



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



APA1606SF4C-P22 1.6 x 0.6 mm Right Angle Infrared Emitting Diode



DESCRIPTION

- SF4 Made with Gallium Aluminum Arsenide Infrared Emitting diodes.

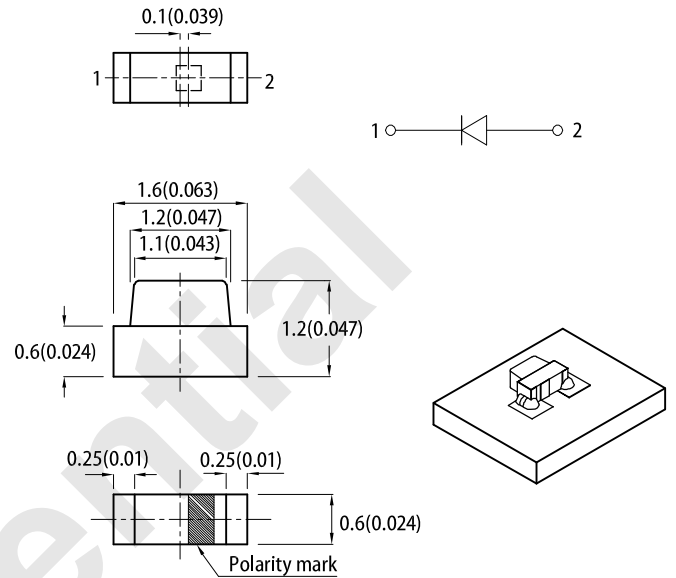
FEATURES

- 1.6 x 1.2 x 0.6 mm right angle SMD LED, 0.6 mm thickness
- Mechanically and spectrally matched to the phototransistor
- Wide viewing angle
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Tinned pads for improved solderability
- RoHS compliant

APPLICATIONS

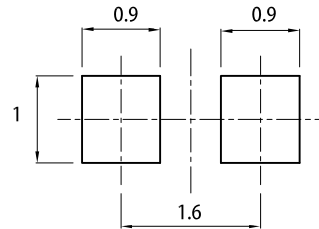
- Infrared Illumination for cameras
- Machine vision systems
- Surveillance systems
- Industrial electronics
- IR data transmission
- Remote control

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.1(0.004") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	Po (mW/sr) @ 20mA [2]		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APA1606SF4C-P22	Infrared (GaAlAs)	Water Clear	0.8	1.5	110°

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%.
 3. 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	880	-	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	1.3	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

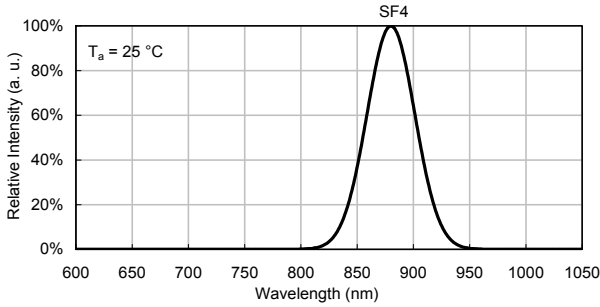
Parameter	Symbol	Value	Unit
Power Dissipation	P _D	85	mW
Reverse Voltage	V _R	5	V
Junction Temperature	T _j	125	°C
Operating Temperature	T _{op}	-40 to +85	°C
Storage Temperature	T _{stg}	-40 to +85	°C
DC Forward Current	I _F	50	mA
Peak Forward Current	I _{FM} ^[1]	1200	mA
Electrostatic Discharge Threshold (HBM)	-	8000	V

Notes:

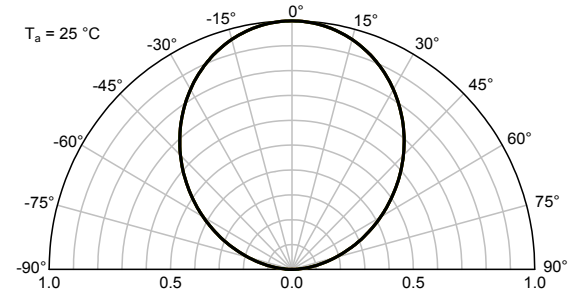
1. 1/100 Duty Cycle, 10μs Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

RELATIVE INTENSITY vs. WAVELENGTH

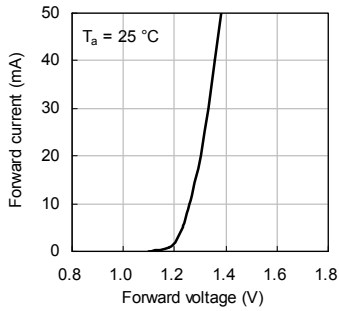


SPATIAL DISTRIBUTION

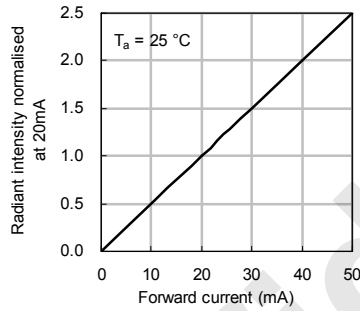


INFRARED

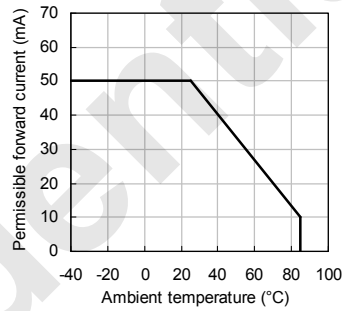
Forward Current vs. Forward Voltage



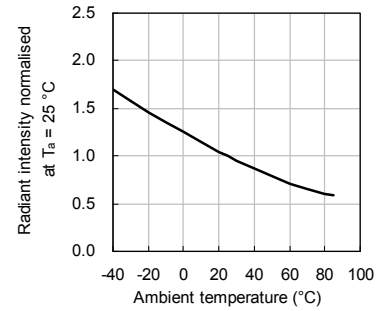
Radiant Intensity vs. Forward Current



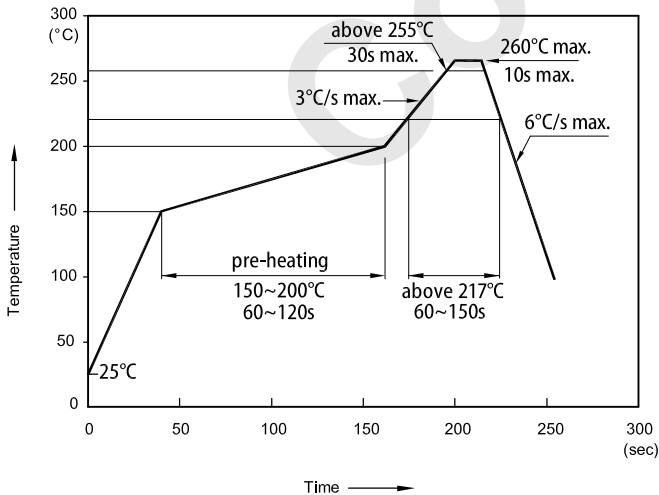
Forward Current Derating Curve



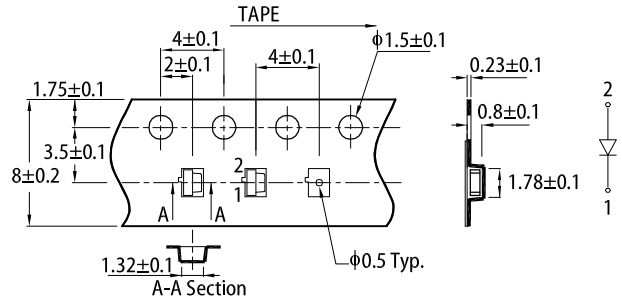
Radiant Intensity vs. Ambient Temperature



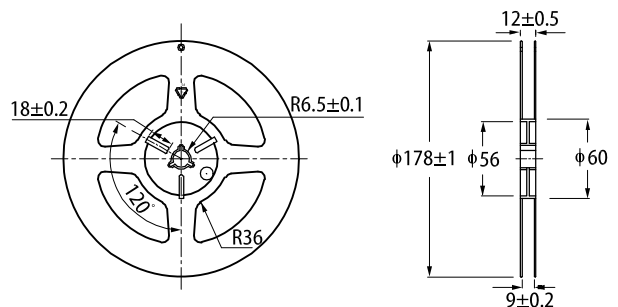
REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS



TAPE SPECIFICATIONS (units : mm)

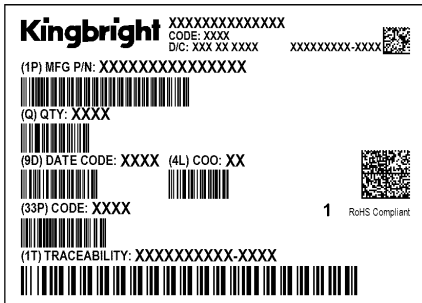
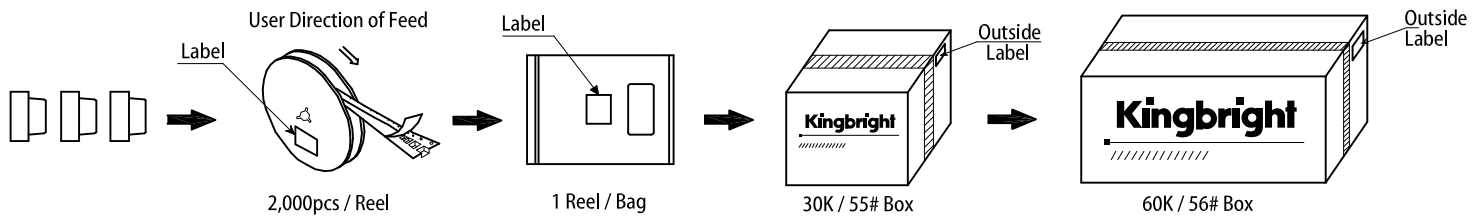


REEL DIMENSION (units : mm)



- Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
 2. The maximum number of reflow soldering passes is 2 times.
 3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

PACKING & LABEL SPECIFICATIONS



Confidential

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.
5. The contents and information of this document may not be reproduced or re-transmitted without permission by Kingbright.
6. All design applications should refer to Kingbright application notes available at <http://www.KingbrightUSA.com/ApplicationNotes>