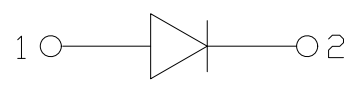
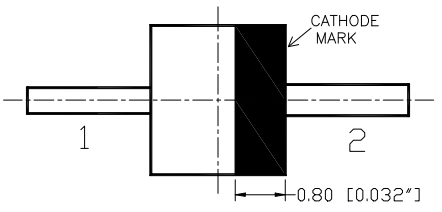
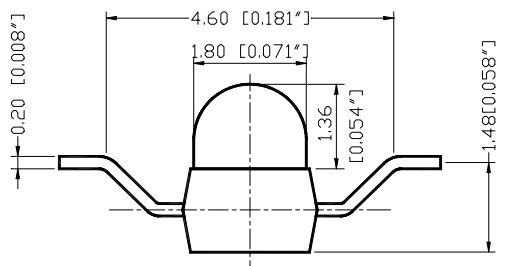
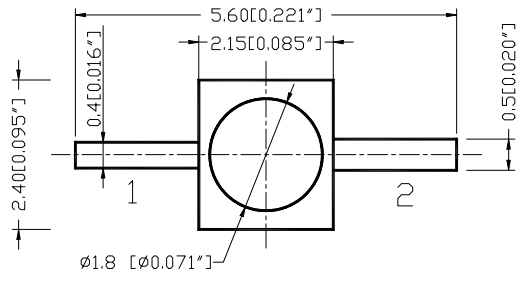
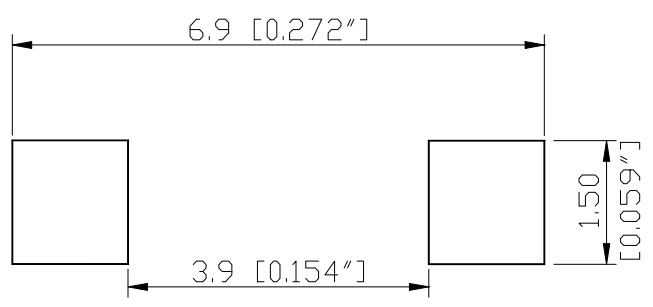


SPECIFICATION **CSM28A2CZ**
PACKAGE OUTLINES

RECOMMEND 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
CSM28A2CZ	InGaAlP	Amber	Water Clear	20°



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ABSOLUTE MAXIMUM RATINGS
(TA=25°C)

Parameter	Symbol	Max Rating	Unit
Forward Current	IF	30	mA
Reverse Current @ 5V	IR	10	μA
Power Dissipation	Pd	75	mW
Operating Temperature Range	TOP	-40~+85	°C
Storage Temperature Range	TSTG	-40~+85	°C
Peak Pulsing Current (1/10 duty f = 10KHz)	IFP	125	mA
Soldering Temperature	TSOL	Max 260°C for 5 sec Max	

OPTICAL-ELECTRICAL CHARACTERISTICS
(TA=25°C)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	Iv	IF = 20mA	-	2500	-	mcd
Forward Voltage	VF	IF = 20mA	-	2.0	2.5	V
Reverse Leakage Current	IR	VR = 5V	-	-	10	μA
Viewing Angle at 50% Iv	2θ1/2	IF = 20mA	-	20	-	Deg
Dominant Wavelength	λD	IF = 20mA	600	605	610	nm

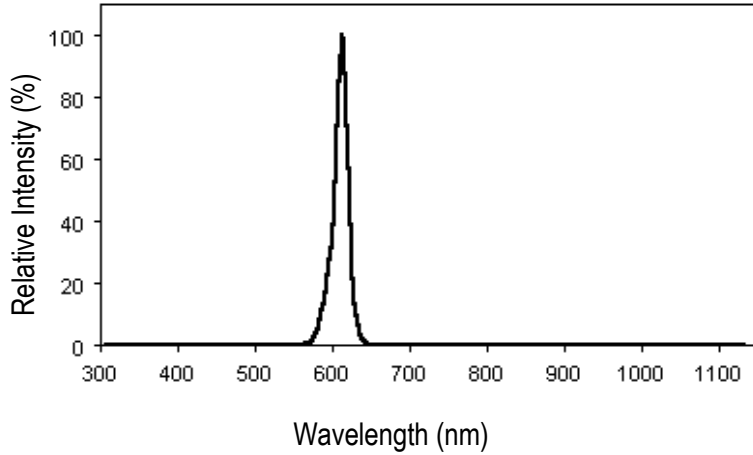
*Tolerance of viewing angle: -10 / +5 deg.



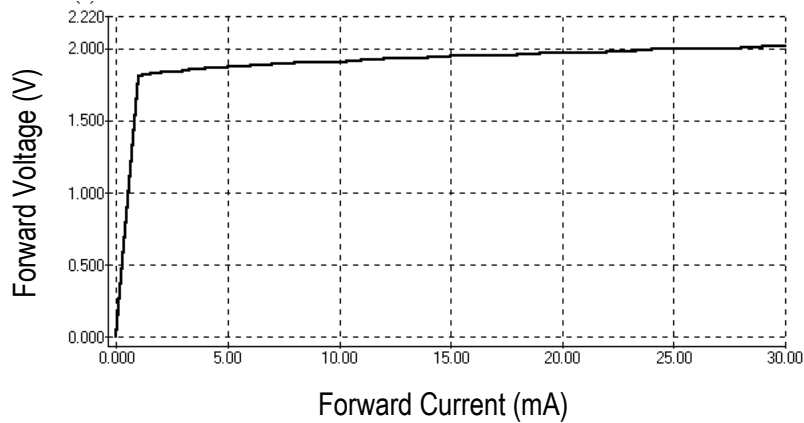
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OPTICAL CHARACTERISTIC CURVES

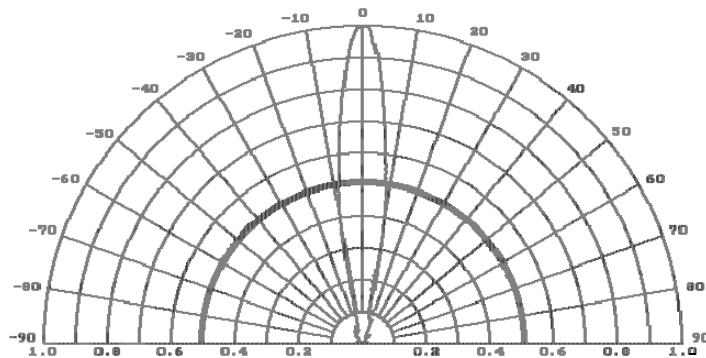
Relative Intensity vs. Wavelength



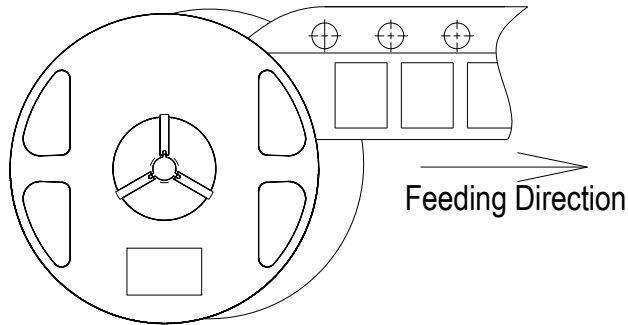
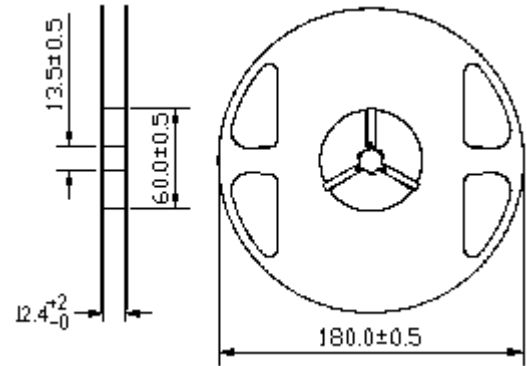
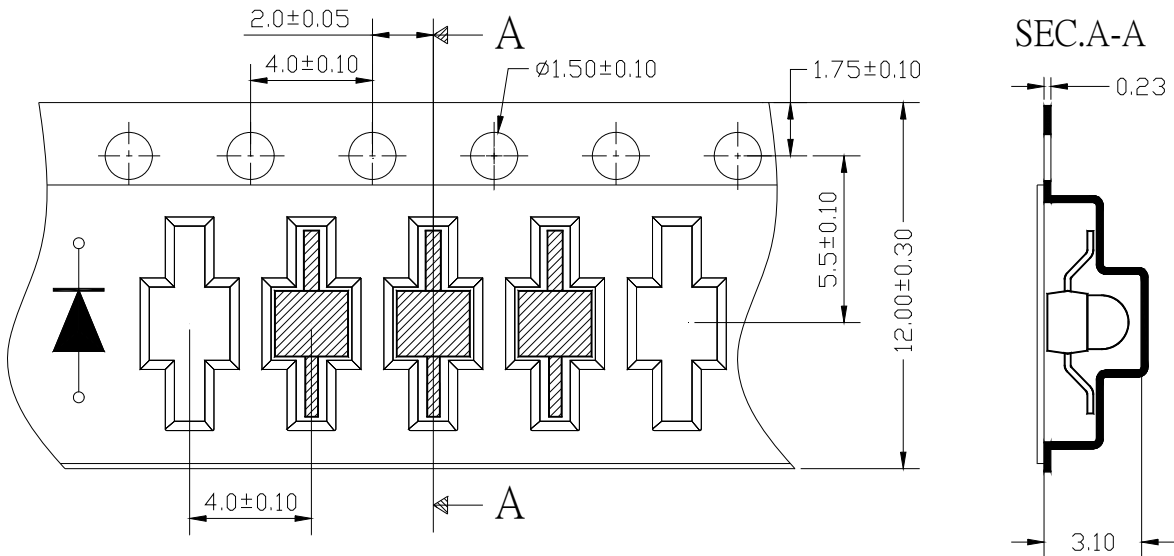
Forward Current vs. Forward Voltage



Directive Characteristics



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PACKAGING SPECIFICATION
● Feeding Direction

● Dimensions of Reel (Unit: mm)

● Dimensions of Tape (Unit: mm)

Notes:

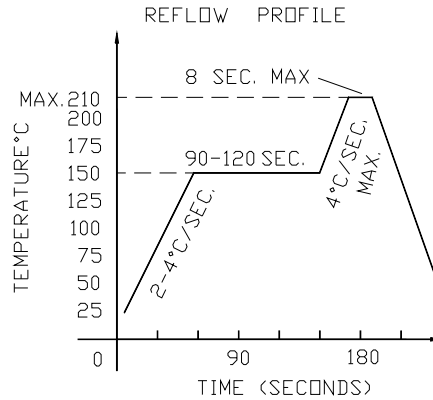
1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing lamps is two;
3. The cathode is oriented towards the tape sprocket hole.
4. 1,000pcs/Reel



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SOLDERING CONDITIONS

REFLOW PROFILE

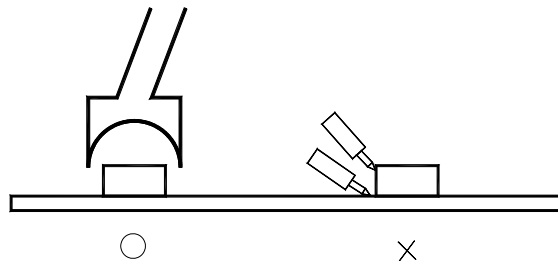


NOTES:

1. We recommend the reflow temperature 245°C ($\pm 5^\circ\text{C}$).the maximum soldering temperature should be limited to 260°C.
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.
 - Soldering iron
 - Basic spec is $\leq 5\text{sec}$ when 260°C. If temperature is higher, time should be shorter
 - (+10°C \rightarrow -1sec).Power dissipation of iron should be smaller than 20W, and temperatures should be controllable .Surface temperature of the device should be under 230°C .

Rework

1. Customer must finish rework within 5 sec under 260°C.
2. The head of iron cannot touch copper foil
3. Twin-head type is preferred.



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