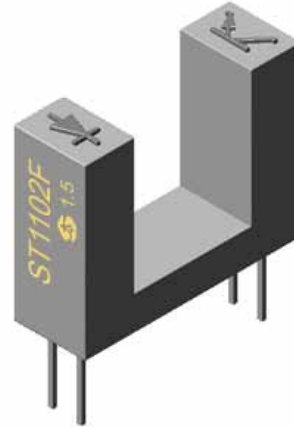


ST1102F

Features

- Dust-proof package, for cards position detection.
- Combines high output GaAs IRED with high sensitive phototransistor.
- No contact detecting manner
- Slit width(resolution):1.6mm
- Meet RoHS



Applications

- Facsimiles
- Printers
- Copiers
- Opto-electronic switch
- Ticket vending machine

Absolute Maximum Ratings

(Ta=25)

Item		Symbol	Rating	Unit
Input	Farward Current	IF	50	mA
	Reverse Voltage	Vr	6	V
	Power Dissipation	P	75	mW
	Forward Peak Current*1	IFP	1	A
Output	Collector-Emitter Voltage	Vceo	30	V
	Emitter-Collector Voltage	Veco	6	V
	Collector power dissipation	Pc	50	mW
Operating Temperature*2		Topr	-20 ~ +65	
Storage Temperature		Tstg	-30 ~ +75	
Soldering Temperature*3		Tsol	260	

*1. Pules Width 100 μs, Duty ratio=1%

*2. Higher operating temperature could be met according to our client's requirement.

*3. Soldering time 5s

Electro-Optical Characteristics

(Ta=25)

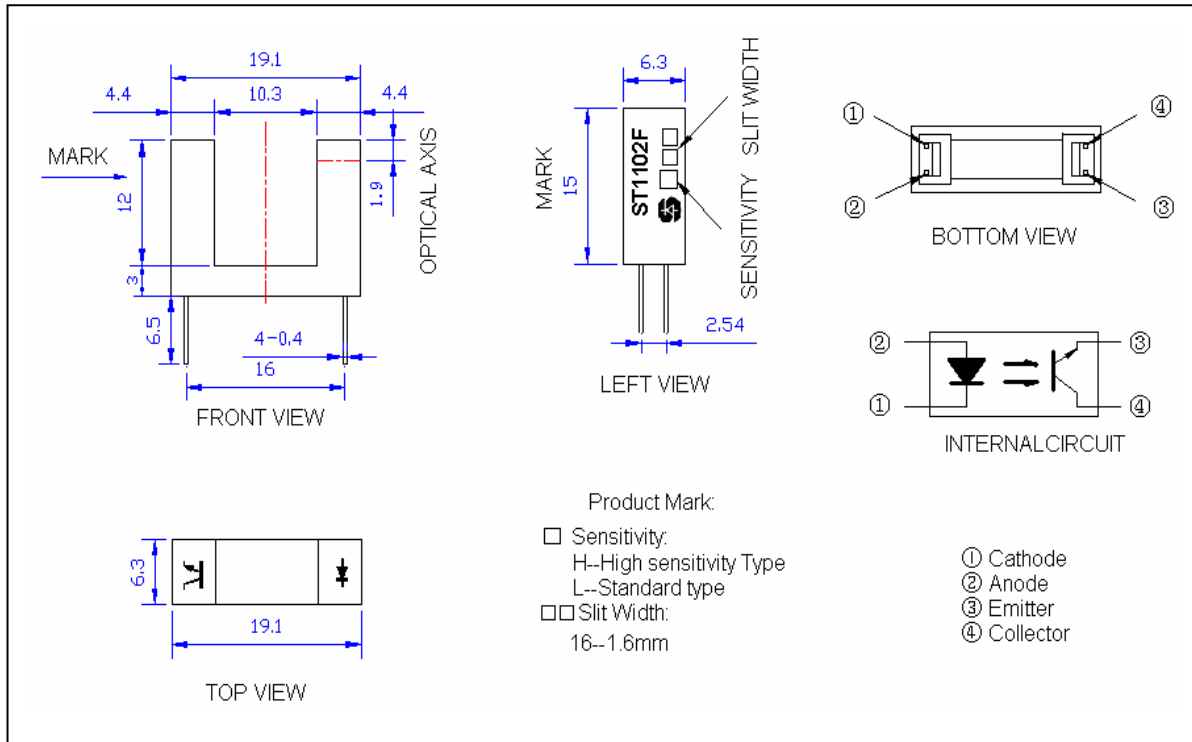
Item		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Farward Voltage	VF	IF=20mA	-	1.25	1.5	V
	Reverse Current	Ir	VR=3V	-	-	10	μA
	Peak Wavelength	p	IF=20mA	-	940	-	nm
Output	Dark Collector Current	Iceo	Vce=20V	-	-	1	μA
	Light Collector Current	ST1102FL16	Vce=5V IF=10 mA	0.25	-	-	mA
		ST1102FH16		2.5	-	-	
	Peak Wavelength	p		-	860	-	nm
Collector-Emitter Saturation voltage	VCE	IF=8 mA Ic=0.15mA	-	-	0.4	V	
Transfer Characteristics	Reaponse Time	Tr	IF=20mA Vce=5V	-	5	-	μS
		Tf	Rc=100Ω	-	5	-	μS

Material

Type	IR	PT	Lead Frame	Wire	Part Package	Holder
Material	GaAs	Silicon	SPCC	Gold	Epoxy	ABS*

*other materials of holder can be met according to our client' requirement

Dimensions



Applications

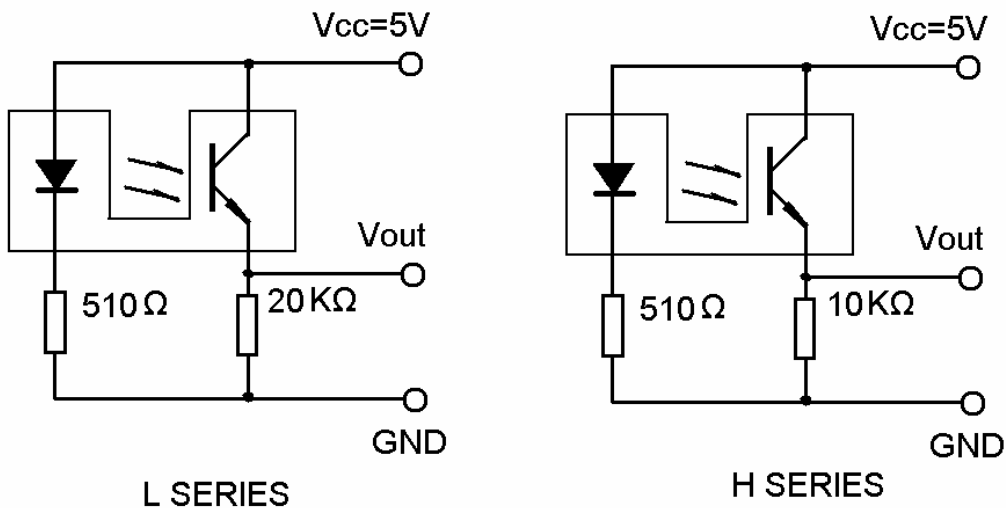


Fig. 1 Peak current vs. Duty ratio

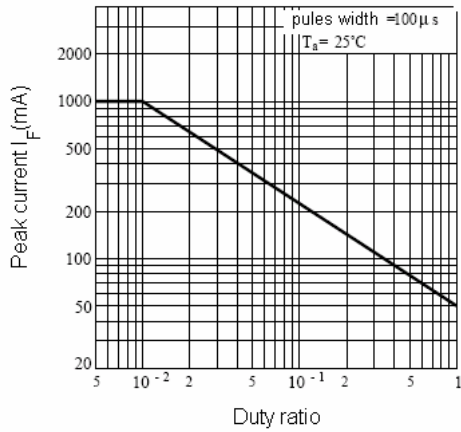


Fig. 2 Forward current vs. Forward voltage

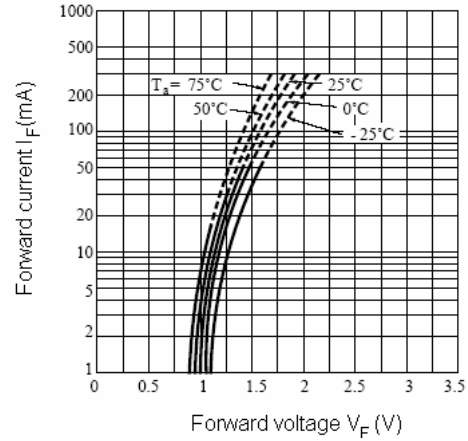


Fig.3 Forward current vs. Ambient temperature

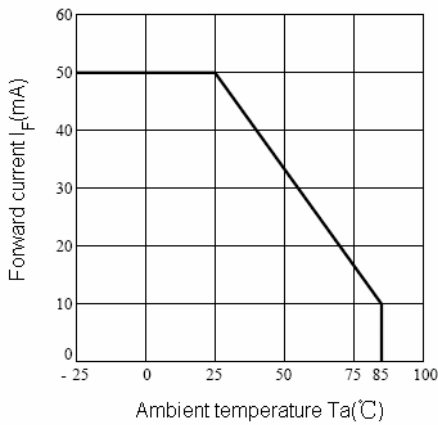


Fig.4 Collector power dissipation vs. Ambient temperature

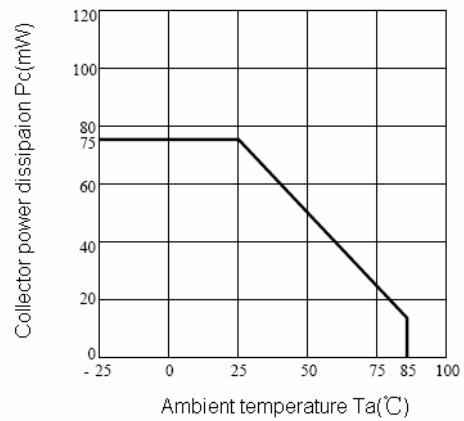


Fig. 5 Relative collector current vs. Shield(1)

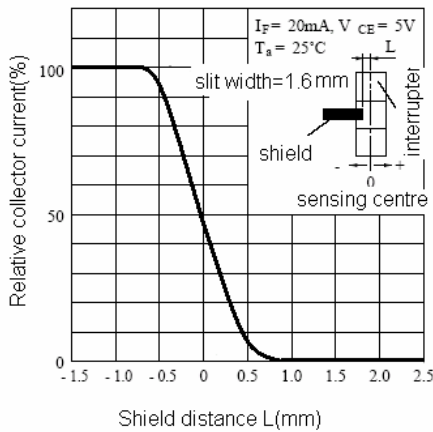


Fig. 6 Relative collector current vs. Shield(2)

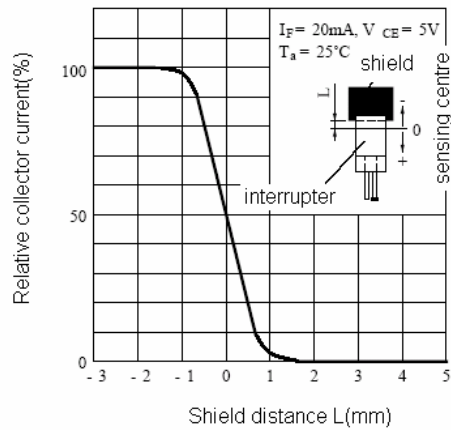


Fig. 9 Response time vs. Load resistor

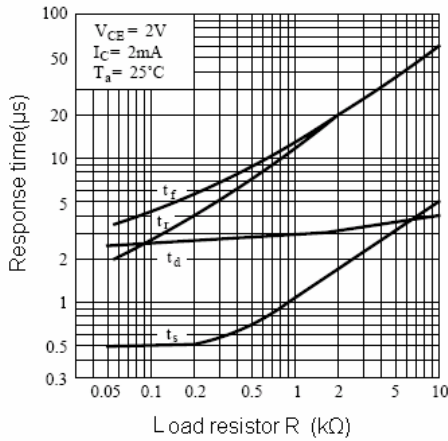


Fig. 10 Response time test circuit

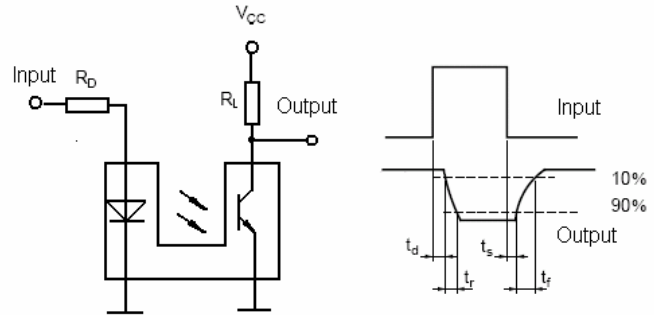


Fig. 11 Collector current vs. Collector-Emitter voltage (Vce)

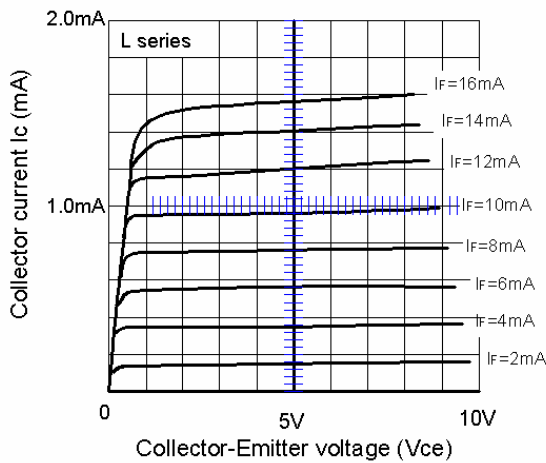


Fig. 12 Collector current vs. Collector-Emitter voltage (Vce)

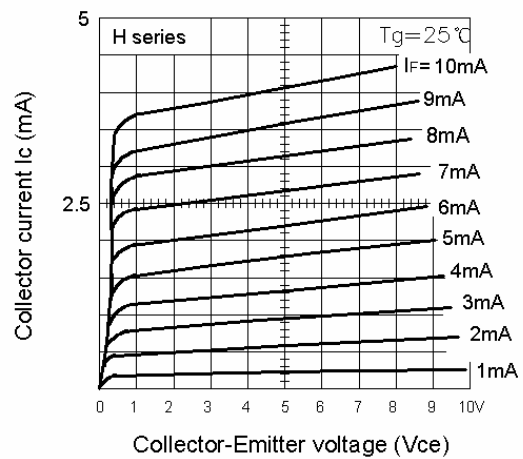


Fig. 13 Frequency response

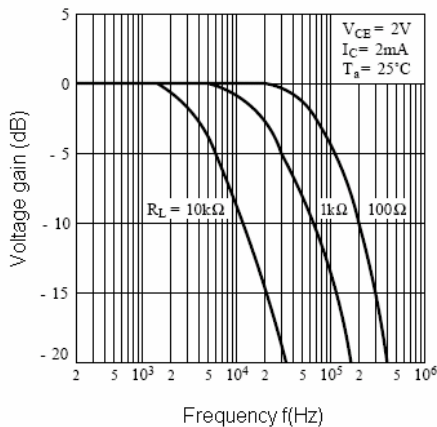


Fig. 14 Collector dark current vs. Ambient temperature

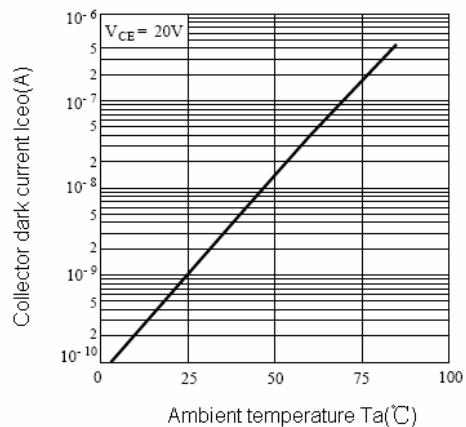
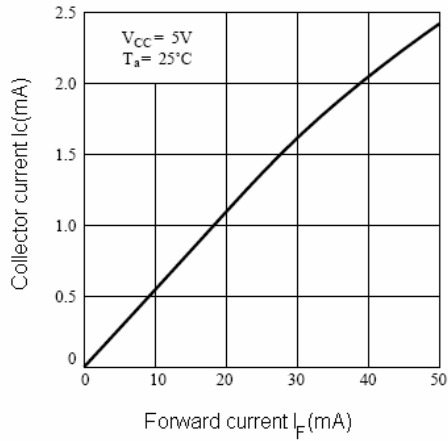


Fig. 15 Collector current vs. Forward Current



Notice

Contact our company in order to obtain the latest device datasheet before use our device. Our company reserves the rights to make the changes in the specifications, characteristics, data, materials, structures and other contents described herein at any time without notice in order to improve design or reliability.