7016X Series
1208 Package Size
Surface Mount Display LED

Clear non-diffused lens. Available in red and green color options with a 110 degree viewing angle.

Applications

- Wearable and Portable Devices
- Automotive Features
- Navigations Systems
- Home and Smart Appliance
- Backlit Keypads
- Medical Devices
- Health Care Application
- Industrial Control Systems
- Status Indicator

Key Features

- Surface mount technology
- Tape and reel packaged for high-speed auto insertion
- Available colors: red and green
- Convection and vapor-phase reflow compatible
- Compact form enables high density placement
- Viewing angle: 110°
- Packaged 2500 pieces per reel
- Leading edge LED optoelectronic performance
- Exceptional reliability
- Stringent process controls assure quality
- Extensive qualification testing to meet strictest requirements
- Designed to permit easy post-reflow solder joint inspection
- MSL Rating 2
- For custom LED color contact VCC
- RoHS and REACH Compliant

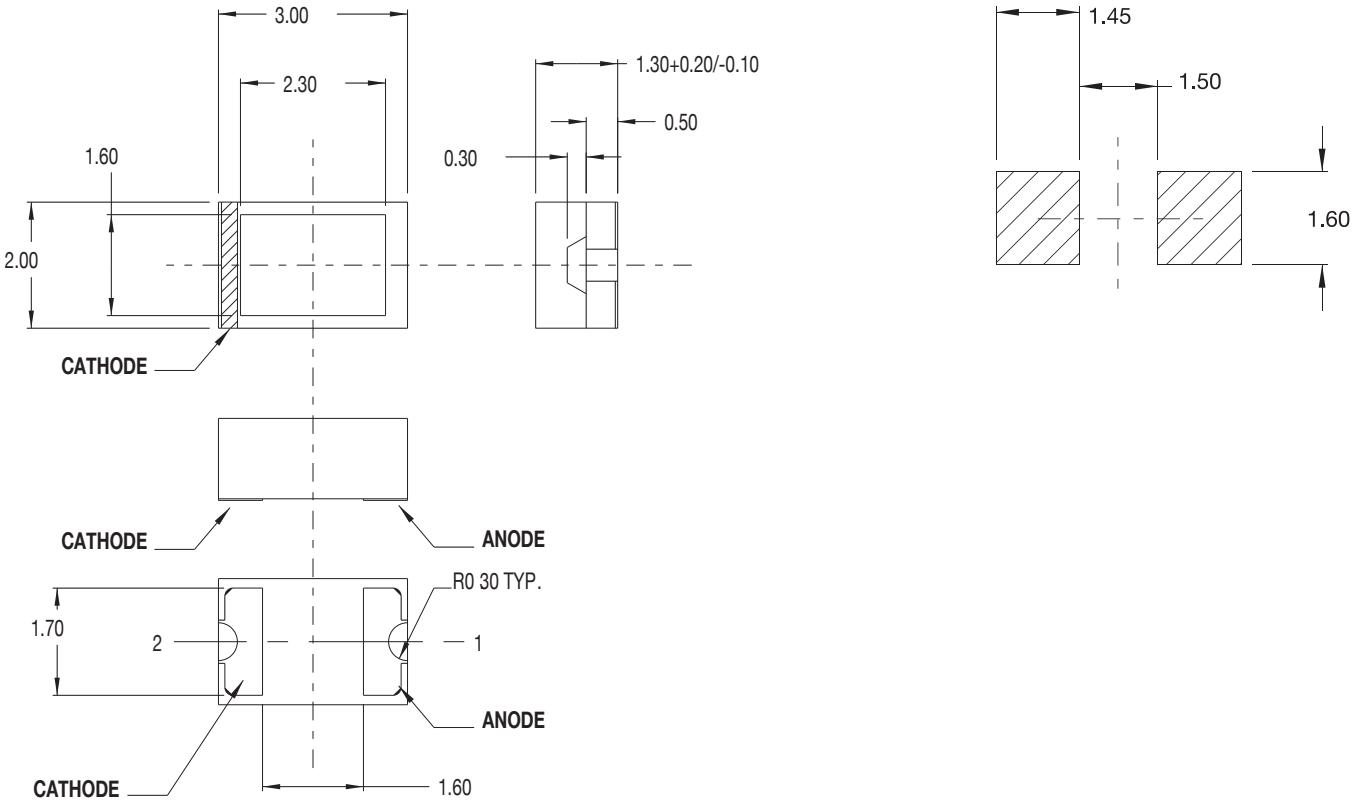
Ordering Data

Series	Emmited Color/Lens Color
7016X	5

5	Green
1	Red
11	Red

Product Dimensions

Recommended Soldering Pattern



Notes:
1. All dimensions are in mm
2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

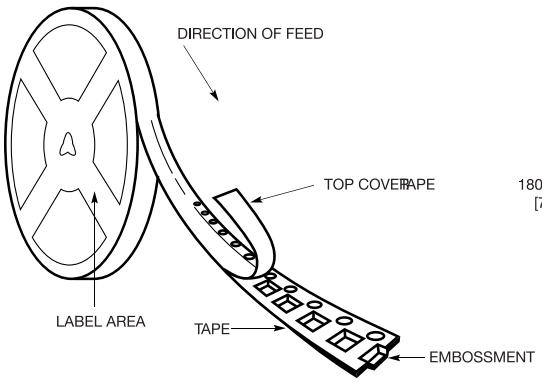
Product Specifications

Electrical-Optical Characteristics and Ratings

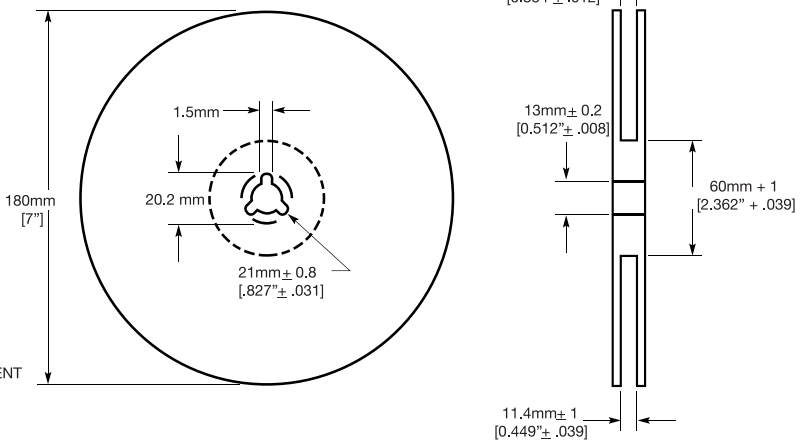
PartNumber	7016X1	7016X11	7016X5
Output Color	Red	Red	Green
Diffusion	Non-Diffused	Non-Diffused	Non-Diffused
Package Color	Clear	Clear	Clear
Power Dissipation (mW)	75	75	75
Peak Forward Current Max. (mA)	60	75	60
Test Current (mA)	20	20	20
Operating Temperature (˚C)	-30 to +85	-30 to +85	-30 to +85
Storage Temperature (˚C)	-40 to +85	-40 to +85	-40 to +85
Forward Voltage Typ. (V)	2.0	1.75	2.2
Forward Voltage Max. (V)	-	-	-
Viewing Angle (degrees)	110	110	110
Luminous Intensity Min. (mcd)	2.2	5.6	5.6
Luminous Intensity Typ. (mcd)	6.3	16	25
Peak Wavelength (nm)	650	660	570

Tape and Reel Specifications

Direction of Feed



Reel Dimensions



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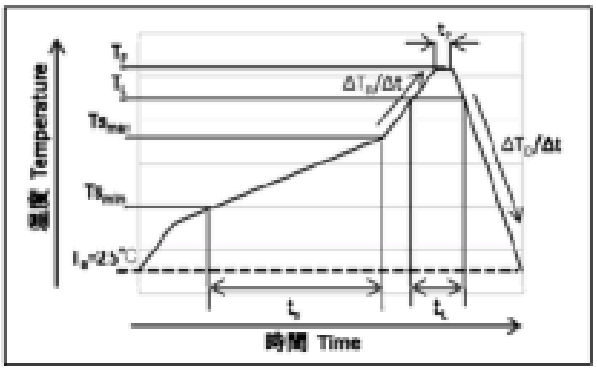
Recommended Reflow Soldering Profile

• Meaning of marks, Conditions

Mark	Meanings	Conditions
Ts_{max}	Maximum of pre-heating temperature	180℃
Ts_{min}	Minimum of pre-heating temperature	140℃
Ts	Time from Ts_{min} to Ts_{max}	Over 60sec.
T_L	Reference temperature	210~250℃
t_L	Retention time for T_L	Within 40sec.
T_P	Peak temperature	250℃(Max)
t_P	Time for peak temperature	Within 10sec.
$\Delta T_R/\Delta t$	Temperature rising rate	Under 3℃/sec.
$\Delta T_D/\Delta t$	Temperature decreasing rate	Over -3℃/sec.



※Above conditions are for reference. Therefore, evaluate by customer's own circuit boards and reflow furnaces before using, because stress from circuit boards and temperature variations of reflow furnaces vary by customer's own conditions.

4-7. Attention Points in Soldering Operation

This product was developed as a surface mount LED especially suitable for reflow soldering. So reflow soldering is recommended. Incase of implementing manual soldering, please take care of following points.

①SOLDER USED

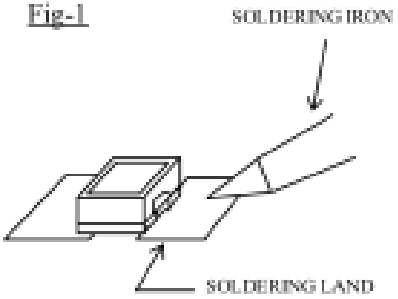
Sn-Cu, Sn-Ag-Cu, Sn-Ag-Bi-Cu

②HAND SOLDERING CONDITION

LED products do not contain reinforcement material such as a glass fillers. So thermal stress by soldering greatly influence its reliability. Please keep following points for manual soldering.

	ITEM	RECOMMENDED CONDITION
a)	Heating method	Condition) Temp. of iron top less than 400℃ within 3 sec. Heating on PCB pattern, not direct to the LED. (Fig-1)
b)	Handling after soldering	Please handle after the part temp. Goes down to room temp.

Fig-1



4-8. Cleaning after Soldering

Please follow the conditions below if the cleaning is necessary after soldering.

Solvent	We recommend to use alcohols solvent such as, isopropyl alcohols
Temperature	Under 30℃ within 3 minutes
Ultrasonic Cleaning	15W／Below 1 liter (capacity of tank)
Drying	Under 100℃ within 3 minutes

Compliances and Approvals

REACH COMPLIANCE

RoHS COMPLIANT