

ST602

- Features
 - Combines high output GaAs IRED with high sensitive phototransistor.
 - Wide detection rang: 4~10mm
 - Non-contact detecting manner
- Applications
 - IC card electric power meter.
 - AMR system.
 - Water meter.
 - OA equipment: facsimile, printer, copier etc.
 - Combined with direction detector IC(ST288A), it can be used as detecting moving direction, rotating speed and moving distance etc.

- Dimensions Unit:mm
Unless otherwise specified, the tolerances at $\pm 0.2\text{mm}$

● Absolute Maximum Ratings(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward Current	I _F	50	mV
	Reverse Voltage	V _R	6	V
	Power Dissipation	P	75	mW
Output	Collector-Emitter Voltage	V _{CEO}	25	V
	Emitter-Collector Voltage	V _{ECO}	6	V
	Collector Power Dissipation	P _C	50	mW
*Operating Temperature		T _{opr}	-20~65	°C
Storage Temperature		T _{stg}	-30~75	°C
** Soldering Temperature		T _{sol}	260	°C

*The special requirement could be met according to customer's request.

**Soldering time: 5s max. Soldering position: at least 2.5mm from the base of the package.

● Electro-Optical Characteristics(Ta=25°C)

Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Input	Forward Voltage	V _F	I _F =20mA	-	1.25	1.5	V	
	Reverse Current	I _R	V _R =3V	-	-	10	μA	
Output	Collector Dark Current	I _{CEO}	V _{CE} =20V	-	-	1	μA	
	Collector Light Current	I _L	V _{CE} =5V I _F =8mA	L3	0.3	-	-	mA
				L4	0.4	-	-	
				L5	0.5	-	-	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _F =8mA I _c =0.15mA	-	-	0.4	V		
Transfer Character-istics	Response Time	Rise Time	Tr	I _F =20mA V _{CE} =5V RC=100	-	5	-	μS
		Fall Time	Tf		-	5	-	

Notes: Collector light current I_L, Collector-emitter saturation voltage V_{CE(SAT)}, Relative current , Response time are measured within 2~5mm between photointerrupter's top and reflecting surface. The value is affected by the smooth of light reflecting surface.

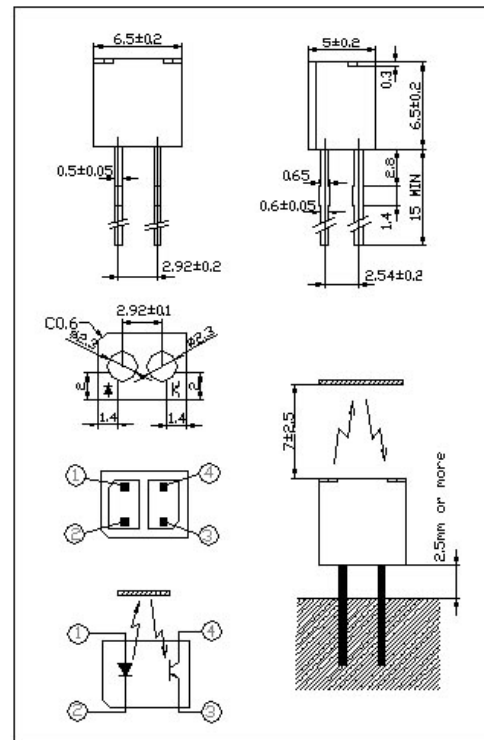


Fig.1 Forward current vs. forward voltage

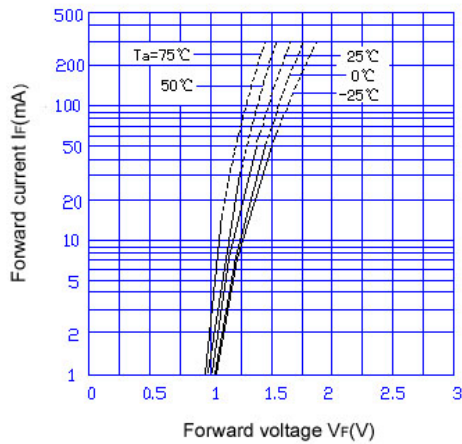


Fig.2 Relative collector current vs. distance



- Distance in Fig.2 is from photointerrupter's top to the reflecting surface.
- The reflecting surface is a sub-reflection aluminium plate. its surface is parallel to the top of photointerrupter.
- When relative collector current rises to 1.0, the conversion efficiency is the highest under this distance.
- The curves above are for you reference.