Kingbright

AM4457F3C

1.5 mm Side Look Infrared Emitting Diode

DESCRIPTION

- F3 Made with Gallium Arsenide Infrared Emitting diodes

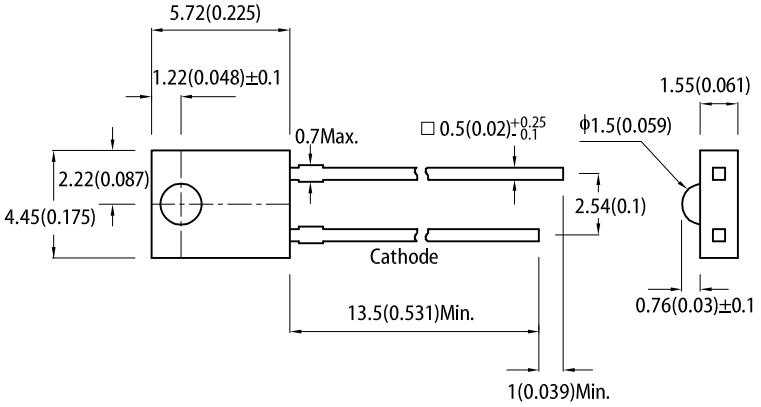
FEATURES

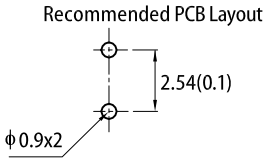
- Side looking package
- Mechanically and spectrally matched to the phototransistor
- RoHS compliant

APPLICATIONS

- Infrared Illumination for cameras
- Machine vision systems
- Surveillance systems
- Industrial electronics
- IR data transmission
- Remote control

PACKAGE DIMENSIONS





REMAK :The IR LED can be driven at 100mA, with at a max pulse width of 20ms,The maximum duty cycle is 20%.

Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	Po (mW/sr) @ 20mA [2]		Viewing Angle [1]
			Min.	Typ.	2θ1/2
AM4457F3C	Infrared (GaAs)	Water Clear	3	7	70°
			*2	*5	

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Radiant Intensity / luminous flux: +/-15%.
** Radiant intensity value is traceable to CIE127-2007 standards.*

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I_F = 20mA	λ_{peak}	Infrared	940	-	nm
Spectral Bandwidth at 50% Φ REL MAX I_F = 20mA	Δλ	Infrared	50	-	nm
Capacitance	C	Infrared	90	-	pF
Forward Voltage I_F = 20mA	V_F [1]	Infrared	1.2	1.6	V
Reverse Current (V_R = 5V)	I_R	Infrared	-	10	uA

Notes:
1. Forward voltage: ±0.1V.
2. Wavelength value is traceable to CIE127-2007 standards.
3. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

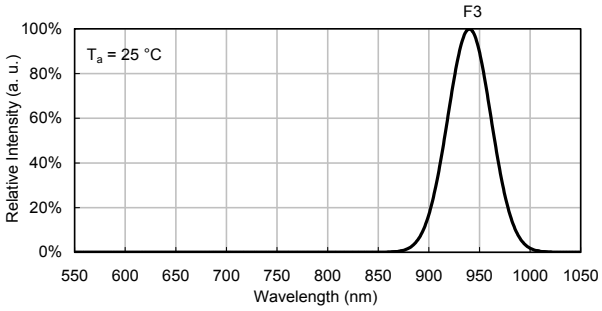
ABSOLUTE MAXIMUM RATINGS at T_A=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	80	mW
Reverse Voltage	V_R	5	V
Junction Temperature	T_j	115	°C
Operating Temperature	T_{op}	-40 to +85	°C
Storage Temperature	T_{stg}	-40 to +85	°C
DC Forward Current	I_F	50	mA
Peak Forward Current	I_{FM} [1]	1.2	A
Electrostatic Discharge Threshold (HBM)	-	8000	V
Lead Solder Temperature [2]		260°C For 3 Seconds	
Lead Solder Temperature [3]		260°C For 5 Seconds	

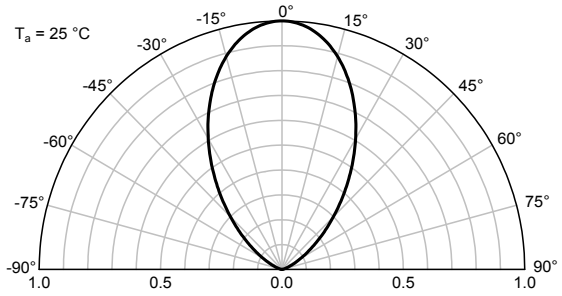
Notes:
1. 1/100 Duty Cycle, 10μs Pulse Width.
2. 2mm below package base.
3. 5mm below package base.
4. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

RELATIVE INTENSITY vs. WAVELENGTH

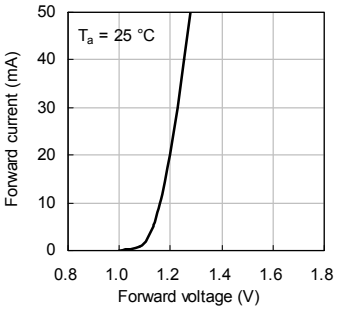


SPATIAL DISTRIBUTION

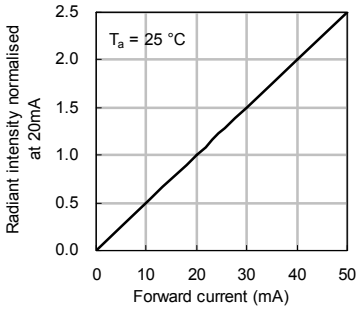


INFRARED

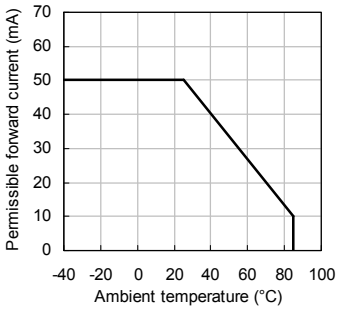
Forward Current vs. Forward Voltage



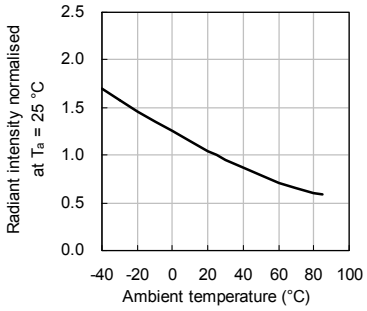
Radiant Intensity vs. Forward Current



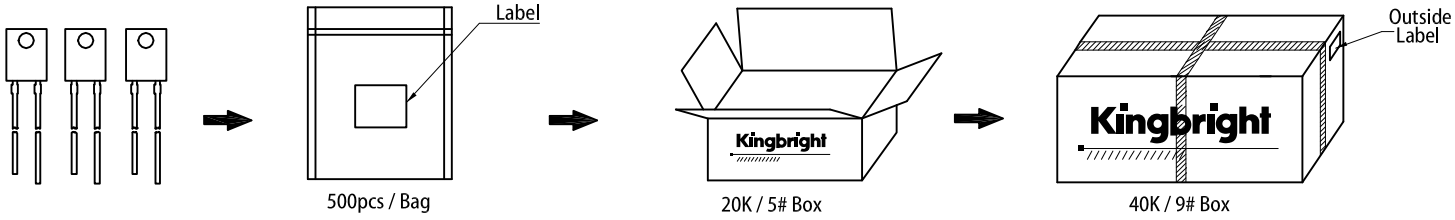
Forward Current Derating Curve

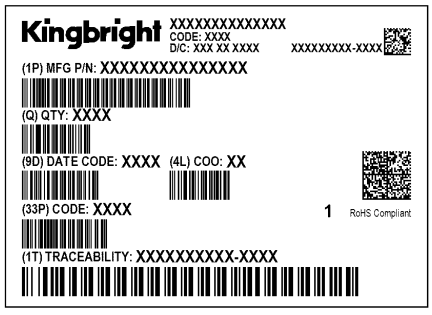


Radiant Intensity vs. Ambient Temperature



PACKING & LABEL SPECIFICATIONS





PRECAUTIONARY NOTES

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
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