

Infrared Emitting Diodes(GaAlAs)



KFL-1ML-N

1. Description

The KFL-1ML-N is a high-power GaAlAs IRED mounted in TO-46K type header with clear epoxy encapsulation. The IRED have a with angular response and relatively low-cost compared to can type devices.

2. Features

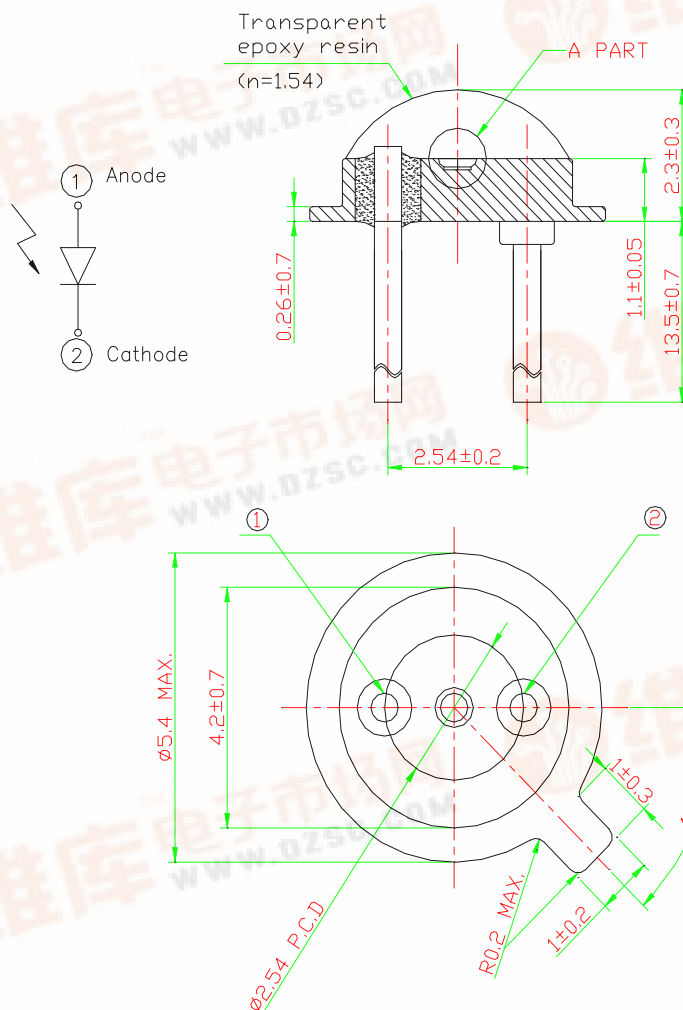
- Wide angular response
- Peak emission wavelength $\lambda_p=850\text{nm}$
- Relatively low-cost against metal can package
- Low profile package

3. Applications

- Transportation sensors
- Security switches

4. Package Outline

ALL DIMENSIONS IN MILLIMETERS



KFL-1ML-N
5. Absolute Maximum Ratings
[T_A = 25 °C]

Parameter	Symbol	Ratings	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	80	mA
Pulse Forward Current (see Note 1)	I _{FP}	1	A
Power Dissipation	P _D	140	mW
Operating Temperature	Topr.	-25 ~ +80	
Storage Temperature	Tstg.	-30 ~ +100	
Soldering Temperature (see Note 2)	Tsol.	260	

Notes : 1. Pulse Width : tw=100 μsec. Period : T=10 msec.

2. For MAX. 5 seconds at the position of 2 mm from the resin edge.

6. Electro-optical Characteristics
[T_A = 25 °C]

Item	Symbol	Conditions	Min	Typ	Max	Unit
Forward Voltage	V _F	I _F = 50 mA		1.5	1.7	V
Reverse Current	I _R	V _R = 5 V			10	μA
Capacitance	C _t	f=1MHz		25		pF
Peak Emission Wavelength	λ _p	I _F = 50 mA		850		nm
Spectral Bandwidth	Δλ	I _F = 50 mA		30		nm
Radiant Intensity	P _O	I _F = 50 mA		14		mW
Half Angle	Δθ			±63		deg.

7. Inspection Criteria

7-1. In electrical and optical characteristics, all products are inspected for following 3 items.

Reverse Voltage : BV_RForward Voltage : V_FRadiant Intensity : P_O

7-2. No particular inspections shall be carried out for items other than those above. However they shall satisfy the ratings.

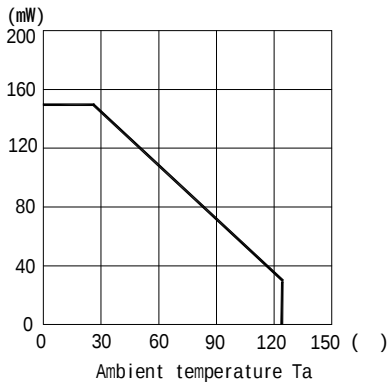
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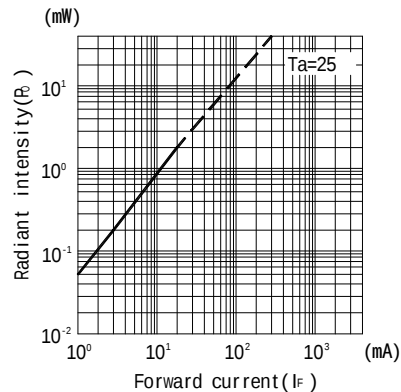
KFL-1ML-N

8. Typical Electrical-optical Characteristics Curves

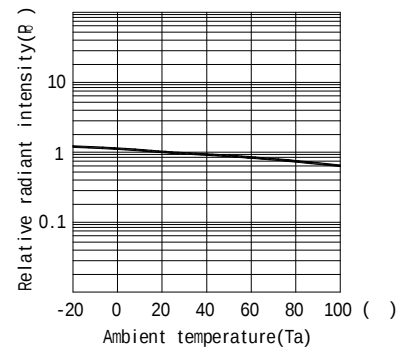
■ Power dissipation Vs. Ambient temperature



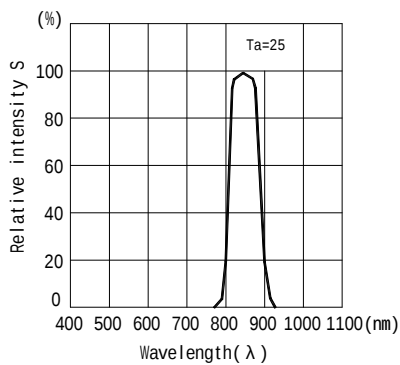
■ Radiant intensity Vs. Forward current



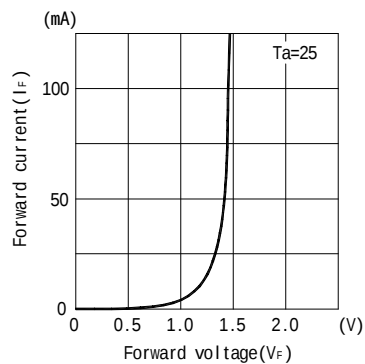
■ Relative radiant intensity Vs. Ambient temperature



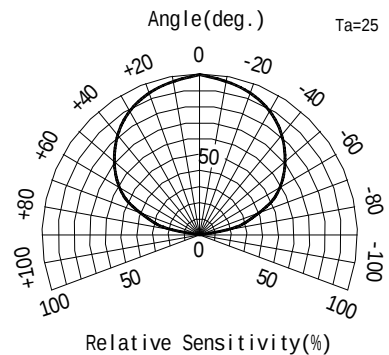
■ Relative intensity Vs. Wavelength



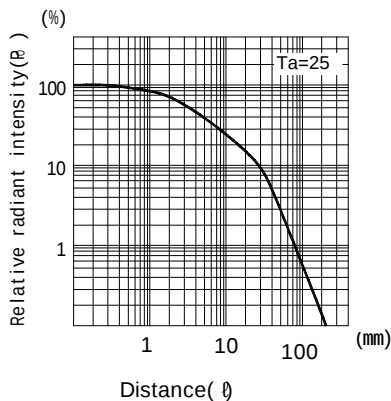
■ Forward current Vs. Forward voltage



■ Radiant Pattern



■ Relative radiant intensity Vs. Distance



9. Cautions in Usage

- 9-1. Store and use where there is no exterior force that will cause change in shape.
- 9-2. Store and use where there is no Hydrogen Sulfide gas, or any other corrosive gas.
- 9-3. The bending or cutting of the lead should be done at room temperature, no force being applied on the package.
- 9-4. Solder the lead pin under conditions of the absolute maximum rating chart, and do not apply force on the lead pin after soldering.

10. Guarantee Period and Scope

- 10-1. Period
One year after delivery to the desired place.
- 10-2. Scope
Replacement of products will be done, if any problems lie in our company's products.
However, we are not liable for your damage by lack of caution.

11. Others

Any doubts concerning this specification should be discussed fully by both parties.