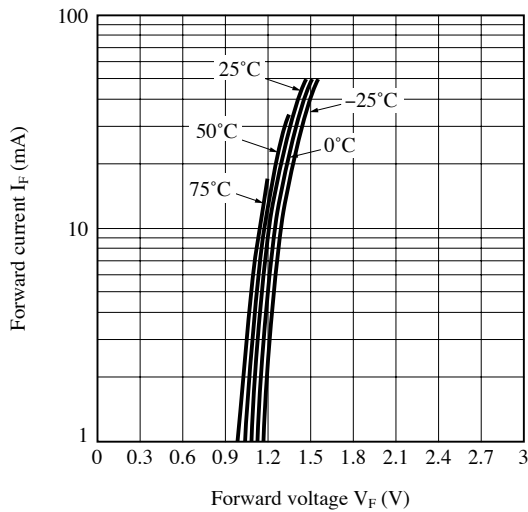
**Fig.1 Forward Current vs. Ambient Temperature**



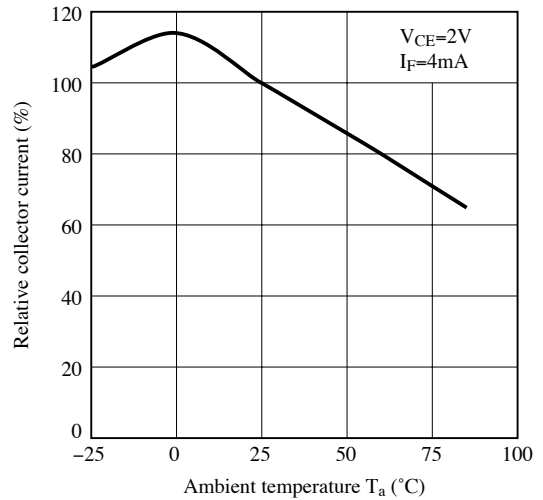
**Fig.2 Collector Power Dissipation vs. Ambient Temperature**



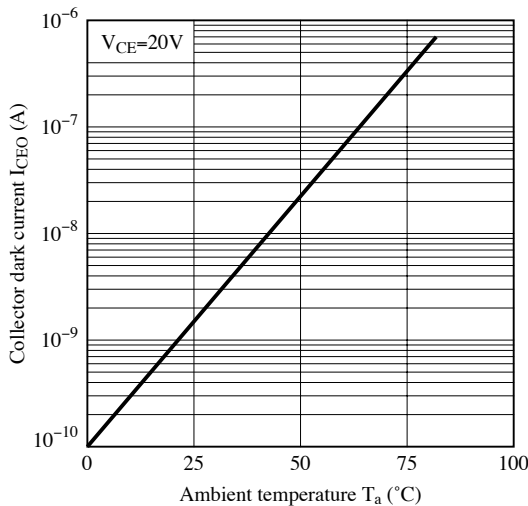
**Fig.3 Forward Current vs. Forward Voltage**



**Fig.4 Relative Collector Current vs. Ambient Temperature**



**Fig.5 Collector Dark Current vs. Ambient Temperature**



**Fig.6 Response Time vs. Load Resistance**

