

599 SERIES

## Infrared SMD LED

1206 Package Reverse Mount 850nm

### MECHANICAL / SPECIFICATIONS

PART NUMBER:  
[599-1KA0-147IRF](#)

DIMENSIONS:  
3.2 x 1.6 x 1.1mm w/inner lens

LENS COLOR:  
Clear

LENS MATERIAL:  
Epoxy

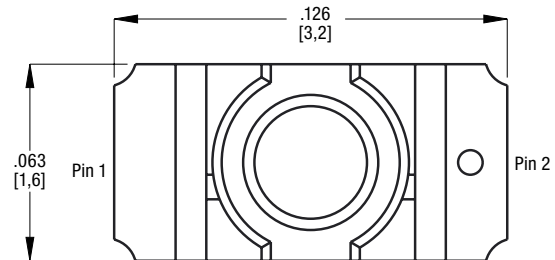
STANDARD PACKAGING:  
3000/reel

MOISTURE SENSITIVITY LEVEL:  
2a

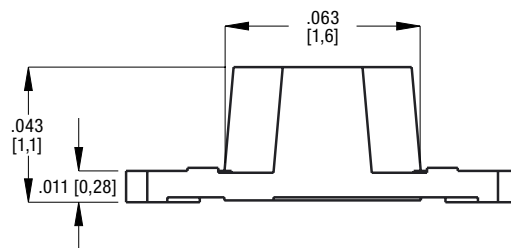
CERTIFICATIONS & RATINGS  
RoHS Compliant

### DIMENSIONS inches [mm]

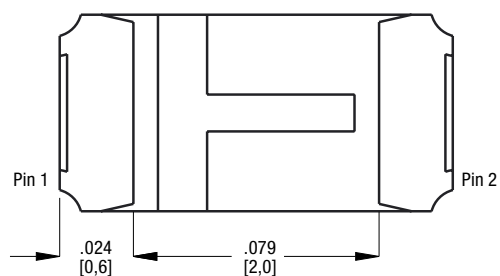
TOP VIEW



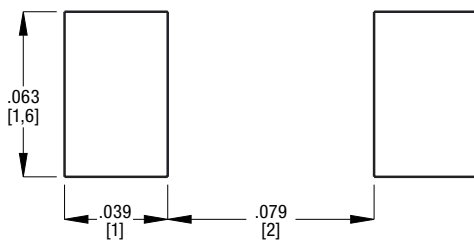
SIDE VIEW



BOTTOM VIEW



RECOMMENDED PAD LAYOUT



LED SCHEMATIC



ABSOLUTE MAXIMUM RATINGS AT 25°C

| Symbol    | Parameter             | Ratings    | Units | Notes |
|-----------|-----------------------|------------|-------|-------|
| $I_F$     | Forward Current       | $\leq 100$ | mA    |       |
| $I_{FP}$  | Peak Current          | 1000       | mA    | 1     |
| $V_R$     | Reverse Voltage       | $\leq 10$  | V     |       |
| $T_{opr}$ | Operating Temperature | -40~+85    | °C    |       |
| $T_{stg}$ | Storage Temperature   | -40~+100   | °C    |       |
| $T_{sol}$ | Soldering Temperature | 260        | °C    | 2     |

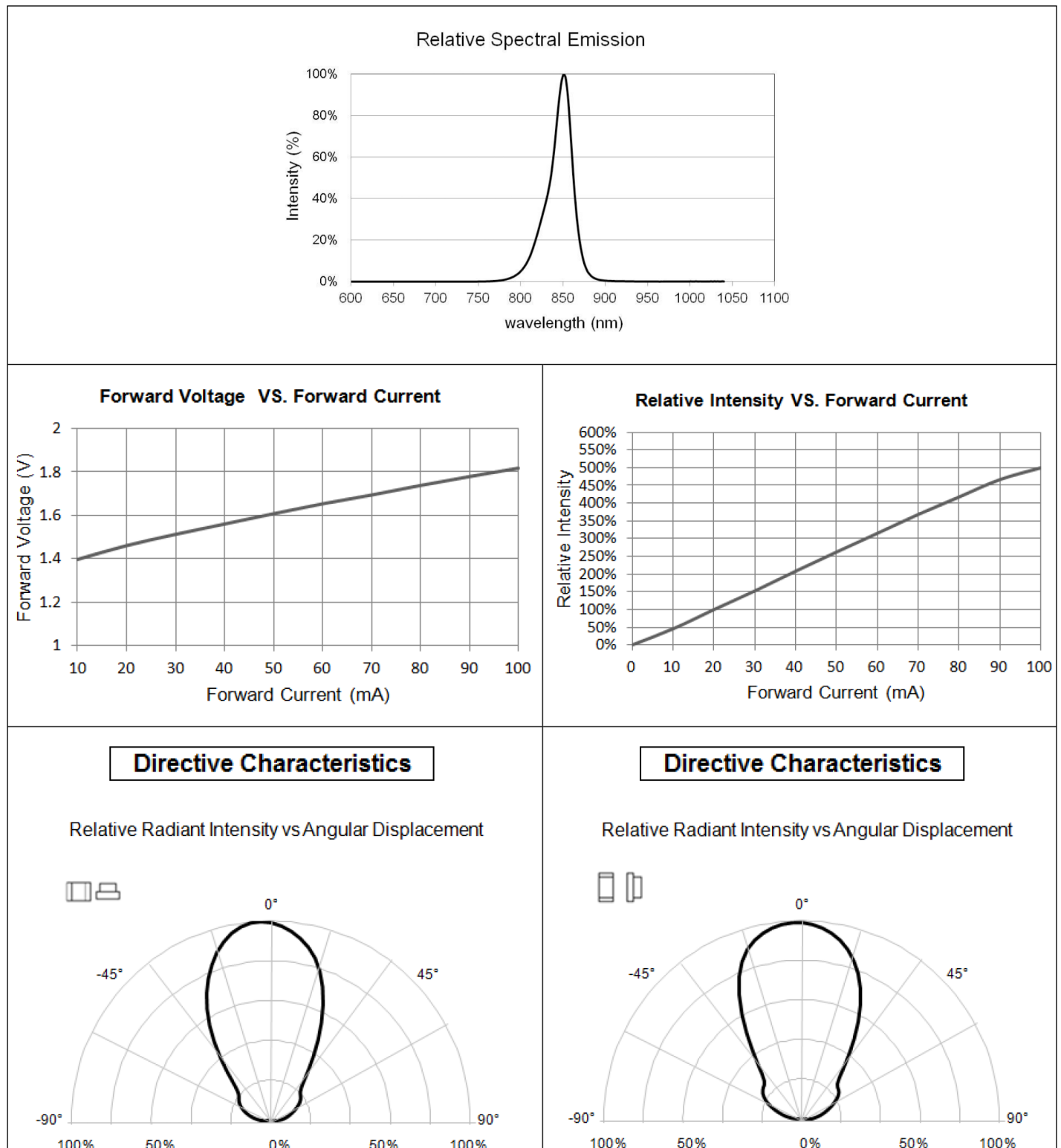
Notes:

- IFP Conditions — Pulse Width  $\leq 100\mu s$  and Duty  $\leq 1\%$ .
- Soldering time  $\leq 5$  seconds.

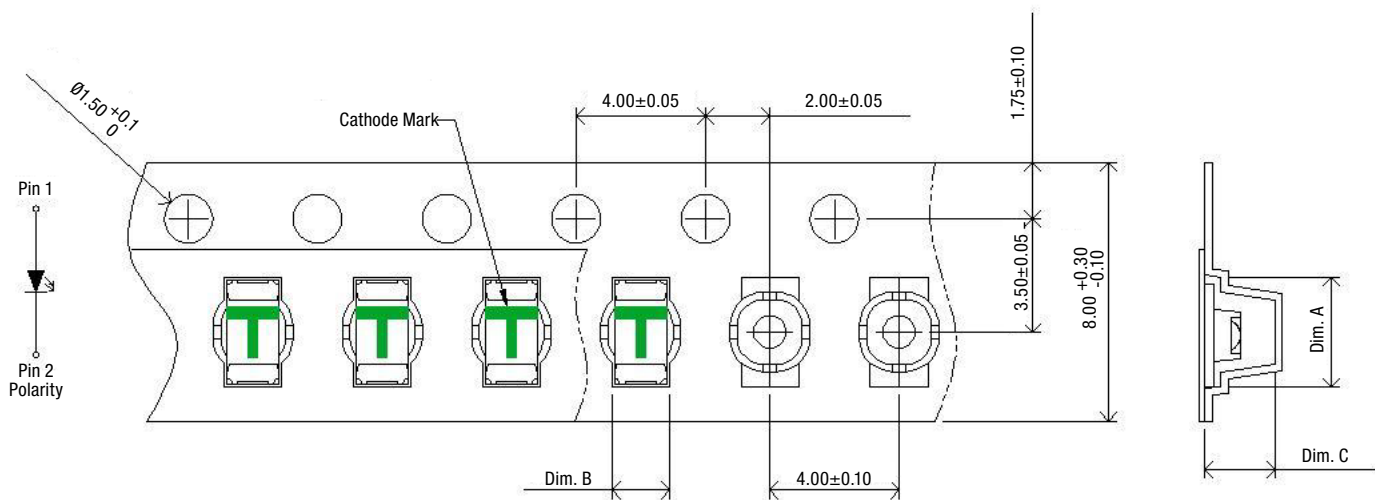
ELECTRICAL - OPTICAL CHARACTERISTICS

| Symbol                  | Parameters                             | Test Conditions | Min | Typ | Max | Unit    |
|-------------------------|----------------------------------------|-----------------|-----|-----|-----|---------|
| $I_e$                   | Radiant Intensity                      | $I_F=20mA$      | 3.5 | 5.4 | 7.0 | mW/sr   |
| $\lambda_p$             | Peak Wavelength                        | $I_F=50mA$      | 830 | 854 | 870 | nm      |
| $\Delta\lambda$         | Spectral bandwidth at 50% of $I_{max}$ | $I_F=50mA$      |     | 50  | -   | nm      |
| $V_F$                   | Forward Voltage                        | $I_F=50mA$      | 1.4 | -   | 1.6 | V       |
| $I_R$                   | Reverse Current                        | $V_R=5V$        | -   | -   | 1   | $\mu A$ |
| $2\theta_{\frac{1}{2}}$ | Angle of Half Intensity (X)            | $I_F=20mA$      | -   | 70  | -   | deg     |
|                         | Angle of Half Intensity (Y)            |                 | -   | 70  | -   |         |

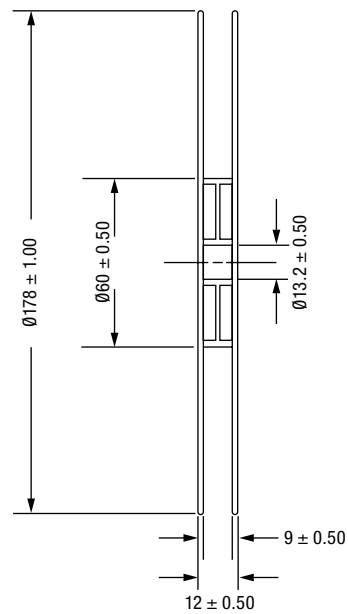
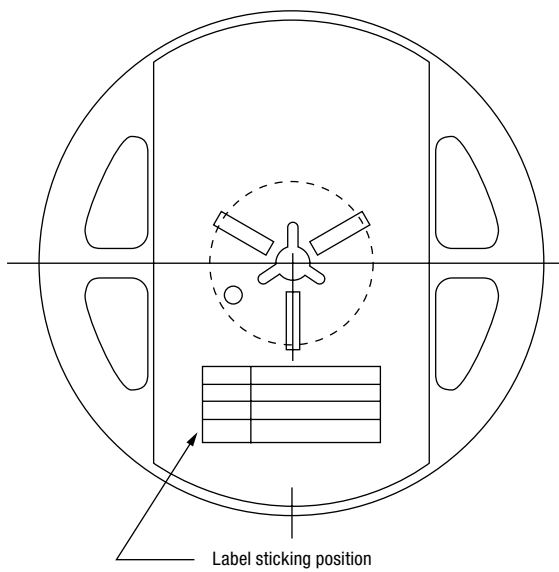
## TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS



TAPE AND REEL SPECIFICATION



| Dim A   | Dim B    | Dim C    | Quantity/Reel |
|---------|----------|----------|---------------|
| 3.5±0.1 | 1.88±0.1 | 1.27±0.1 | 3K            |



Unit: mm

## REFLOW SOLDERING

Recommended soldering paste specifications:

1. Operating temp.: Above 217°C, 60~150sec.
2. Peak temp.: 260°C Max., 10sec Max.
3. Reflow soldering should not be done more than two times.

## LEAD-FREE SOLDER PROFILE

