

#### 3.5x2.8 mm INFRARED EMITTING DIODE

Part Number: AA3528F3S

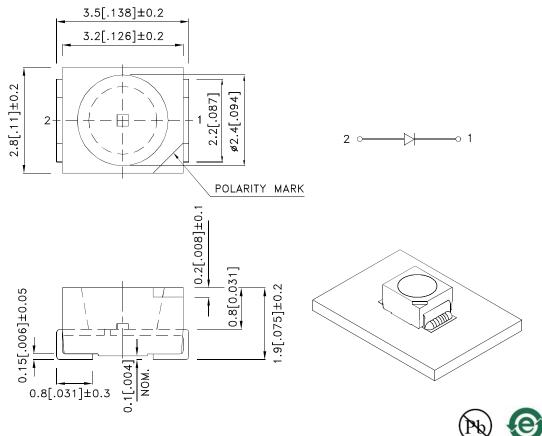
#### **Features**

- Mechanically and spectrally matched to the phototransistor.
- Package: 1500pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

#### Description

F3 Made with Gallium Arsenide Infrared Emitting diodes.

### **Package Dimensions**



- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is ±0.25(0.01") unless otherwise noted.
- The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
   The device has a single mounting surface. The device must be mounted according to the specifications.

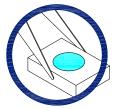
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#### **Handling Precautions**

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

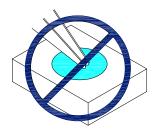
As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools.

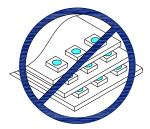


2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.





3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



- 4.1. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible.
- 4.2. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
- 4.3. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



5. As silicone encapsulation is permeable to gases, some corrosive substances such as  $H_2S$  might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

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### **Selection Guide**

Part No.	Part No. Dice Lens Type		Po (mW/sr) [2] @ 20mA		Viewing Angle [1]
			Min.	Тур.	201/2
AA3528F3S	F3 (GaAs)	Water Clear	1.6	4	120°

- 1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value. 2. Radiant Intensity/ luminous flux: +/-15%.

#### Electrical / Optical Characteristics at TA=25°C

Parameter	P/N	Symbol	Тур.	Max.	Units	Test Conditions
Forward Voltage [1]	F3	VF	1.2	1.6	V	IF=20mA
Reverse Current	F3	lr		10	uA	VR = 5V
Capacitance	F3	С	90		pF	VF=0V;f=1MHz
Peak Spectral Wavelength	F3	λP	940		nm	IF=20mA
Spectral Bandwidth	F3	Δλ1/2	50		nm	IF=20mA

#### Note:

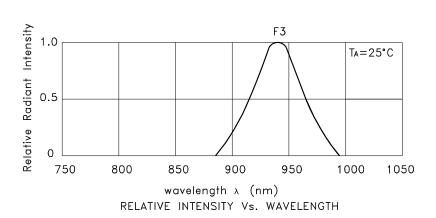
1. Forward Voltage: +/-0.1V.

#### Absolute Maximum Ratings at TA=25°C

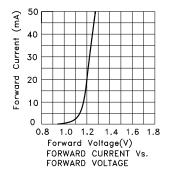
, to o o i d to i maximum rating o ut i i r						
Parameter	Symbol	F3	Units			
Power dissipation	Po	80	mW			
DC Forward Current	lF	50	mA			
Peak Forward Current [1]	iFS	1.2	А			
Reverse Voltage	VR	5	V			
Operating Temperature	Та	-40 To +85	°C			
Storage Temperature	Тѕтс	-40 To +85	°C			

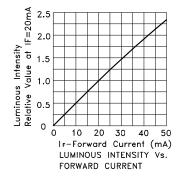
Note: 1. 1/100 Duty Cycle, 10µs Pulse Width.

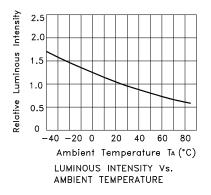
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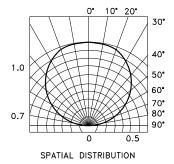


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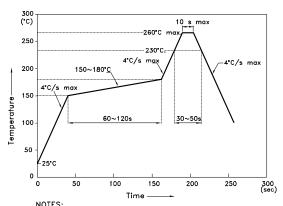


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#### AA3528F3S

Reflow soldering is recommended and the soldering profile is shown below. Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.



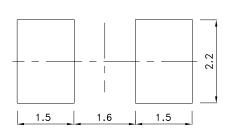
- NOTES:

  1.We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.

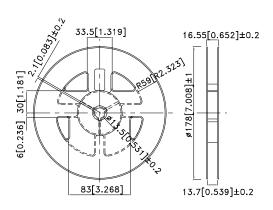
  2.Don't cause stress to the epoxy resin while it is exposed
  - to high temperature.

    3.Number of reflow process shall be 2 times or less.

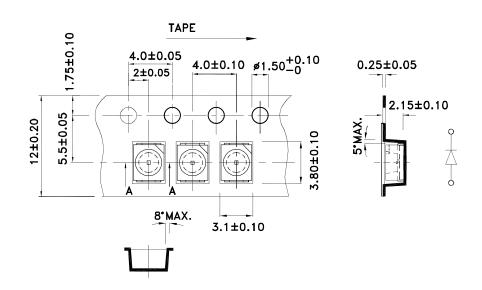
### Recommended Soldering Pattern (Units: mm; Tolerance: ± 0.1)



#### **Reel Dimension**

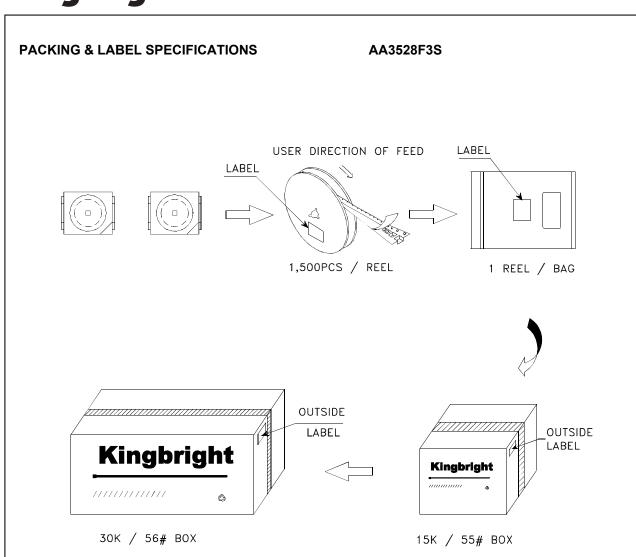


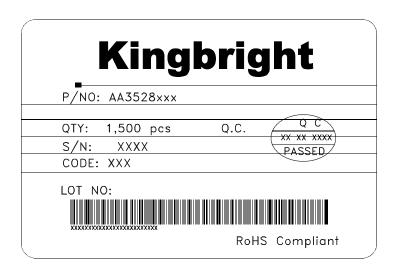
### Tape Specifications (Units: mm)



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