

SG - 2BC

The SG - 2BC reflective sensor combines a GaAs IRED with a high - sensitivity phototransistor in a super - mini (4 ) ceramic package, reducing installation space.

**FEATURES**

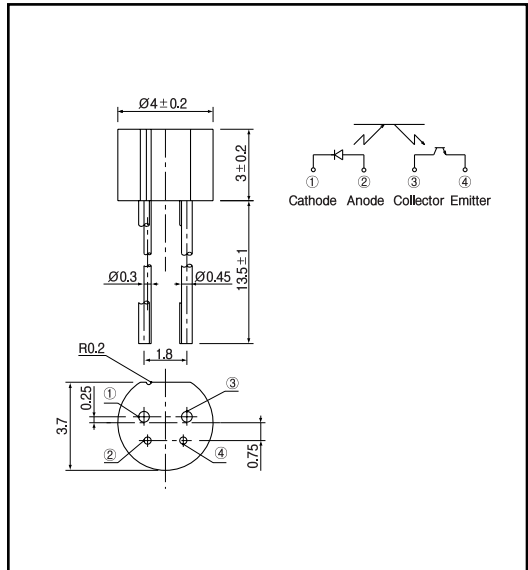
- Compact (ø4mm)
- High performance
- High - speed response
- Easy to mount on P.C.B.
- Widely applicable

**APPLICATIONS**

- Timing sensors
- Edge sensors
- Micro floppy disk drives
- Level sensors of liquid

**DIMENSIONS**

(Unit : mm)



**MAXIMUM RATINGS**

(Ta=25 )

	Item	Symbol	Rating	Unit
Input	Power dissipation	P <sub>D</sub>	75	mW
	Reverse voltage	V <sub>R</sub>	5	V
	Forward current	I <sub>F</sub>	50	mA
	Pulse forward current *1	I <sub>FP</sub>	1	A
Output	Collector power dissipation	P <sub>C</sub>	75	mW
	Collector current	I <sub>C</sub>	20	mA
	C - E voltage	V <sub>CEO</sub>	30	V
	E - C voltage	V <sub>ECD</sub>	3	V
	Operating temp.	T <sub>opr.</sub>	- 20 + 90	
	Storage temp.	T <sub>stg.</sub>	- 30 + 100	
	Soldering temp.	T <sub>sol.</sub>	260	

\*1. t w 100 μsec.period :T=10msec.

\*2. For MAX. 5 seconds at the position of 2mm from the package

**ELECTRO-OPTICAL CHARACTERISTICS**

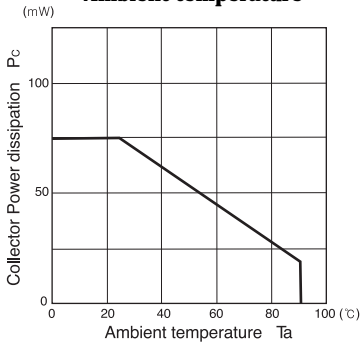
(Ta=25 )

	Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 4mA			1.2	V
	Reverse current	I <sub>R</sub>	V <sub>R</sub> = 5V			10	μA
	Capacitance	C <sub>t</sub>	V = 0V, f = 1KHz		25		pF
	Peak wavelength	λ			940		nm
Output	Collector dark current	I <sub>CEO</sub>	V <sub>CE</sub> = 10V			0.1	μA
	Ligh current	I <sub>L</sub>	V <sub>CE</sub> = 2V, I <sub>F</sub> = 4mA		100		μA
	Leakage current	I <sub>CEO0</sub>	V <sub>CE</sub> = 2V, I <sub>F</sub> = 4mA			0.1	μA
Switching speeds	Rise time	t <sub>r</sub>	V <sub>CC</sub> = 2V, I <sub>F</sub> = 100μA, R = 1k		30		μsec.
	Fall time	t <sub>f</sub>			30		μsec.

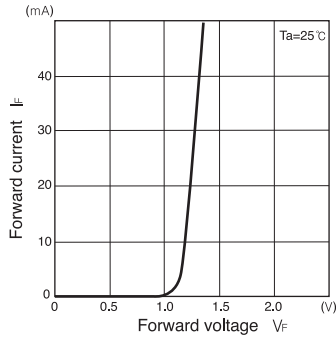
Photo interrupters(Reflective)

SG - 2BC

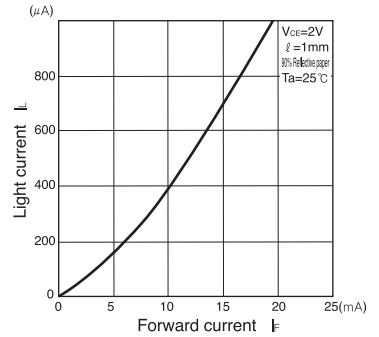
**Collector power dissipation Vs. Ambient temperature**



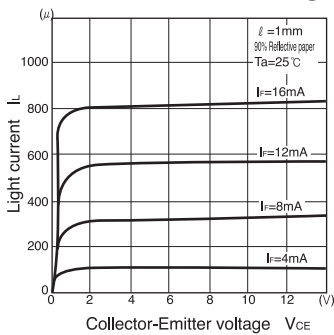
**Forward current Vs. Forward voltage**



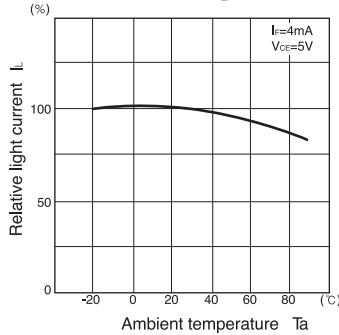
**Light current Vs. Forward current**



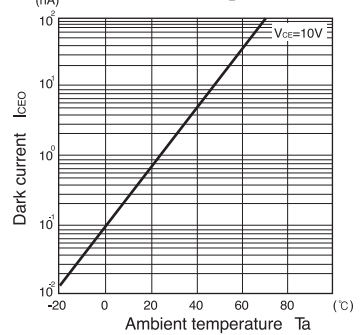
**Light current Vs. Collector-Emitter voltage**



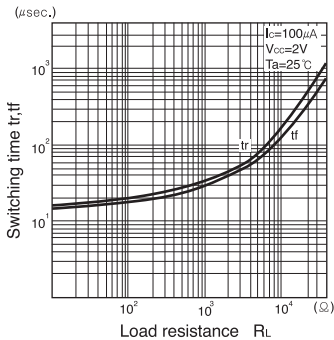
**Relative light current Vs. Ambient temperature**



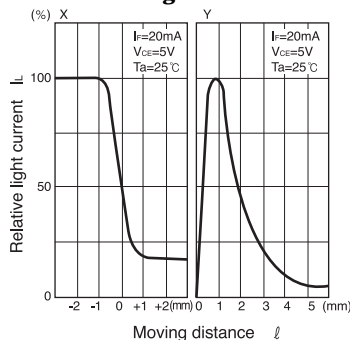
**Dark current Vs. Ambient temperature**



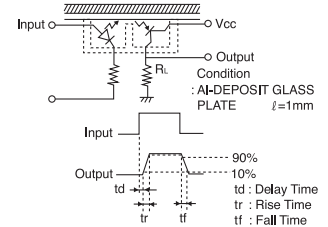
**Switching time Vs. Load resistance**



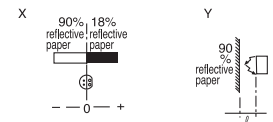
**Relative light current Vs. Moving distance**



Switching time measurement circuit



Method of measuring position characteristic



This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.