

# Infrared Emitting Diodes(GaAs)

## L - 1K3 · L - 1K5

The L - 1K3 and 1K5 are high - power GaAs IREs mounted in durable, hermetically sealed TO - 18 metal can package, which provides years of reliable performance even under demanding conditions such as use outdoors.

### FEATURES

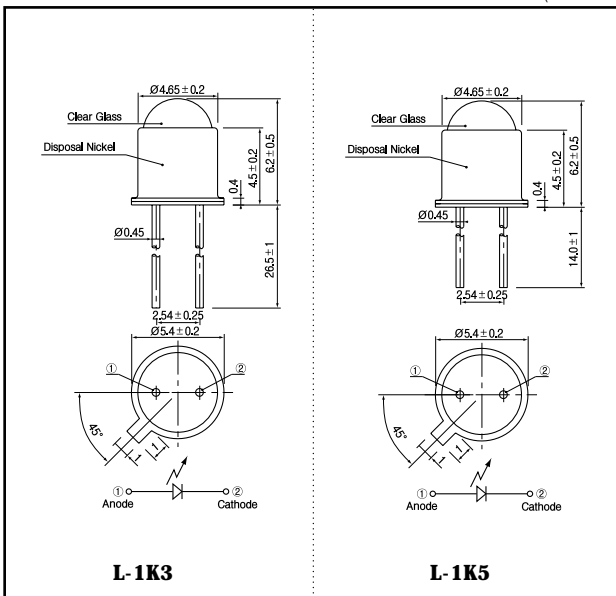
- Narrow beam angle
- Durable
- High reliability in demanding environments

### APPLICATIONS

- Optical emitters
- Optical switches
- Encoders
- Smoke sensors

### DIMENSIONS

(Unit : mm)



### MAXIMUM RATINGS

(Ta=25 )

Item	Symbol	Rating	Unit
Reverse voltage	V <sub>R</sub>	5	V
Forward current	I <sub>F</sub>	100	mA
Pulse forward current <sup>*1</sup>	I <sub>FP</sub>	1	A
Power dissipation	P <sub>c</sub>	170	mW
Operating temp.	T <sub>opr.</sub>	- 40 - + 100	
Storage temp.	T <sub>stg.</sub>	- 55 - + 125	
Soldering temp. <sup>*2</sup>	T <sub>sol.</sub>	260	

\*1. pulse width : tw 100 µsec.period : T=10msec.

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

### ELECTRO-OPTICAL CHARACTERISTICS

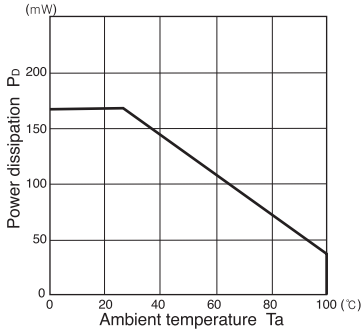
(Ta=25 )

Item	Symbol	Conditions	EL - 1KL3			EL - 1KL5			Unit.
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V <sub>f</sub>	I <sub>F</sub> =100mA	1.35	1.7		1.35	1.7	V	
Reverse current	I <sub>R</sub>	V <sub>R</sub> =5V			10			µA	
Capacitance	C <sub>t</sub>	f=1MHz	25			25		pF	
Radiant intensity	P <sub>o</sub>	I <sub>F</sub> =100mA	15			10		mW/sr	
Peak emission wavelength	λ <sub>p</sub>	I <sub>F</sub> =100mA	940			940		nm	
Spectral bandwidth 50%		I <sub>F</sub> =100mA	50			50		nm	
Half angle			± 8			± 5		deg.	

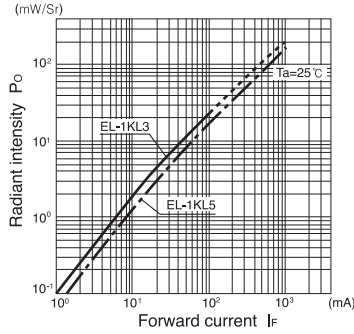
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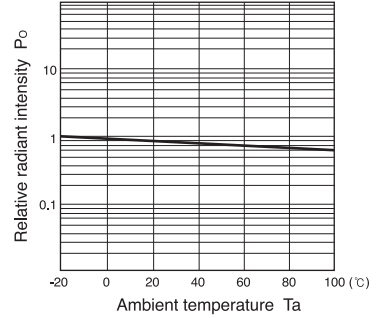
**Power dissipation Vs. Ambient temperature**



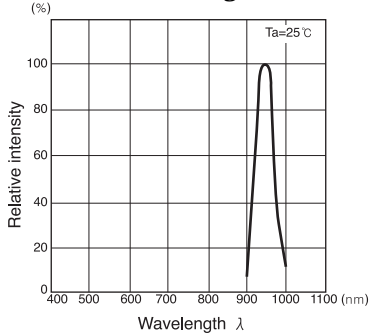
**Radiant intensity Vs. Forward current**



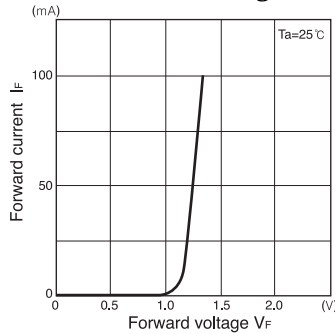
**Relative radiant intensity Vs. Ambient temperature**



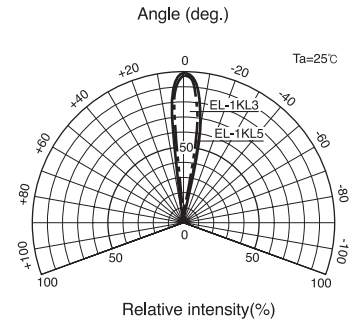
**Relative intensity Vs. Wavelength**



**Forward current Vs. Forward voltage**



**Radiant Pattern**



**Relative radiant intensity Vs. Distance**

