

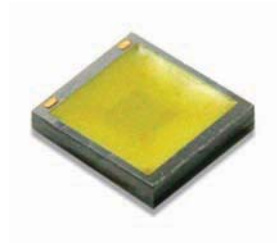


High Brightness LED Emitter

AL-S 10 Watt Series Specifications

LED Product features:

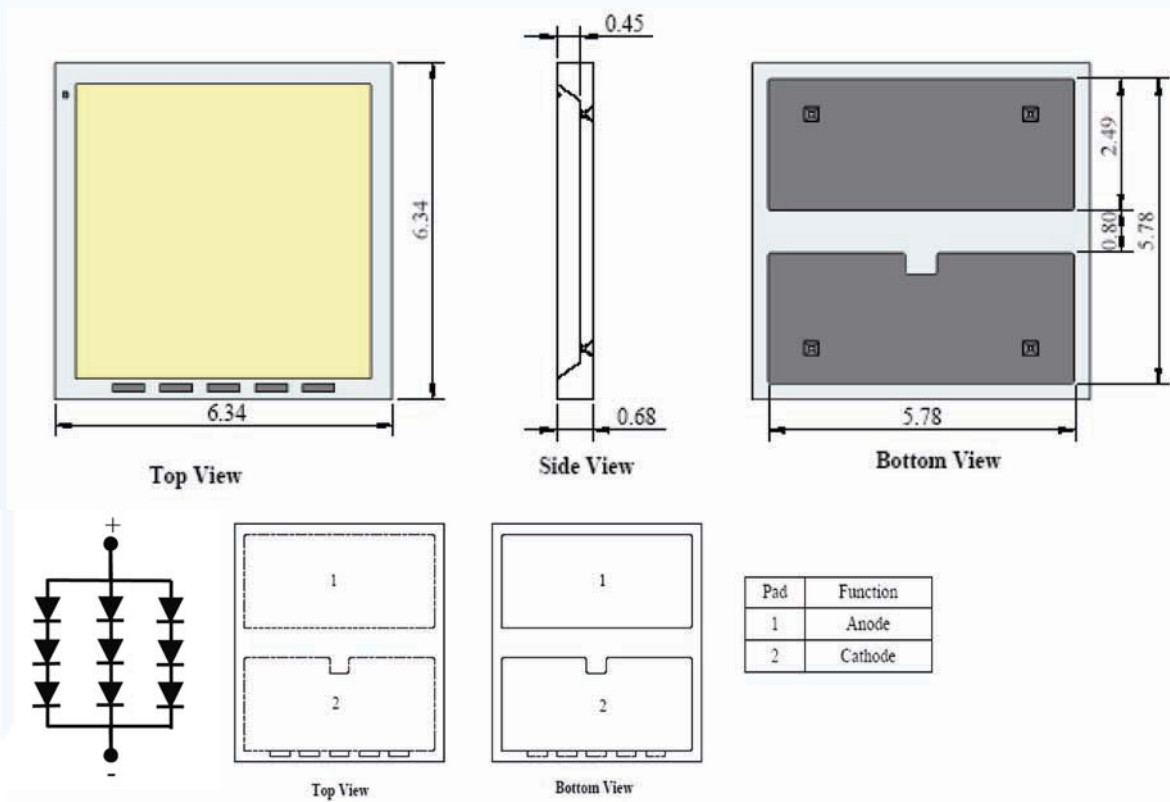
High Efficiency and Reliability
Low Power Consumption
Over 100,000 hour life span



ALTA LED

AL-S Series Specifications

Chip Dimensions



All dimensions are in millimeters (mm).



AL-S Series Specifications

Maximum Ratings at Ta = 25° C

| Parameter | Symbol | Rating | Unit |
|--|--------------|-------------|------|
| DC Forward Current | If | 1050 | mA |
| Operating Temperature | Topr | -40 to +85 | °C |
| Storage Temperature | Tstg | -40 to +100 | °C |
| Soldering Temperature | Tsol | 260±10 | °C |
| Junction Temperature | Tj | 120 | °C |
| Peak Forward Current | Ifp (Peak) * | 2100 | mA |
| Thermal Resistance (Junction to Solder Point) | Rth | 3.5 | K/W |
| Reverse Voltage | Vr | 10 | V |

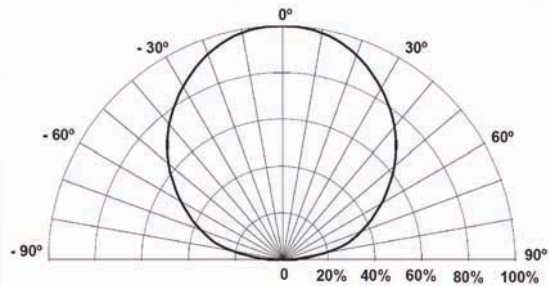
* Ifp Conditions – Pulse Width \leq 1msec / Duty \leq 1/10.

Forward Voltage and Luminance Ranking

| Part Number | Color | Condition If (mA) | CCT Range (K) | | | Luminous Flux | | Forward Voltage (V) | | |
|-------------|---------------|----------------------|---------------|------|------|---------------|------|---------------------|------|-------|
| | | | Min. | Typ. | Max. | Min. | Max. | Min. | Typ. | Max. |
| AL-S-10W-50 | Cool White | 1050 | 5000 | - | 6500 | 790 | 830 | 8.60 | 8.80 | 10.70 |
| AL-S-10W-30 | Warm White | 1050 | 2900 | - | 3500 | 660 | 680 | 8.60 | 8.80 | 10.70 |

AL-S Series Specifications

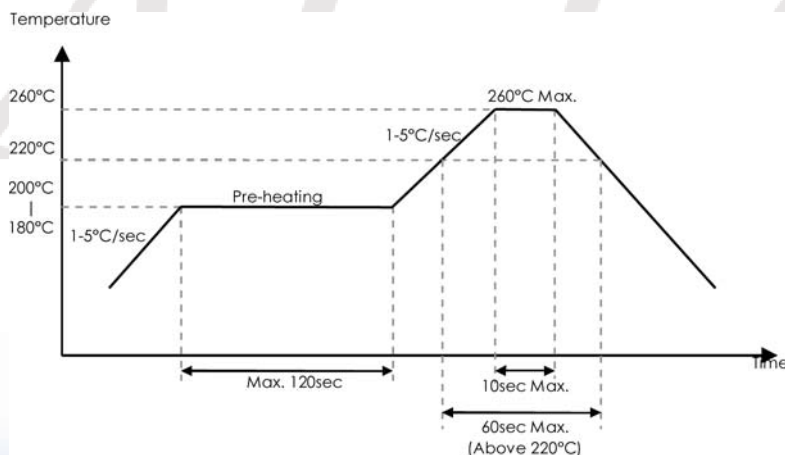
Typical Radiation Pattern



Reliability Test

| Test Item | Condition | Note | Standard Test Method |
|-------------------------------------|--|------------|-----------------------|
| Temperature Cycle Test (TCT) | -40°C ~ 25°C ~ 100°C ~ 25°C 30min 5min 30min 5min | 100 Cycles | JEITA ED-4701 100 105 |
| High Temperature Storage | 100±5°C | 1000 hours | JEDEC22-A103-C |
| Low Temperature Storage | -40±5°C | 1000 hours | JEITA ED-4701 200 202 |
| Wet High Temperature Operating Life | 80°C, 85% RH | 1000 hours | JEDEC-22-A101-B |
| Operating Life Test | 25±5°C, If = max. | 1000 hours | |
| Reflow Soldering | 260±5°C | 3 times | JEDEC Level 1 |

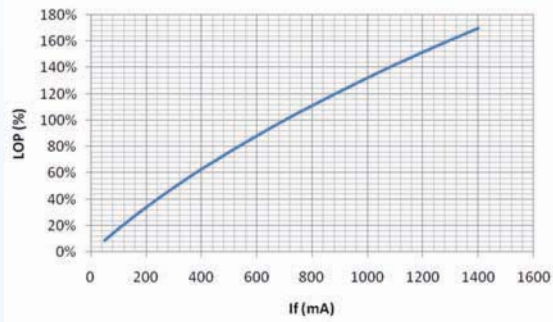
Reflow Profile



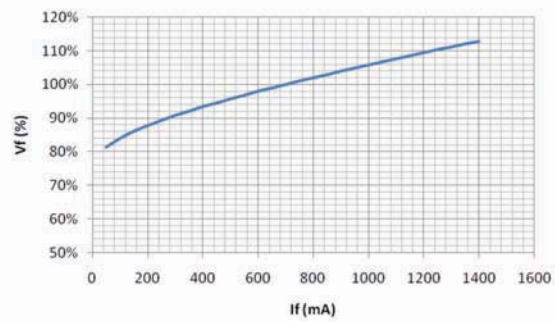
AL-S Series Specifications

Typical Optical and Electrical Curves

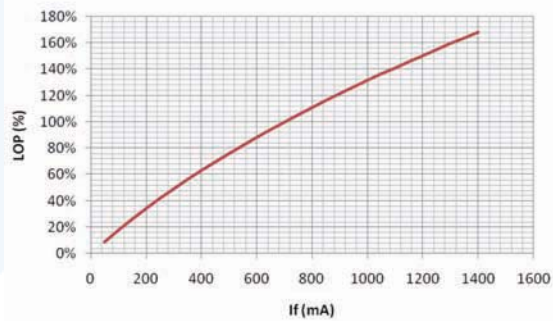
Forward Current & Luminous Flux
Cool White



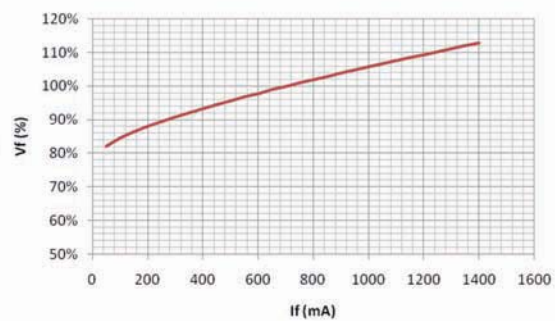
Forward Current & Forward Voltage
Cool White



Warm White

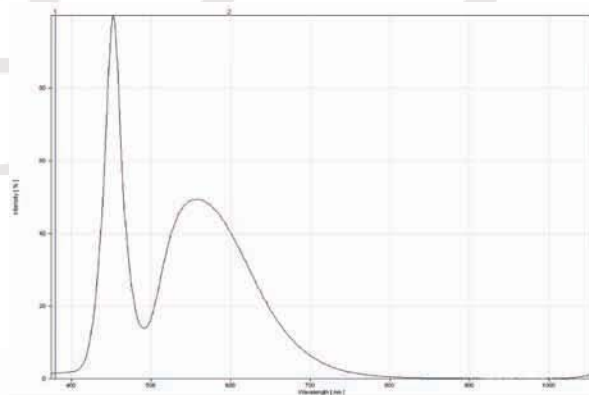


Warm White

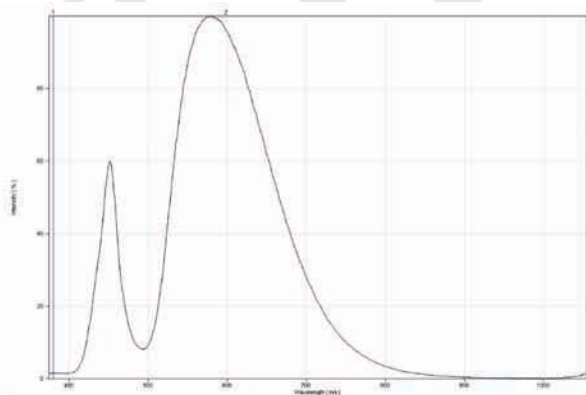


Typical Spectrum

Cool White

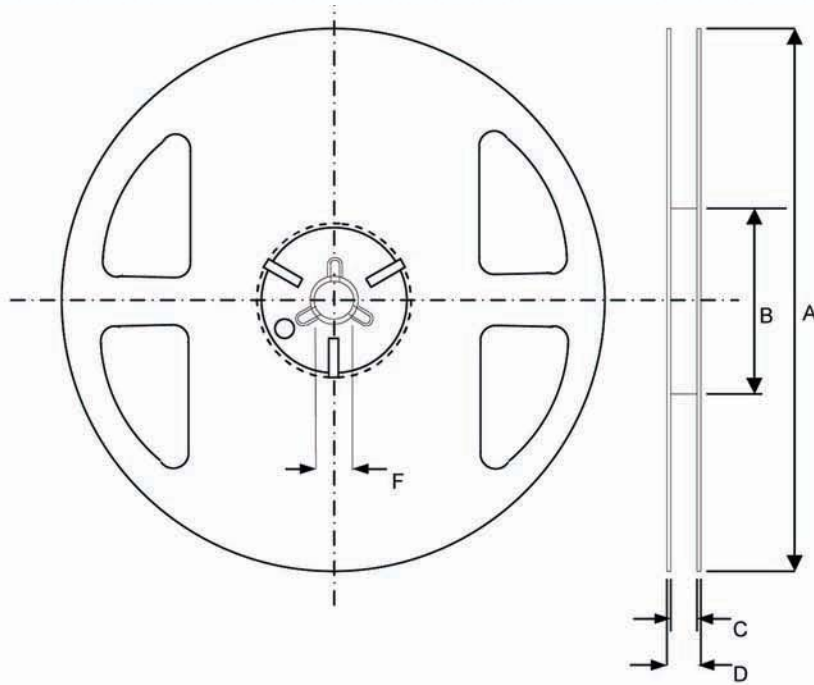


Warm White



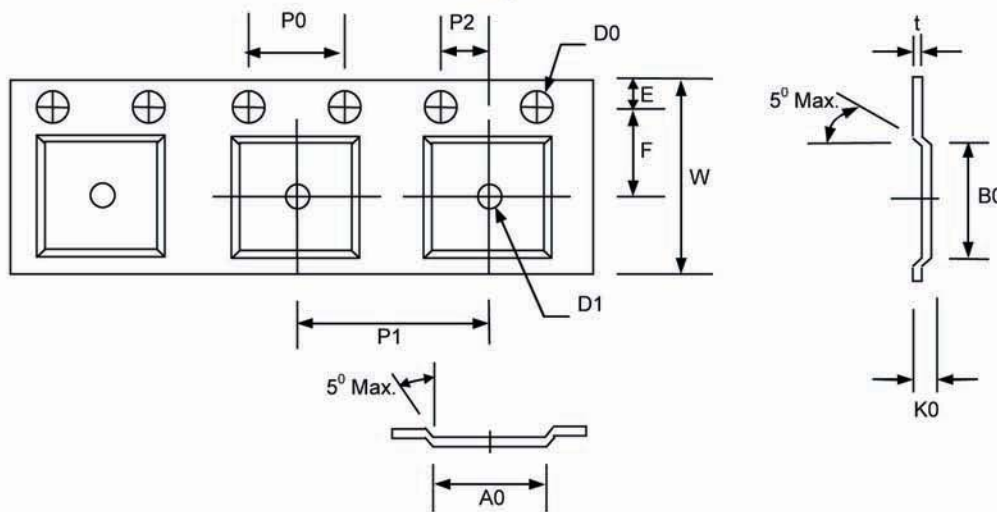
AL-S Series Specifications

Reel Dimensions



| | mm |
|---|-------------|
| A | 180.0 +0 -3 |
| B | 60.0 +1 -0 |
| C | 13.0 +1 -0 |
| D | 15.4 ±1.0 |
| F | 13.0 ±0.2 |

Carrier Tape Dimensions



| Item | W | E | F | D0 | D1 | P0 | P1 | P2 | t | A0 | B0 | K0 |
|-------------|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Length (mm) | 12.00 +0.30 -0.10 | 1.75 ±0.10 | 5.50 ±0.05 | 1.50 +0.10 | 1.50 +0.25 | 4.00 ±0.10 | 8.00 ±0.10 | 2.00 ±0.05 | 0.28 ±0.02 | 6.50 ±0.05 | 6.50 ±0.05 | 0.91 ±0.05 |

Loaded Quantity: 1,000 Pieces per Reel