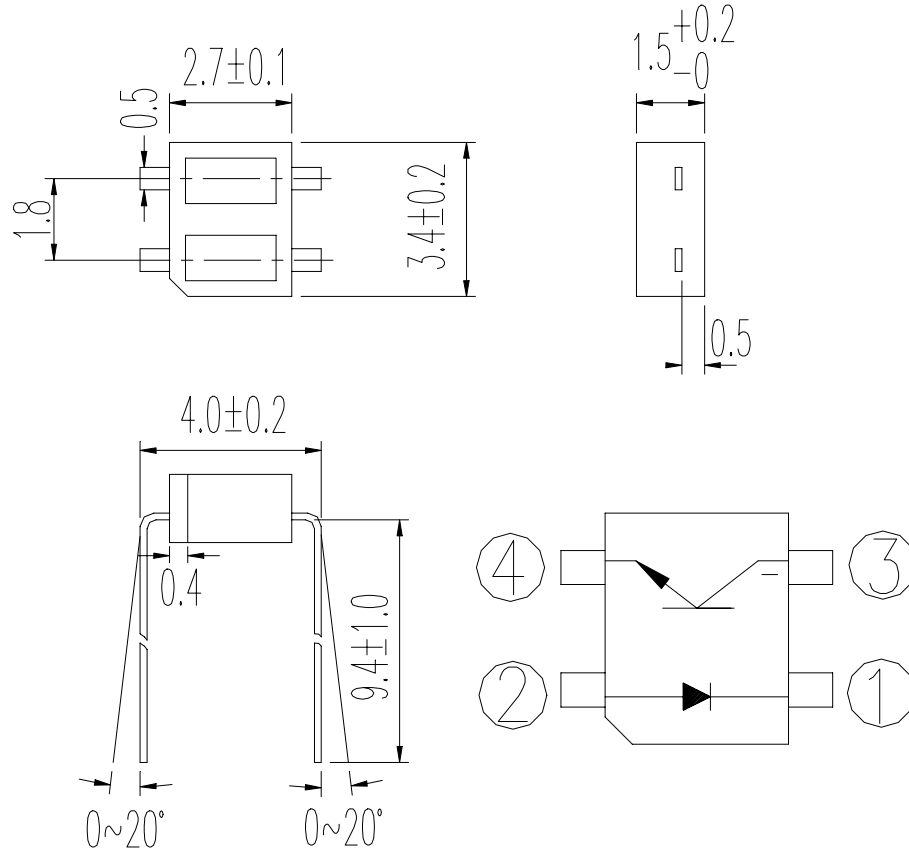


■ Package Dimensions :



- ① :CATHODE      ③ :COLLECTOR
- ② :ANODE        ④ :EMITTER

General tolerance:±0.15mm  
UNIT:mm

The specification may be changed without notice. Supplier will reserve authority on material change for above specification.

Designer	Checker	Approved

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FAX: 886-2-2267-6189

**■Features**

- Fast response time
- High sensitivity
- Non contact switching
- Thin
- Compact

**■Description**

**ITR8307/F43** is a light reflection switch which includes a GaAs IRLED transmitter and a NPN photo-transistor with a high photosensitive receiver for short distance, operating in the infrared range. Both components are mounted side-by-side in a plastic package.

**■Applications**

- Camera
- VCR
- Floppy disk driver
- Cassette type recorder
- Various microcomputer control equipment

■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation	Pd	75	mW
	Reverse Voltage	Vr	5	V
	Forward Current	If	50	mA
	Peak Forward Current (*1)	Ifp	1	A
Output	Collector Power Dissipation	Pc	100	mW
	Collector Current	Ic	50	mA
	C-E Breakdown Voltage	B Vceo	30	V
	E-C Breakdown Voltage	B Veco	5	V
Operating Temperature		Topr	-20~+70	°C
Storage Temperature		Tstg	-30~+80	°C
Soldering Temperature (*2)		Tsol	260	°C

(\*1)  $t_w=100 \mu\text{sec.}$  ,  $T=10 \text{ msec.}$  (\*2)  $t=5 \text{ Sec}$

■ Electrical Characteristics (Ta=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	$V_F$	---	1.2	1.6	V	$I_F=20\text{mA}$
	Reverse Current	$I_R$	---	---	10	$\mu\text{A}$	$V_R=5\text{V}$
	Peak Wavelength	$\lambda_P$		940		nm	
Output	Dark Current	$I_{CEO}$	---	---	100	nA	$V_{CE}=10\text{V}$
	C-E Saturation Voltage	$V_{CE}(\text{sat})$	---	---	0.4	V	$I_C=2\text{mA}$ $E_E=1\text{mW}/\text{cm}^2$
	Transfer Characteristic	Collector Current	$I_{C(ON)}$	0.1	---	---	mA $V_{CE}=5\text{V}$
	Leakage Current	$I_{LEAK}$	---	---	1	$\mu\text{A}$	$I_F=20\text{mA}$
	Rise time	$T_R$	---	20	---	$\mu\text{sec}$	$V_{CE}=2\text{V}$
	Fall time	$T_F$	---	20	---	$\mu\text{sec}$	$I_C=100 \mu\text{A}$ $R_L=1\text{K}\Omega$

### Typical Characteristics For IR

Fig. 1 Forward Current vs. Ambient Temperature

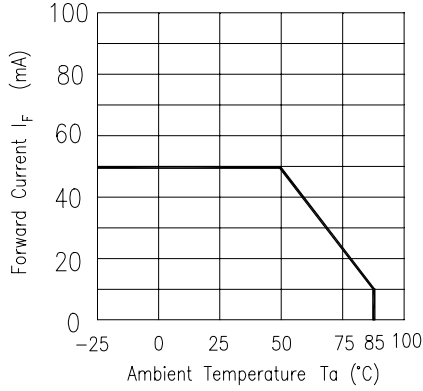


Fig. 2 Spectral Distribution

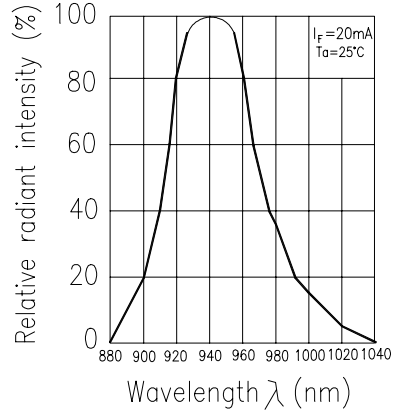


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

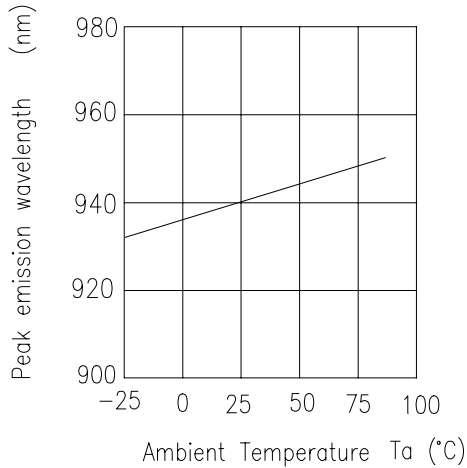


Fig. 4 Forward Current vs. Forward Voltage

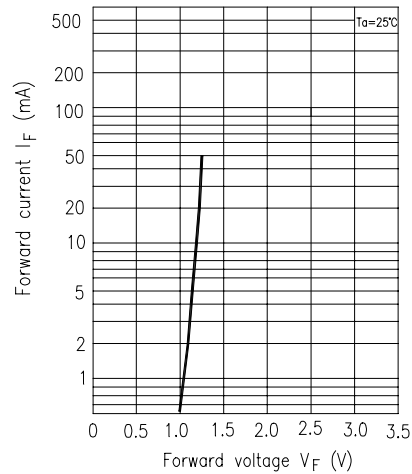


Fig. 5 Forward Voltage vs. Temperature

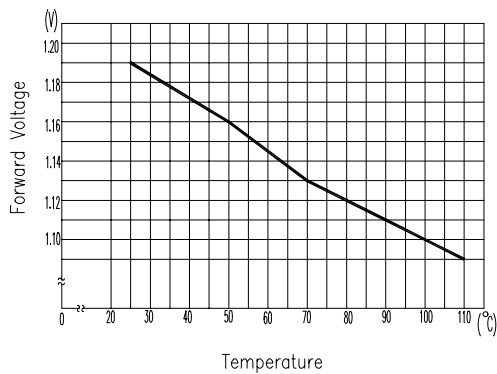
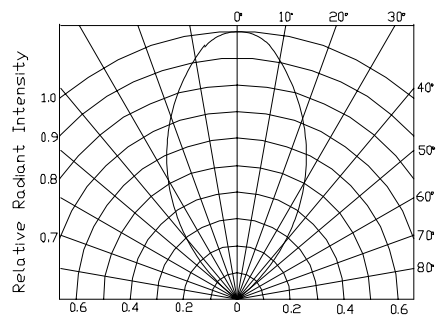


Fig. 6 Relative Radiant Intensity vs. Angular Displacement



### Typical Characteristics For PT

Fig.1 Collector Power Dissipation vs. Ambient Temperature

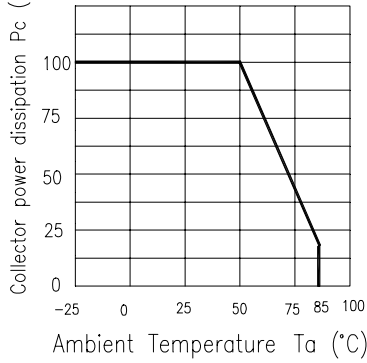


Fig.2 Collector Dark Current vs. Ambient Temperature

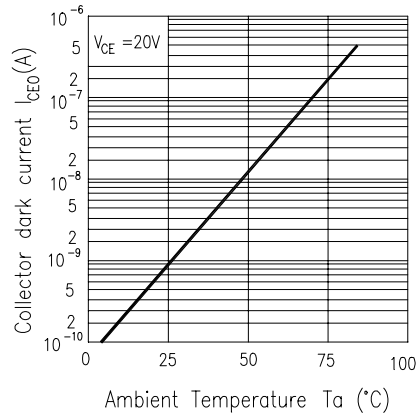


Fig. 3 Relative Collector Current vs. Ambient Temperature

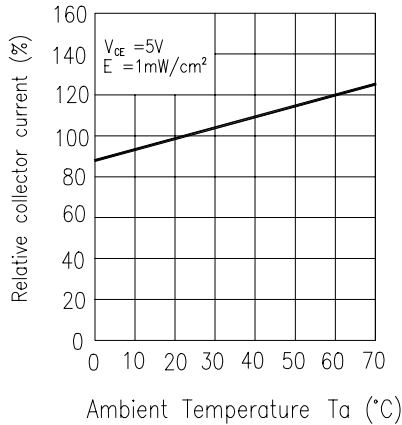


Fig.4 Collector Current vs. Irradiance

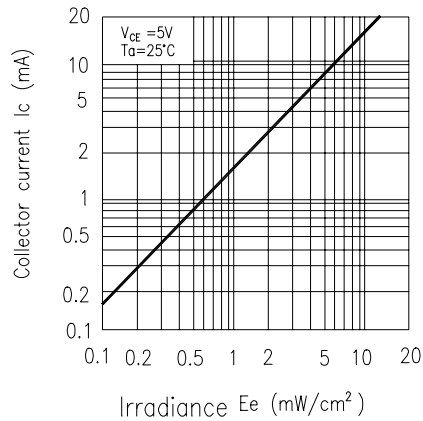


Fig.5 Spectral Sensitivity

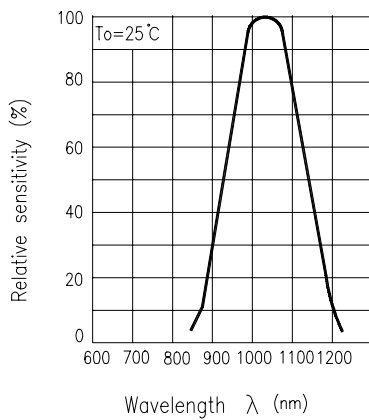
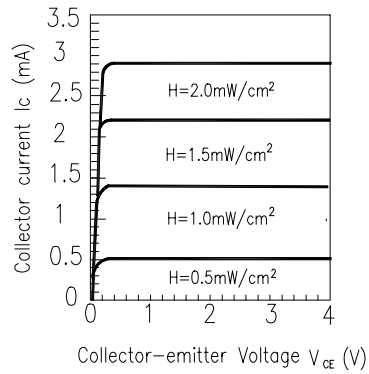


Fig.6 Collector Current vs. Collector-emitter Voltage



## Typical Characteristics For ITR

Fig.1 Relative Collector Current vs. Distance between Sensor and Al Evaporation Galss

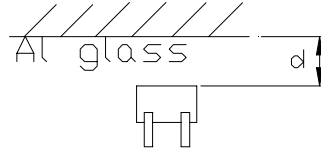
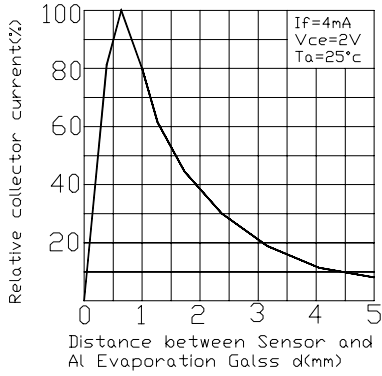


Fig.2 Relative Collector Current vs. Card Moving Distance (1)

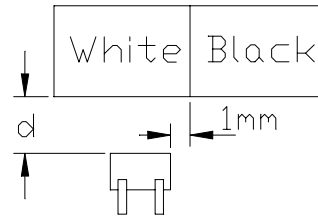
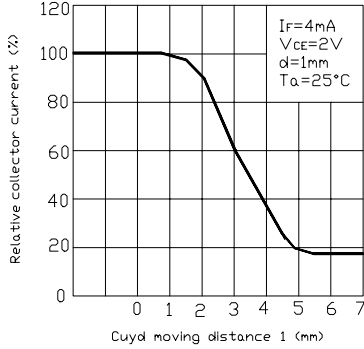


Fig.3 Response Time vs. Load Resistance

