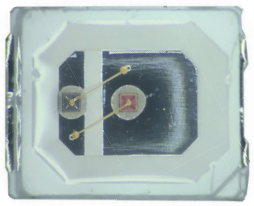
PLCC Series

RTSA0302DCC0C003

(2835IRR660/905)

Datasheet



Introduction :

PLCC 2835 IR R660/905nm is an infrared emitting diode with bi-color LED wavelength design. Depends on the principle of light (Red and IR) absorption characteristics of oxygenated and deoxygenated hemoglobin in the blood, the 2835 IR R660/905nm is suitable for Blood Oxygen Saturation Monitor application.

Description :

- Infrared Emitting Diode
- Bi-color LED Wavelength(905nm,660nm)
- Sensor and Dximeter Application.

Feature and Benefits :

- Based on Red: AlGaInP technology
- Wide viewing angle : 120°
- Excellent performance and visibility
- Suitable for all SMT assembly methods
- IR reflow process compatible
- Environmental friendly; RoHS compliance

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General Information

Ordering Code Format

R	T	SA	03	02	DC	C0C0	0	3
X1	X2	X3	X4	X5	X6	X7	X8	X9

X1		X2		X3		X4		X5	
Type		Component		Substrate		Series		Chip size	
R	IR	T	PLCC	SA	low Cup(Square)-PPA	03	2835	02	1010

X6		X7		X8		X14-X16	
Chip Wavelenth		Beam angle		Serial Number		Serial Number	
DC	660+905	C0C0	120°	0	0	3	Chip type

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Absolute Maximum Ratings

Absolute maximum ratings (T_a=25°C)

Parameter	Symbol	Value	Units
DC Current	I_F	40	mA
Pulse Current (tp<=100μs, Duty cycle=0.25)	I_{pulse}	50	mA
Reverse Current	I_R	10	uA
Reverse Voltage	V_R	5	V
LED Junction Temperature	T_J	90	°C
Operating Temperature	-	-40 ~ +85	°C
Storage Temperature	-	-40 ~ +100	°C
ESD Sensitivity (HBM)	-	2,000	V
Soldering Temperature	T_s	Reflow Soldering : 255~260°C/10~30sec Manual Soldering : 350°C/3sec	

Notes:
1. Proper current derating must be observed to maintain junction temperature below the maximum at all time.
2. LEDs are not designed to be driven in reverse bias.
3. tp: Pulse width time

Characteristics

Parameter		Symbol	Value	Units
Viewing Angle	(Typ.)	$2\Theta_{1/2}$	120	Degree
Forward Wavelemgh(IR905)		-	900-915	nm
Backward Wavelength(Red660)			657-663	nm
JEDEC Moisture Sensitivity		-	Level 3 **Floor Life** Conditions: ≤30°C / 60% RH **Soak Requirements(Standard)** Time (hours): 120+1/-0 Conditions: 60°C / 60% RH	-

Note:
$2\theta_{1/2}$ is the off-axis angle where the Radiometric Power intensity is half of the axial Radiometric Power intensity.

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Radiometric Power Characteristic

Characteristics, I_F=20mA, V_F = 5V and T_J=25˚C

Color	Group	Min. Radiometric Power(mW) @20mA	Max. Radiometric Power(mW) @20mA	Order Code
IR905	AB0	5	10	RTSA0302DCC0C003
R660		10	15	

Note:
The Radiometric Power performance is guaranteed within published operating conditions. Edison Opto maintains a tolerance of ±10% on Radiometric Power measurements.

Wavelength Bin Structure

Color	Group	Min. Wp (nm)	Max. Wp (nm)	Order Code
IR905	A0	900	915	RTSA0302DCC0C003
R660		657	663	

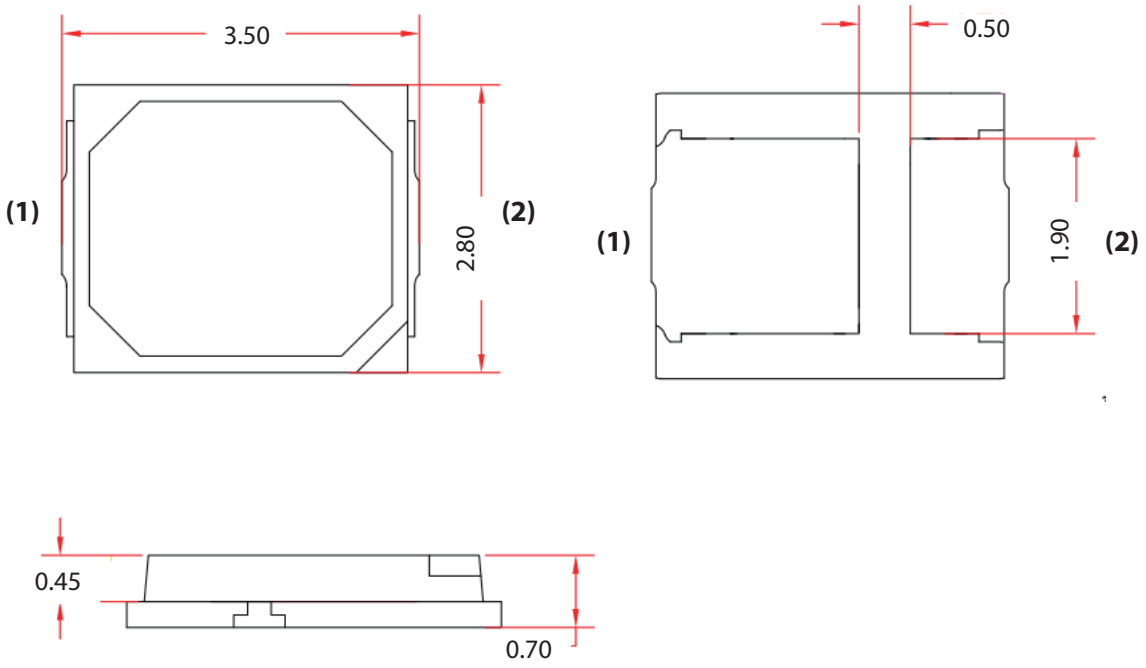
Note:
Peak wavelength Measurement Allowance is ± 2nm.

Voltage Bin Structure

Color	Group	Min. Voltage (V)	Max. Voltage (V)	Order Code
IR905	UAA	1.2	1.4	RTSA0302DCC0C003
R660		1.8	2.1	
IR905	UAB	1.2	1.4	
R660		2.1	2.4	
IR905	UBA	1.4	1.6	
R660		1.8	2.1	
IR905	UBB	1.4	1.6	
R660		2.1	2.4	

Note:
Forward voltage measurement allowance is ± 0.06V.

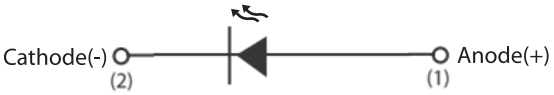
Mechanical Dimensions



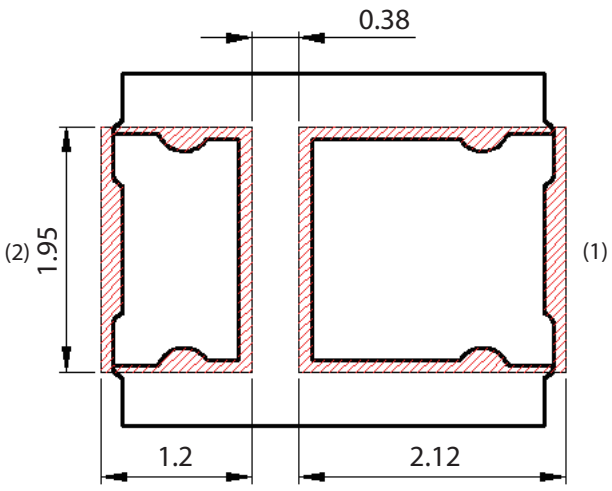
Circuit

Forward IR 905

Backward R 660



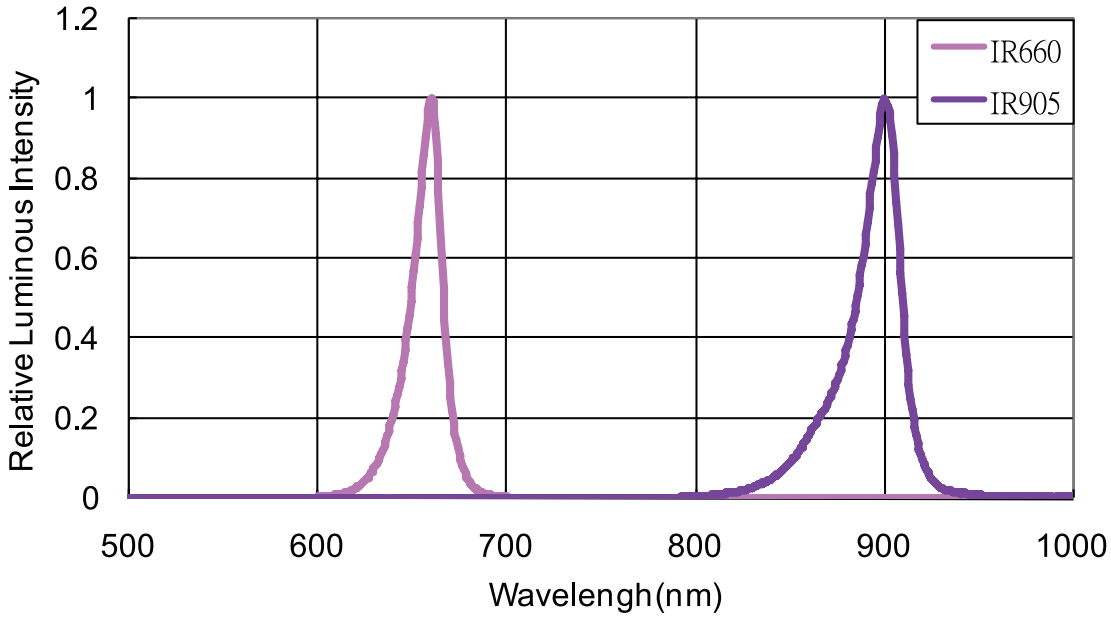
Solder Pad



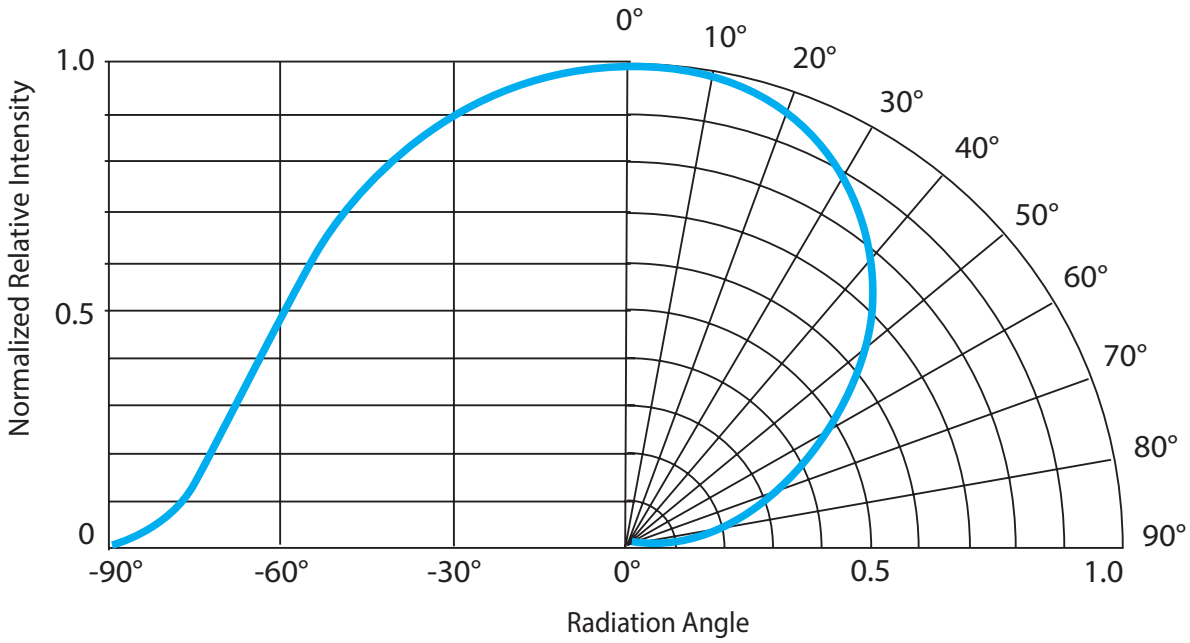
Notes:
1. All dimensions are measured in mm.
2. Tolerance : ± 0.20 mm

Characteristic curve

Color Spectrum



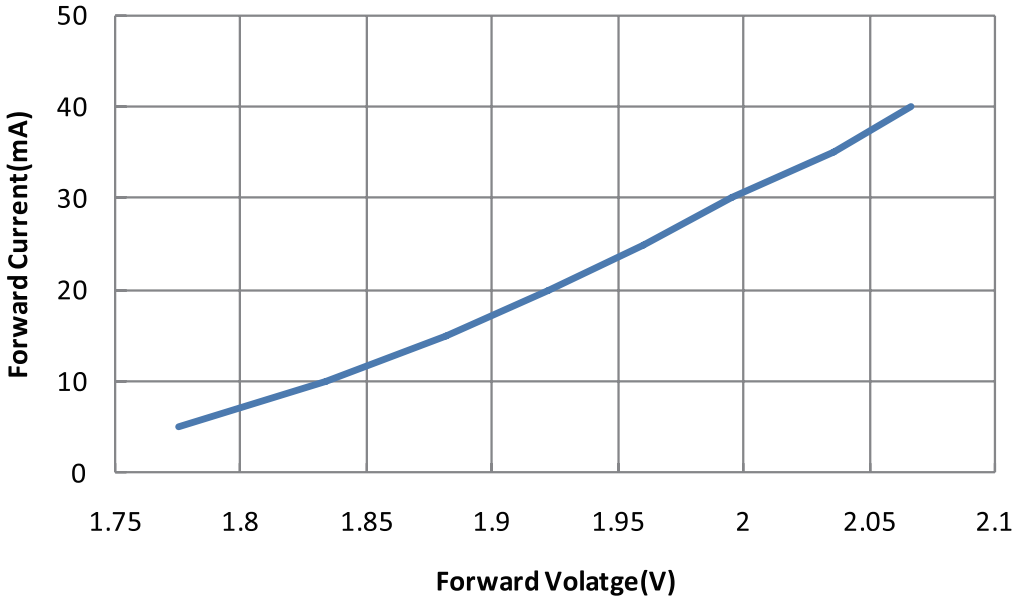
Beam Pattern



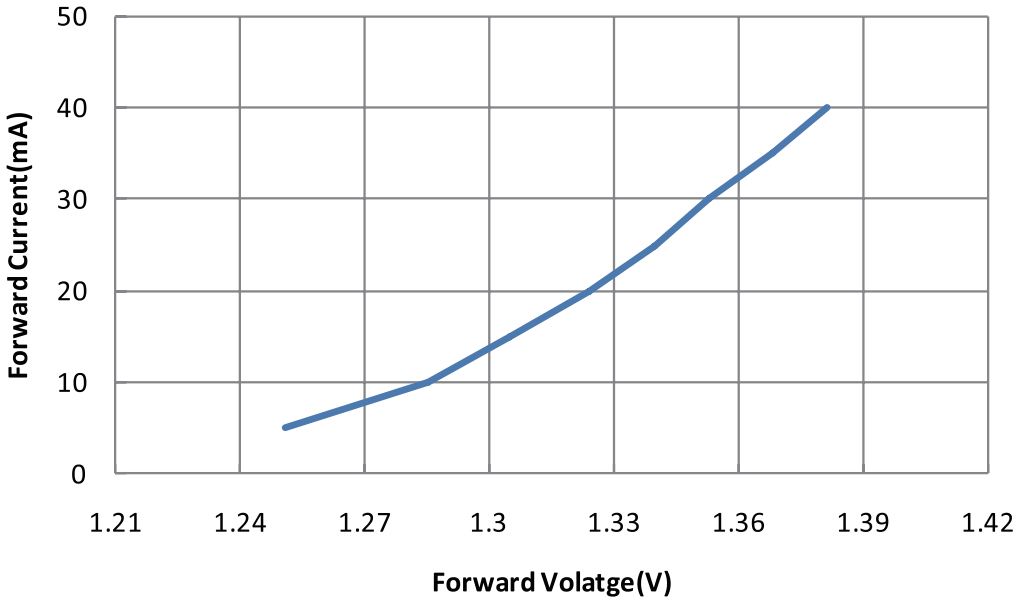
Beam pattern diagram for PLCC series

Forward Current vs. Forward Voltage

Red660

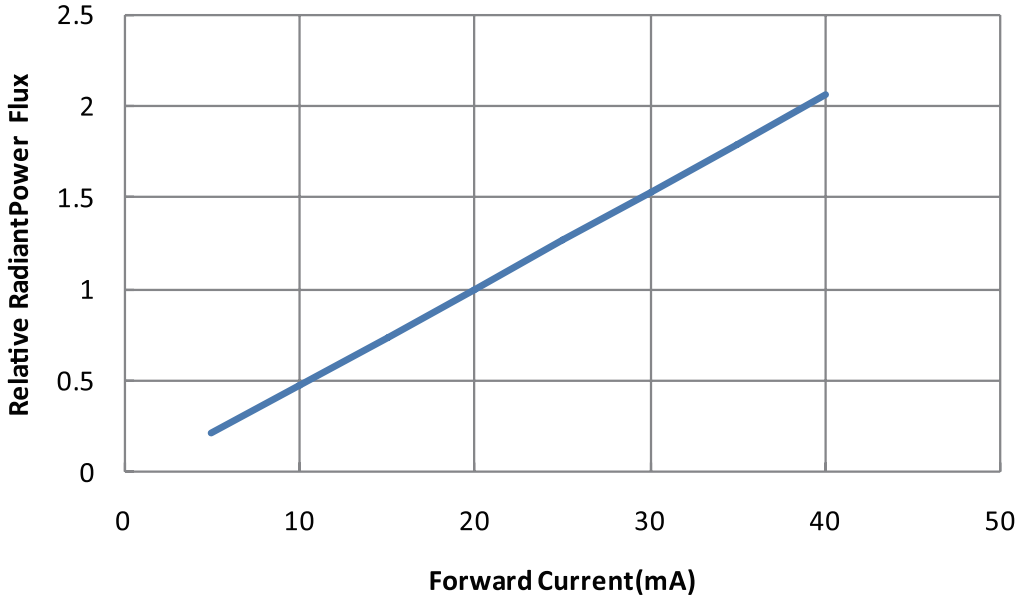


IR905

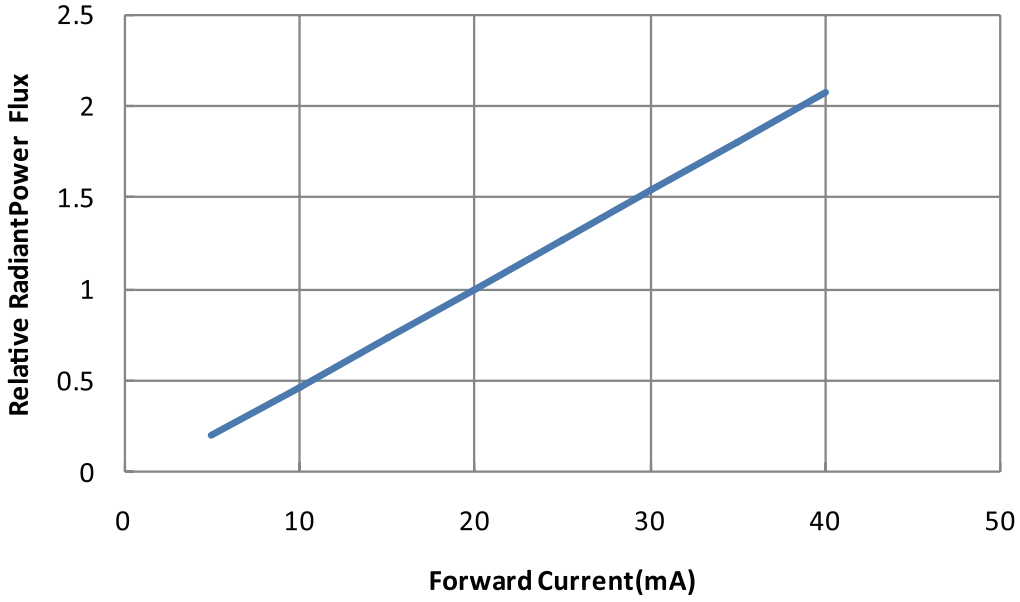


Relative RadiantPower Intensity vs. Forward Current

Red660

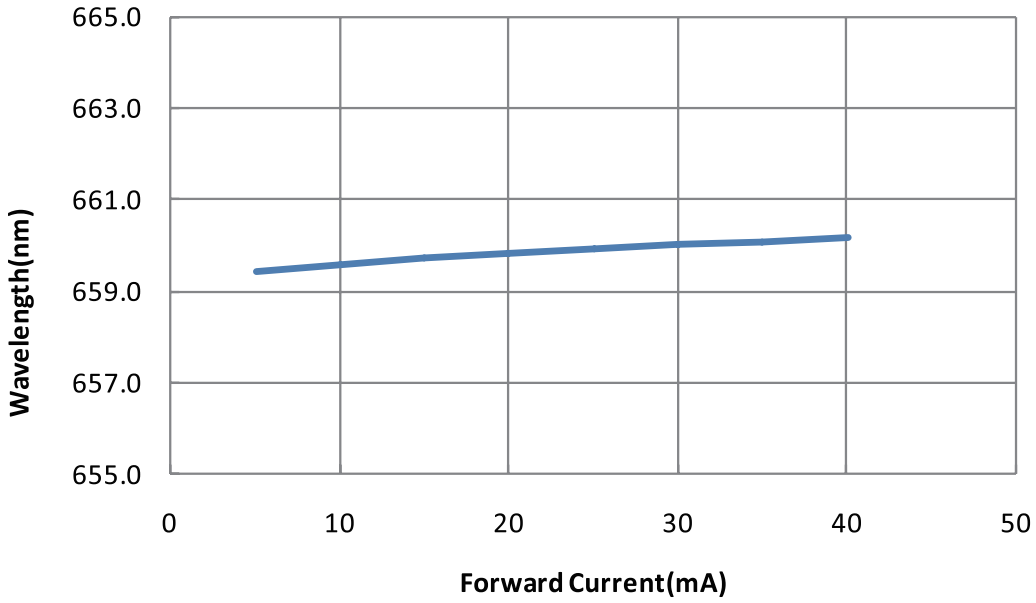


IR905

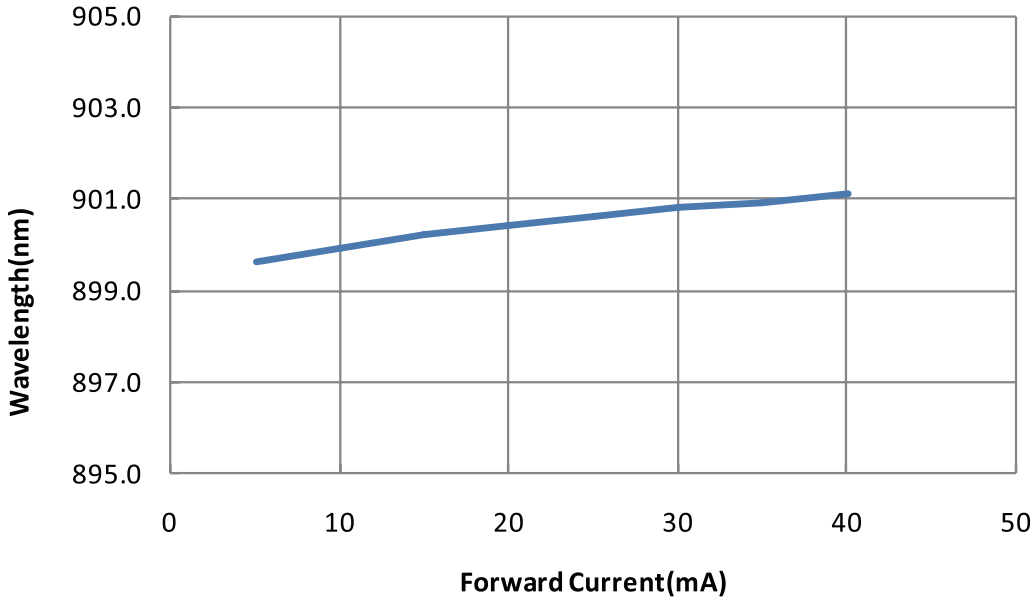


Wavelength(Wp) vs. Forward Current

Red660



IR905



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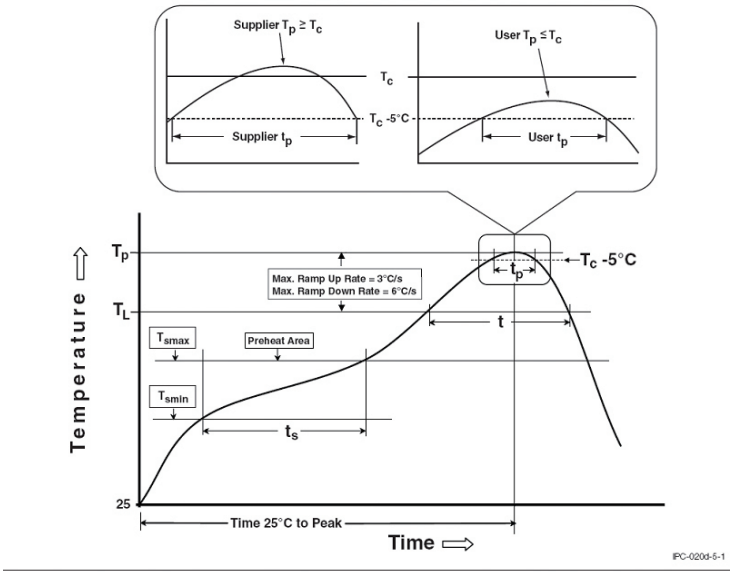
Reflow Profile

The following reflow profile is from IPC/JEDEC J-STD-020D which provided here for reference.



Reflow Profiles

Classification Reflow Profiles

Profile Feature	Pb-Free Assembly
Preheat & Soak Temperature min (Tsmin) Temperature max (Tsmax) Time (Tsmin to Tsmax) (ts)	150 °C 200 °C 60-120 seconds
Average ramp-up rate (Tsmax to Tp)	3 °C/second max.
Liquidous temperature (TL) Time at liquidous (tL)	217 °C 60-150 seconds
Peak package body temperature (Tp)*	255 °C ~260 °C *
Classification temperature (Tc)	260 °C
Time (tp)** within 5 °C of the specified classification temperature (Tc)	30** seconds
Average ramp-down rate (Tp to Tsmax)	6°C/second max.
Time 25°C to peak temperature	8 minutes max.

Notes:
1. * Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum.
2. ** Tolerance for time at peak profile temperature (tp) is defined as a supplier minimum and a user maximum.

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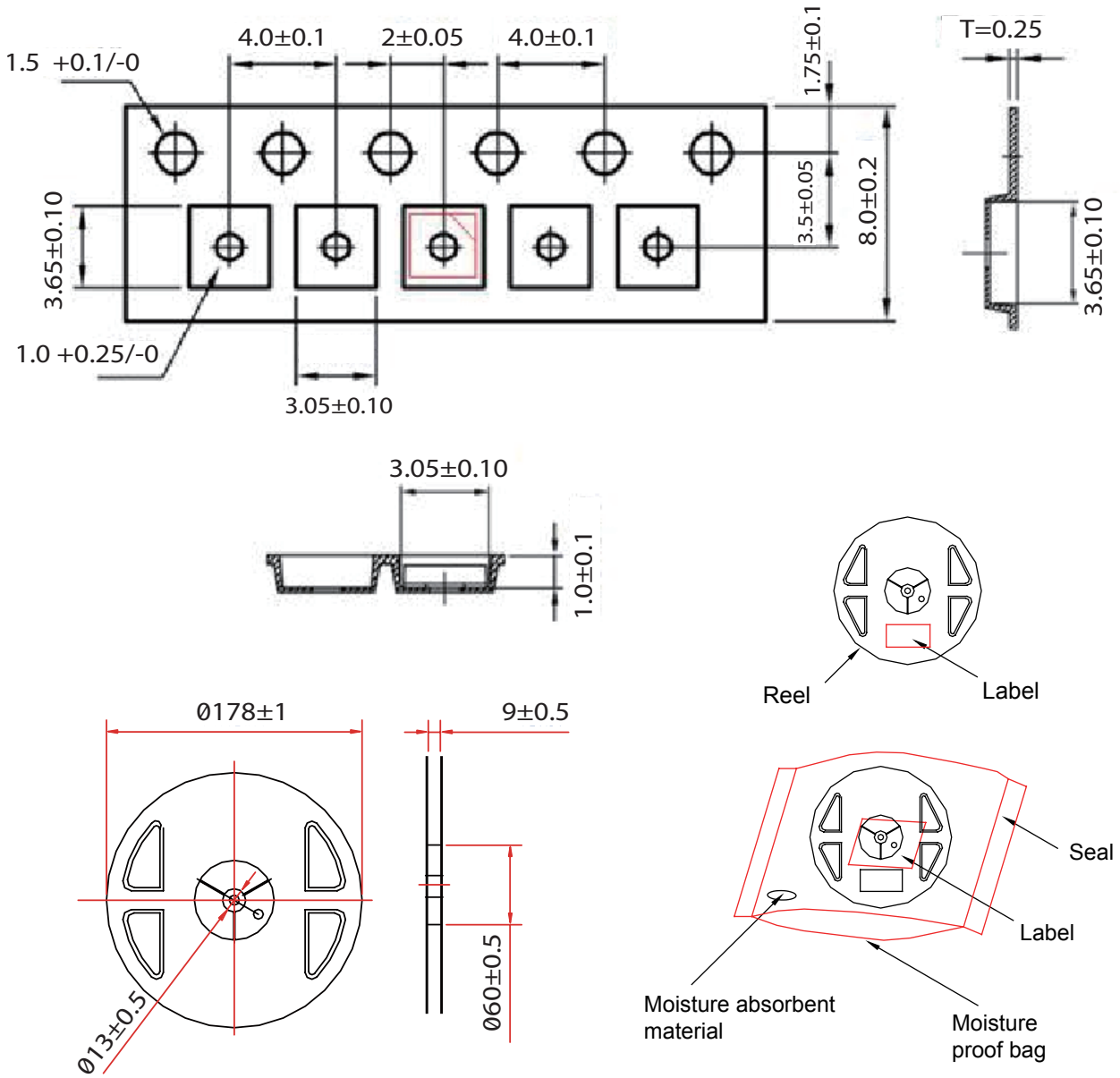
Product Packaging Information



Item	Quantity	Total	Dimensions(mm)
Reel	4,000pcs	4,000pcs	R=178
Starting with 150pcs empty, and 150pcs empty at the last			

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Revision History

Versions	Description	Release Date
1	Establish a Datasheet	2020/07/14

About Edison Opto

Edison Opto is a leading manufacturer of high power LED and a solution provider experienced in LDMS. LDMS is an integrated program derived from the four essential technologies in LED lighting applications- Thermal Management, Electrical Scheme, Mechanical Refinement, Optical Optimization, to provide customer with various LED components and modules. More Information about the company and our products can be found at www.edison-opto.com

www.edison-opto.com

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