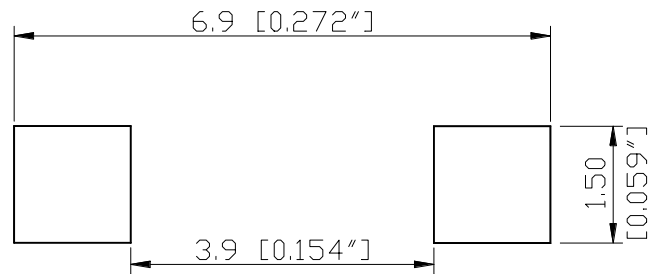
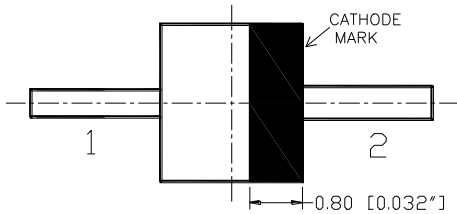
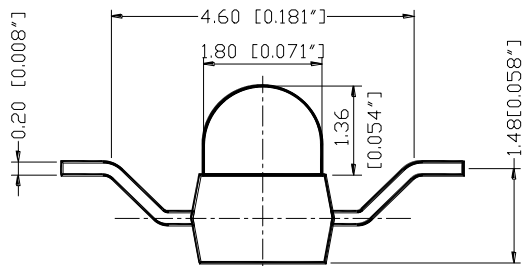
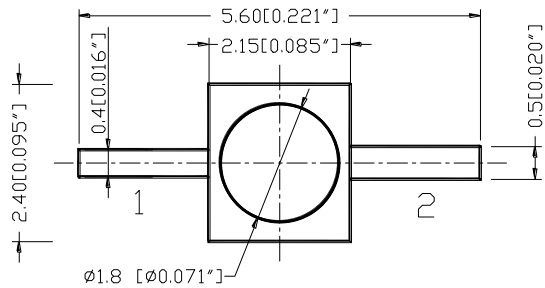


SPECIFICATION
CSM28R2CZ
PACKAGE OUTLINES

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
CSM28R2CZ	InGaAlP	Red	Water Clear	20°



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

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	75	mW
Operating Temperature Range	T _{OP}	-40~+80	°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	800	1500	-	mcd
Forward Voltage	V _F	I _F = 20mA	-	2.0	2.5	V
Reverse Leakage Current	I _R	V _R = 5V	-	-	10	μA
Viewing Angle at 50% I _v	2θ _{1/2}	I _F = 20mA	-	15	-	Deg
Peak Wavelength	λ _P	I _F = 20mA	-	635	-	nm
Dominant Wavelength	λ _D	I _F = 20mA	-	630	-	nm

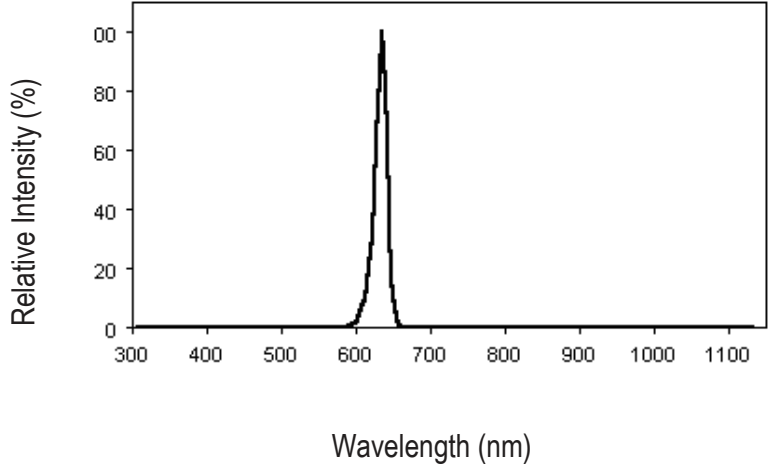
*Tolerance of viewing angle: -10 / +5 deg.



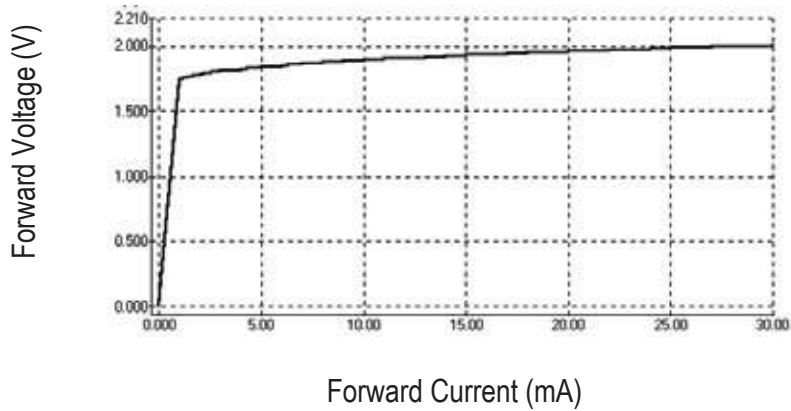
ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

OPTICAL CHARACTERISTIC CURVES

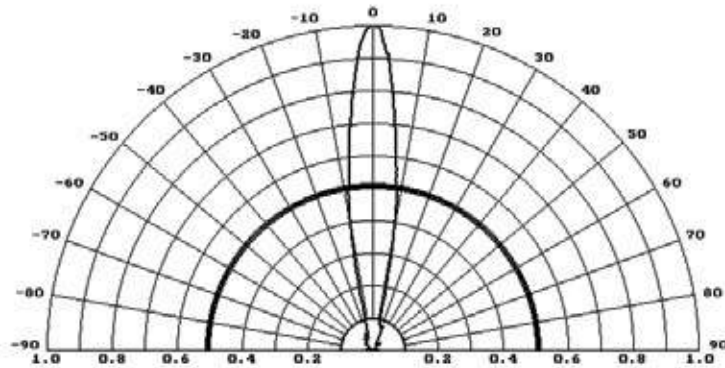
Relative Intensity vs. Wavelength



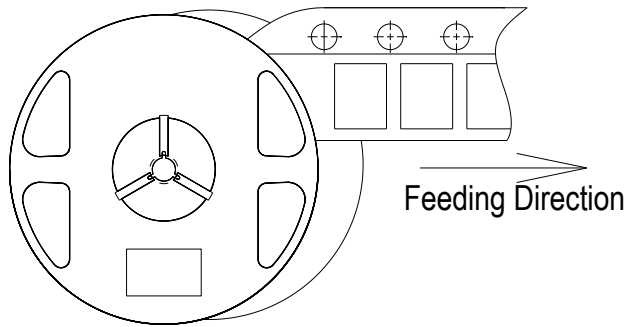
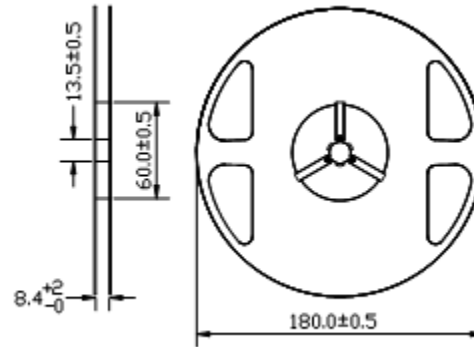
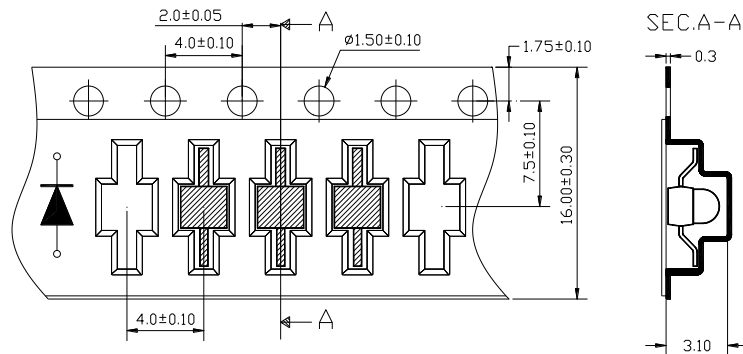
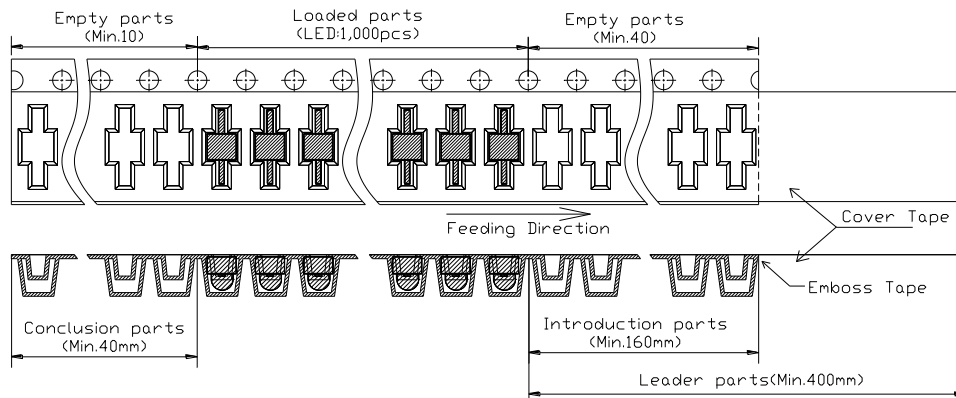
Forward Current vs. Forward Voltage



Directive Characteristics



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

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 lamps is two
3. The cathode is oriented towards the tape sprocket hole.
4. 1000 pc/reel



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

SOLDERING CONDITIONS

RECOMMENDED Sn-PB IR-Reflow Soldering Profile



RECOMMENDED Pb-Free Soldering Profile



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com