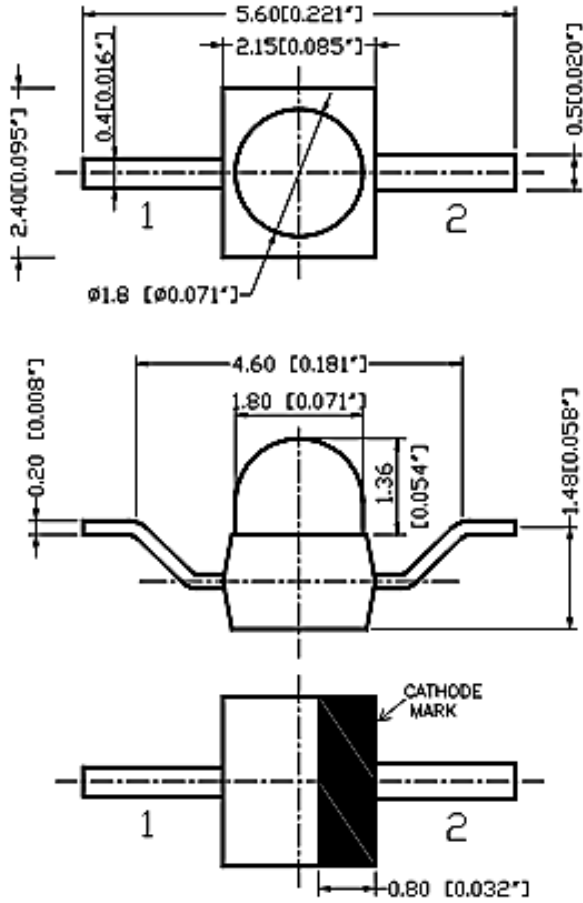
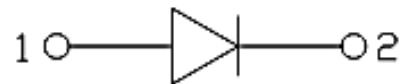
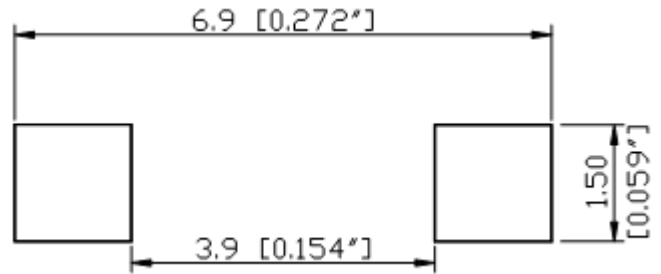


SPECIFICATION **CSM28B2CZ**
PACKAGE OUTLINES

RECOMMENDED PAD LAYOUT

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

| Part Number | Chip Material | Color of Emission | Lens Type | Viewing Angle |
|-------------|---------------|-------------------|-------------|---------------|
| CSM28B2CZ | InGaN | Blue | Water Clear | 20° |



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ABSOLUTE MAXIMUM RATINGS (TA=25°C)

| Parameter | Symbol | Max Rating | Unit |
|--|------------------|-------------------------|------|
| Forward Current | I _F | 30 | mA |
| Reverse Current @ 5V | I _R | 10 | μA |
| Power Dissipation | P _d | 114 | mW |
| Operating Temperature Range | T _{OP} | -40~+85 | °C |
| Storage Temperature Range | T _{STG} | -40~+85 | °C |
| Peak Pulsing Current (1/10 duty f = 10KHz) | I _{FP} | 125 | mA |
| Soldering Temperature | T _{SOL} | Max 260°C for 5 sec Max | |

OPTICAL-ELECTRICAL CHARACTERISTICS (TA=25°C)

| Parameter | Symbol | Test Condition | Value | | | Unit |
|-------------------------------------|-------------------|-----------------------|-------|------|-----|------|
| | | | Min | Typ | Max | |
| Luminous Intensity | I _v | I _F = 20mA | - | 1500 | - | mcd |
| Forward Voltage | V _F | I _F = 20mA | - | 3.3 | 3.8 | V |
| Reverse Leakage Current | I _R | V _R = 5V | - | - | 10 | μA |
| Viewing Angle at 50% I _v | 2θ _{1/2} | I _F = 20mA | - | 20 | - | Deg |
| Dominant Wavelength | λ _D | I _F = 20mA | - | 470 | - | nm |

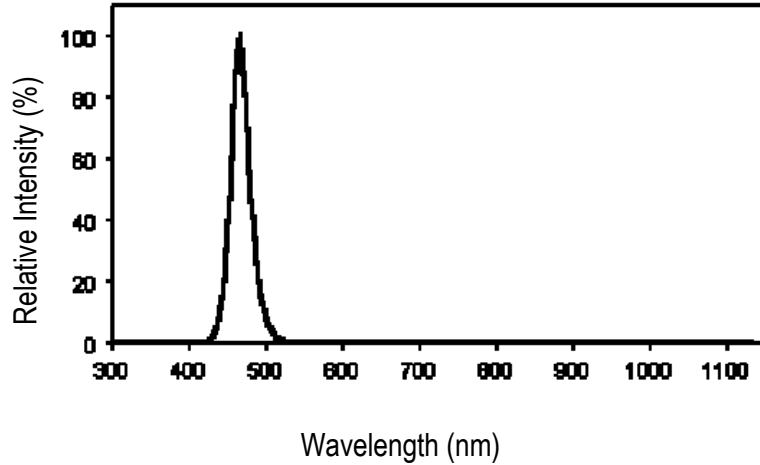
*Tolerance of viewing angle: -10 / +5 deg.



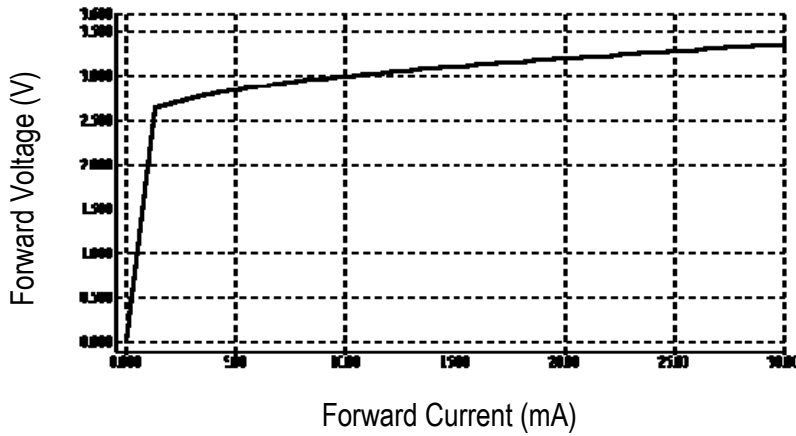
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OPTICAL CHARACTERISTIC CURVES

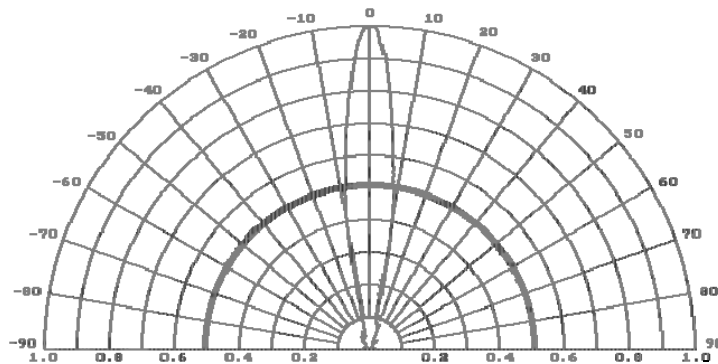
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



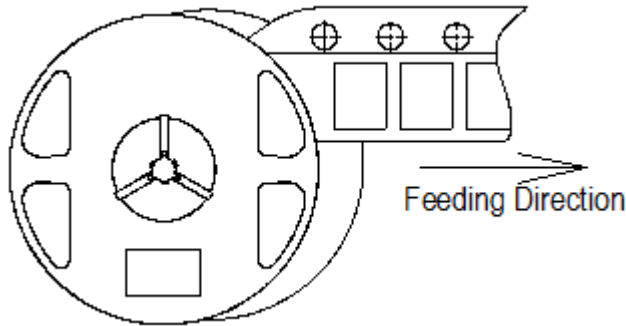
Directive Characteristics



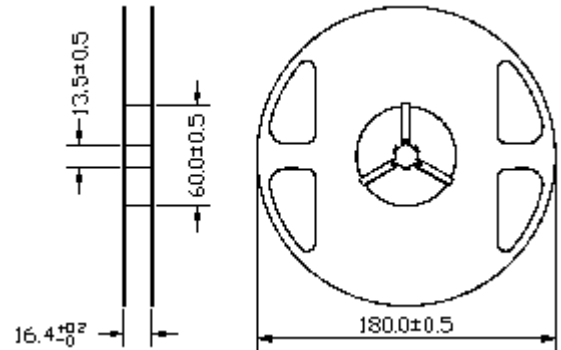
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PACKAGING SPECIFICATION

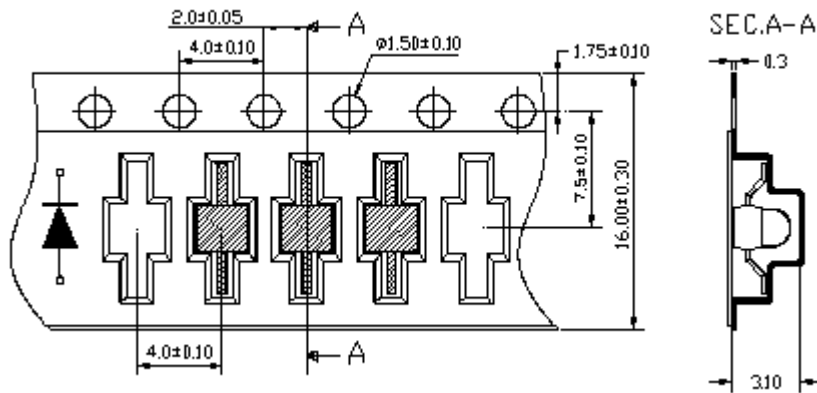
Feeding Direction



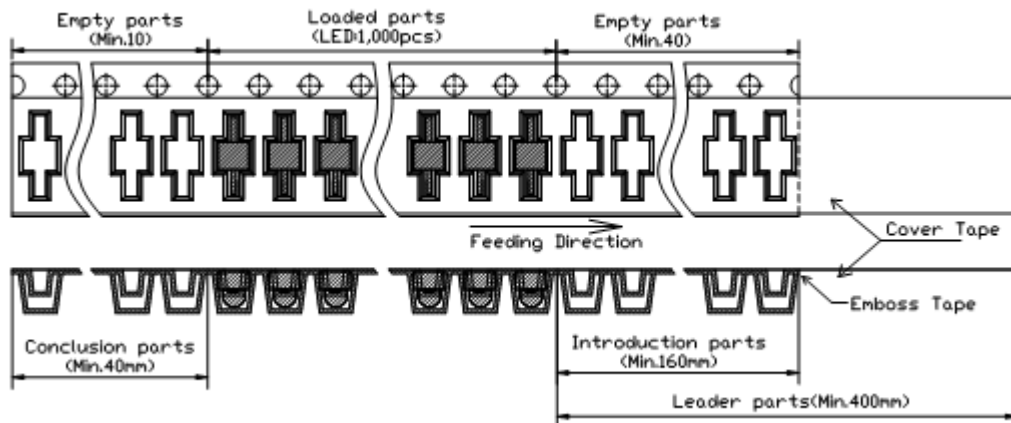
Dimensions of Reel (Unit: mm)



Dimensions of Tape (Unit: mm)



Arrangement of Tape



Notes:

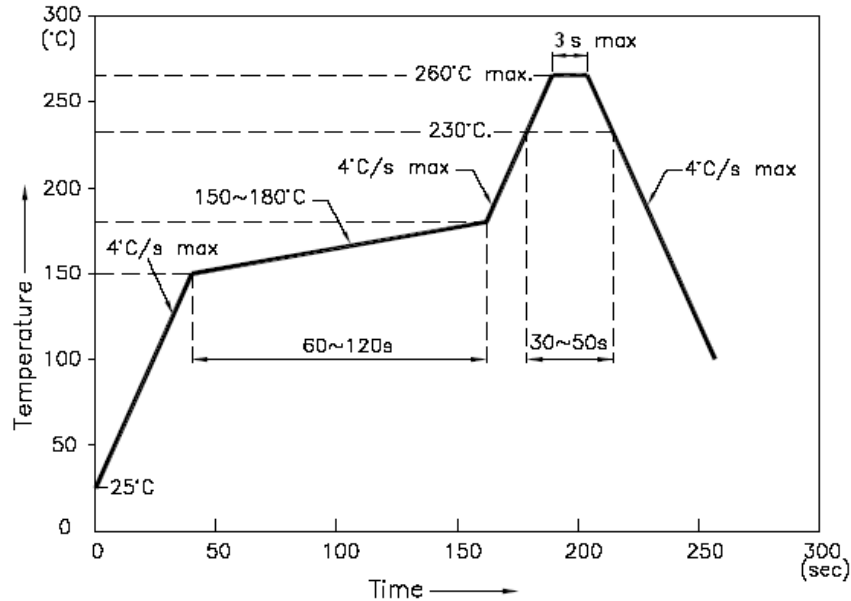
1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing lamp is two;
3. The cathode is oriented towards the tape sprocket hole;
4. 1,000 pcs/Reel



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SOLDERING CONDITIONS

Reflow Temp/Time



Notes:

1. We recommend the reflow temperature 245°C ($\pm 5^\circ\text{C}$). 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 should be 2 times or less.

Soldering Iron

Basic spec is ≤ 5 sec when 260°C. If temperature is higher, time should be shorter ($\pm 10^\circ\text{C} \rightarrow -1$ sec). Power dissipation of iron should be smaller than 20W and temperature should be controllable. Surface temperature of the device should be under 230°C.



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