

INFRARED EMITTER LED

General Description

The OPE-5685 is GaAlAs infrared emitter diode mounted in a T-1 $\frac{3}{4}$ plastic package.

This device features high speed rise time / fall time, and can be used as emitter of data transmission without cable.



Features

- Lens Appearance : Water Clear
- High output power
- High speed
- Meet RoHS

Applications

- Cordless data communications
- Wireless local area networks
- Cordless headphone

MAXIMUM RATINGS

(Ta=25°C)

Item	Symbol	Rating	Unit
Reverse voltage	VR	5	V
Forward direct current	IF	100	mA
Power dissipation	PD	200	mW
Pulse forward current *1	IFP	1	A
Operating temp.	Topr.	-25 ~ +75	°C
Storage temp.	Tstg.	-25 ~ +100	°C
Soldering temp. *2	Tsol.	260	°C

*1 $t_w=100\mu s$, $T=10ms$

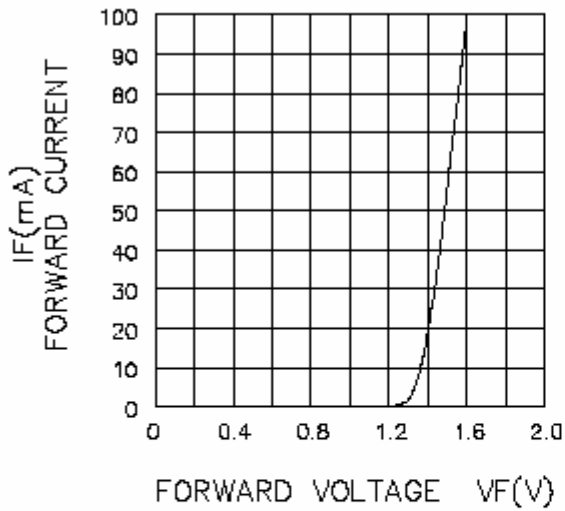
*2 5sec at location 3mm away from the base of the epoxy bulb.

ELECTRO-OPTICAL CHARACTERISTICS

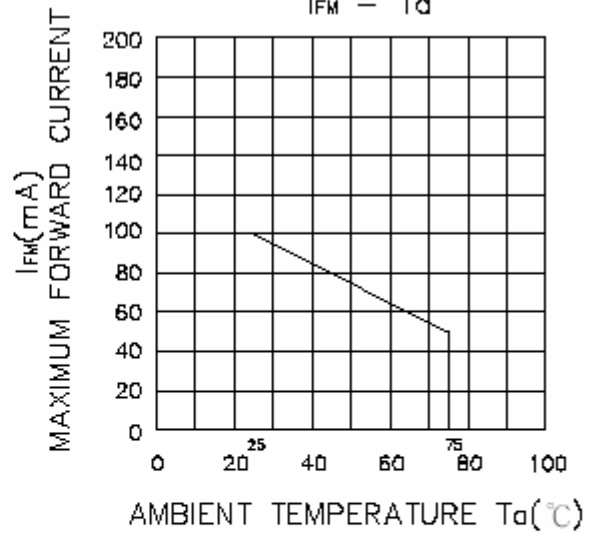
(Ta=25°C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Radiant intensity	PO	IF=50mA	20	-	80	mW/sr
Forward voltage	VF	IF=100mA	-	1.6	2.0	V
Reverse current	IR	VR=4V	-	-	10	μA
Switching Speeds	Rise time	IF=50mA	-	25	-	nsec
	Fall time		-	15	-	nsec
Peak wavelength	λ_p	IF=50mA	-	850	-	nm
Spectral band width @ 50%	$\Delta \lambda$	IF=50mA	-	42	-	nm
Half angle	$\Delta \theta$	IF=50mA	-	± 20	-	deg.

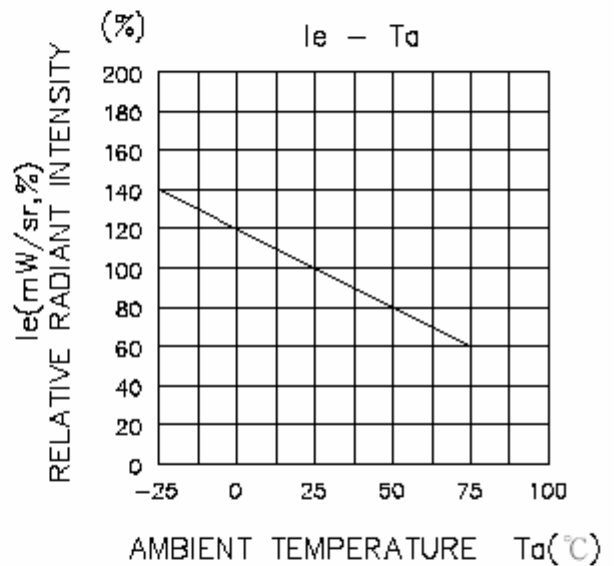
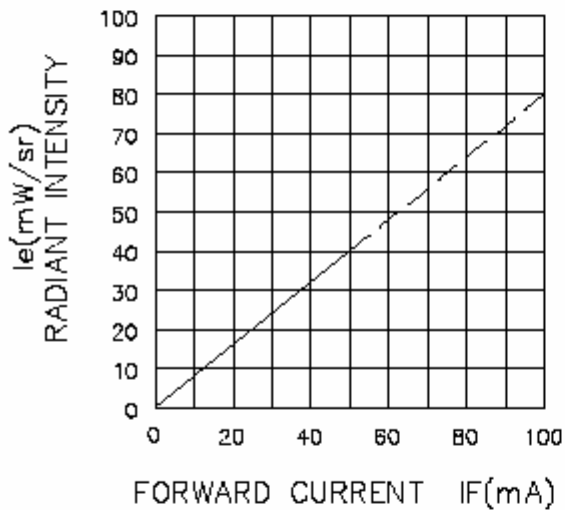
$I_F - V_F$ ($T_a=25^\circ\text{C}$)



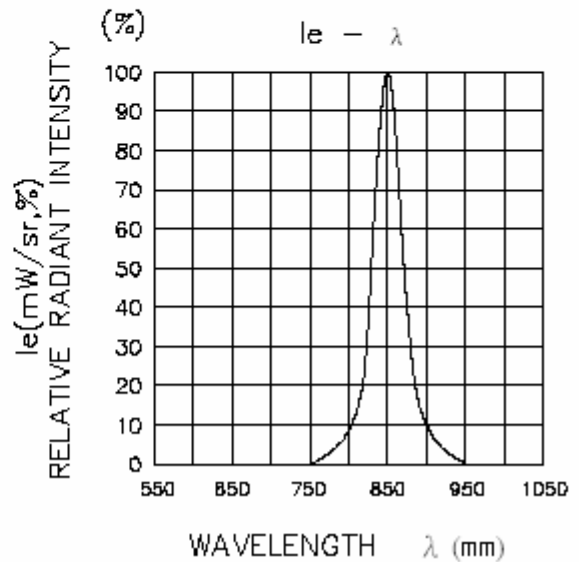
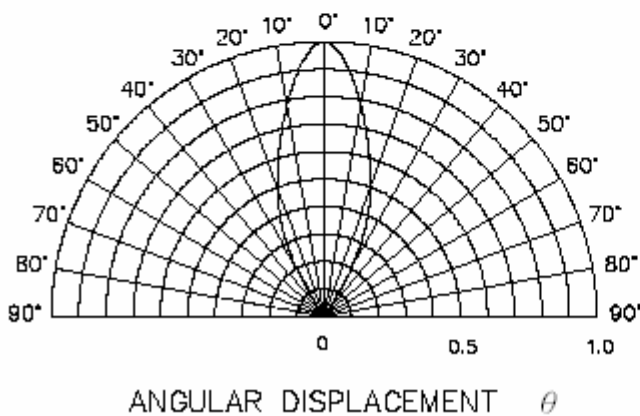
$I_{FM} - T_a$



$I_e - I_F$ ($T_a=25^\circ\text{C}$)



($T_a=25^\circ\text{C}$)



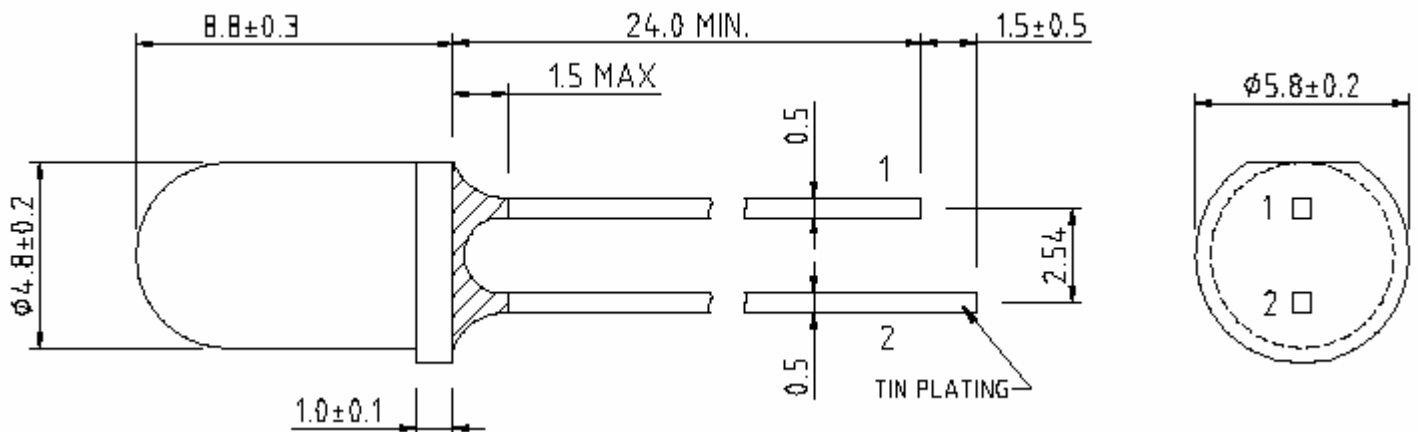
RELIABILITY TEST

CONDITIONS :

The reliability of products shall be satisfied with items listed below .

NO.	Item	Condition	Time / Cycle	Number of Damaged
1	Soldering Heat Test	260 °C	5 sec	0 / 60
2	Thermal Shock	0 °C (15 sec) ~ 100 °C (15 sec)	20 cycle	0 / 60
3	High Temp. Storage	100 °C	1000 Hrs	0 / 60
4	Low Temp. Storage	-25 °C	1000 Hrs	0 / 60
5	Operation Temperature Cycle TEST	-25 °C ~ 75 °C	100 Cycles 200Hrs	0 / 60
6	High Temp. High Humidity Test	60 °C , 90% RH	1000 Hrs	0 / 60
7	Operation Life Test	Room Temp : 50mA	1000 Hrs	0 / 60

DIMENSIONS

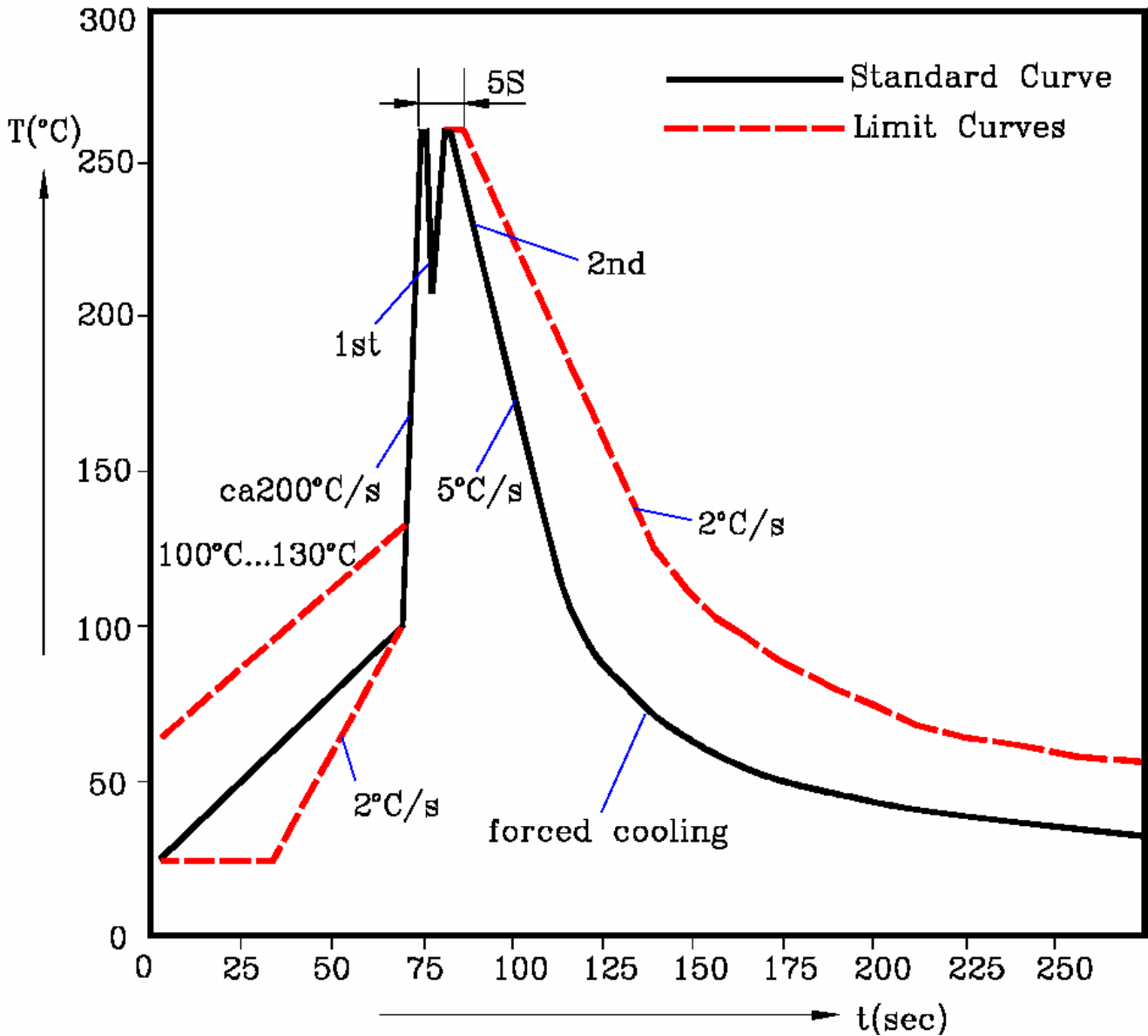


SIGN : 1. CATHODE

2. ANODE

UNIT : mm

Wave Soldering Conditions / Profile



Hand Soldering conditions

Not more than 3 seconds at max. 350°C, under Soldering iron.

Note : In case the soldered products are reused in soldering process, we don't guarantee the products.