



**Pb-free
HEAT**



GSPW11□1JTE Series High Efficiency , Power LED

Features

Package	Ceramic LCC Type Outer Dimension 2.5 x 1.5 x 0.7mm (L x W x H)
Product features	<ul style="list-style-type: none"> • 78lm/W(5000K,Ra70) of environmentally friendly like CO₂ reduction, white color source. • Wide variety of color temperatures correspond to general lighting uses • According to ANSI standard. • 2 type color rendering index variation.(Ra:85, 70) • Storage temperature :-40 ~100 • Operating temperature :-40 ~ 85 • Lead-free soldering compatible • RoHS compliant
Color temperature	7 type color temperature variation. 6,500K, 5,000K, 4,000K, 3,000K, 2,700K, 2,400K, 2,000K Regarding 2,400K and 2,000K, we will make response depending on your detailed request. Please contact Stanley directly.
Half Intensity Angle	115 deg.
Die materials	InGaN
Rank grouping parameter	Sorted by luminous flux and chromaticity per rank taping
Assembly method	Auto pick & place machine (Auto Mounter)
Soldering methods	Recommendation of Reflow soldering / Manual Soldering
Taping and reel	3,000pcs per reel in a 8mm width tape. (Standard) Reel diameter: φ180mm
ESD	1kV (HBM)

Recommended Applications

- Residential lighting, Office lighting, Plant lighting, Store lighting, and Special lighting etc.

Color , Luminous Flux and CRI

(Ta=25 ,IF=80mA)

Part No.	Emitted Color	Lens Color	Color Temp. TYP.	Chromaticity Coordinates TYP.		CRI(Ra) TYP.	Luminous Flux ϕ_v (lm)	
				x	y		MIN.	TYP.
				GSPW1141JTE-50X	Natural White		Pale Yellow	5,000K
GSPW1151JTE-65Y	Daylight	Pale Yellow	6,500K	0.312	0.328	85	10	17
GSPW1151JTE-50Y	Natural White		5,000K	0.345	0.355	85	10	17
GSPW1151JTE-40Y	White		4,000K	0.382	0.380	85	8.2	13
GSPW1151JTE-30Y	Warm White	Pale Orange	3,000K	0.434	0.403	85	8.2	13
GSPW1151JTE-27Y			2,700K	0.458	0.410	85	8.2	13

Absolute Maximum Ratings

(Ta=25)

Item	Symbol	Ratings	Unit
Power Dissipation	P_d	600	mW
Continuous Forward Current ^{※1}	I_F	150	mA
Repetitive Peak Forward Current ^{※2}	I_{FRM}	200	mA
Allowable Reverse Current	I_R	85	mA
ESD(HBM) ^{※3}	ESD	1,000	V
Junction Temperature	T_j	135	°C
Solder Temperature ^{※4} (Reflow soldering)	T_{sld}	260	°C
Operating Temperature ^{※5}	T_{opr}	-40~+85	°C
Storage Temperature ^{※5}	T_{stg}	-40~+100	°C

1 Please check junction temperature $T_j=135$ is not exceeded when you set the current.

2 I_{FRM} Measurement condition / Pulse Width 1ms., Duty 1/10

3 ESD testing method : EIAJ 4701/300(304) (HBM) 1.5kΩ, 100pF

4 Please refer to the attached sheets soldering conditions.

5 The range of operating and storage temperature is not taping condition.

Thermal Characteristics

(Ta=25)

Item	Symbol	Ratings TYP.	Unit
Thermal Resistance ^{※6} (Junction/ ambient)	$R_{th(j-a)}$	320	°C/W
Thermal Resistance (Junction/ Solder Point)	$R_{th(j-s)}$	135	°C/W
Forward Current Derating ^{※6} (Ta=25°C or higher)	ΔI_F	1.22	mA/°C

6 $R_{th(j-a)}$ Measurement Condition

- PCB : FR-4(t=1.6mm)
- Soldering Pattern : 3mm²(Recommended Soldering Pattern)

Electro-Optical Characteristics

(Ta=25)

Item	Condition	Symbol	Characteristics		Unit
Forward Voltage	I _F =80mA	V _F	MIN.	2.7	V
			TYP.	3.2	
			MAX.	3.8	
Reverse Voltage	I _R =85mA	V _R	MIN.	0.9	V
			MAX.	1.7	
Half Intensity Angle	I _F =80mA	Δ θ _x	TYP.	115	deg.
		Δ θ _y			

Luminous Flux Rank (Unit : lm)

(Ta=25)

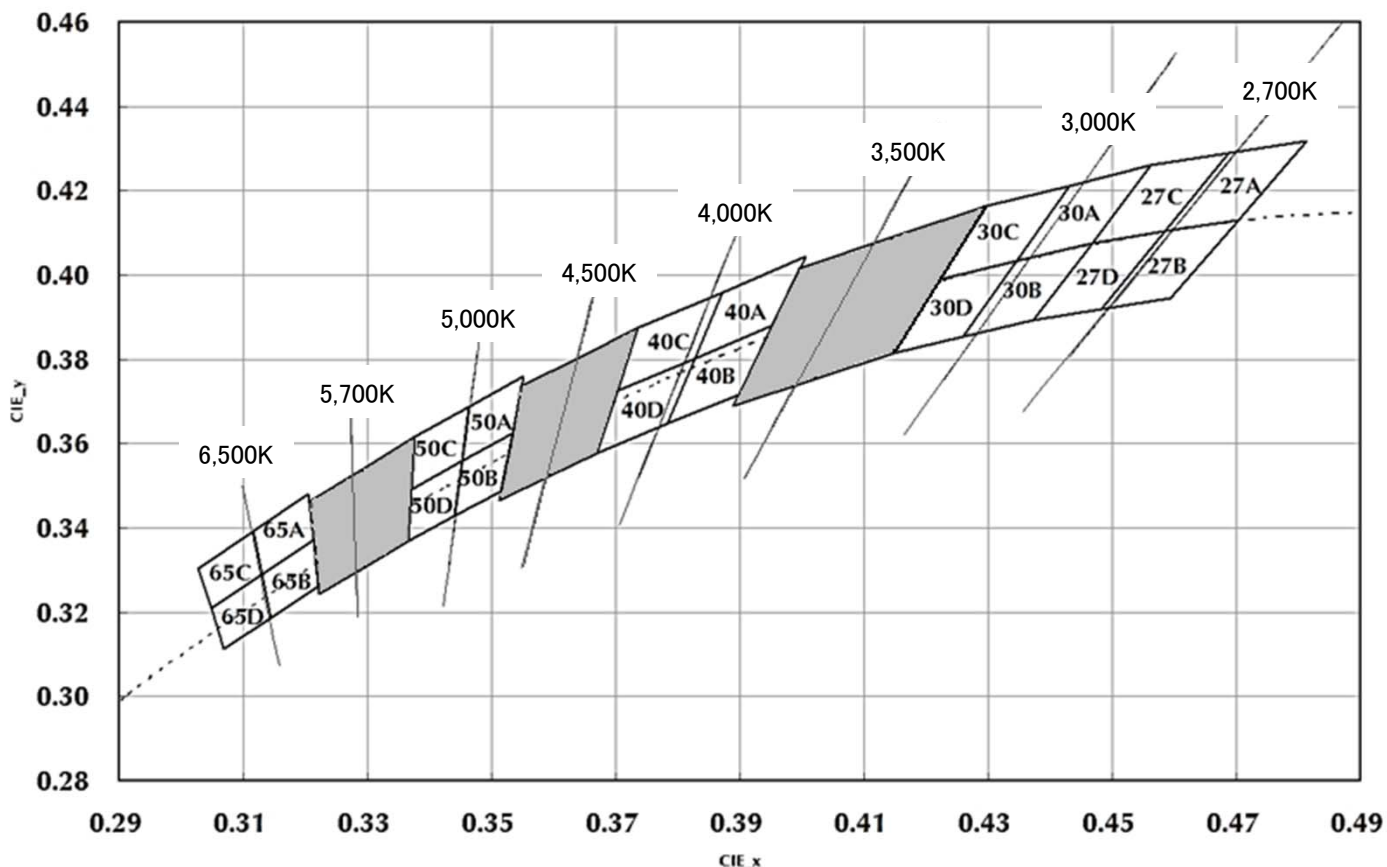
Part No.	Rank		AZ	B1	B2	B3	B4	B5	B6	CRI (Ra) Typ.
	Luminous Flux									
	Min.	Max.	8.2	10	12	15	18	22	27	
			10	12	15	18	22	27	33	
GSPW1141JTE-50X										70
GSPW1151JTE-65Y										85
GSPW1151JTE-50Y										
GSPW1151JTE-40Y										
GSPW1151JTE-30Y										
GSPW1151JTE-27Y										

Tolerance Each Rank : +/-10%

※LEDs shall be "Luminous Flux" sorted put into the following chart and each rank parts shall be packed separately when shipping.

Sorting Chart for Chromaticity Coordinates

(Ta=25)

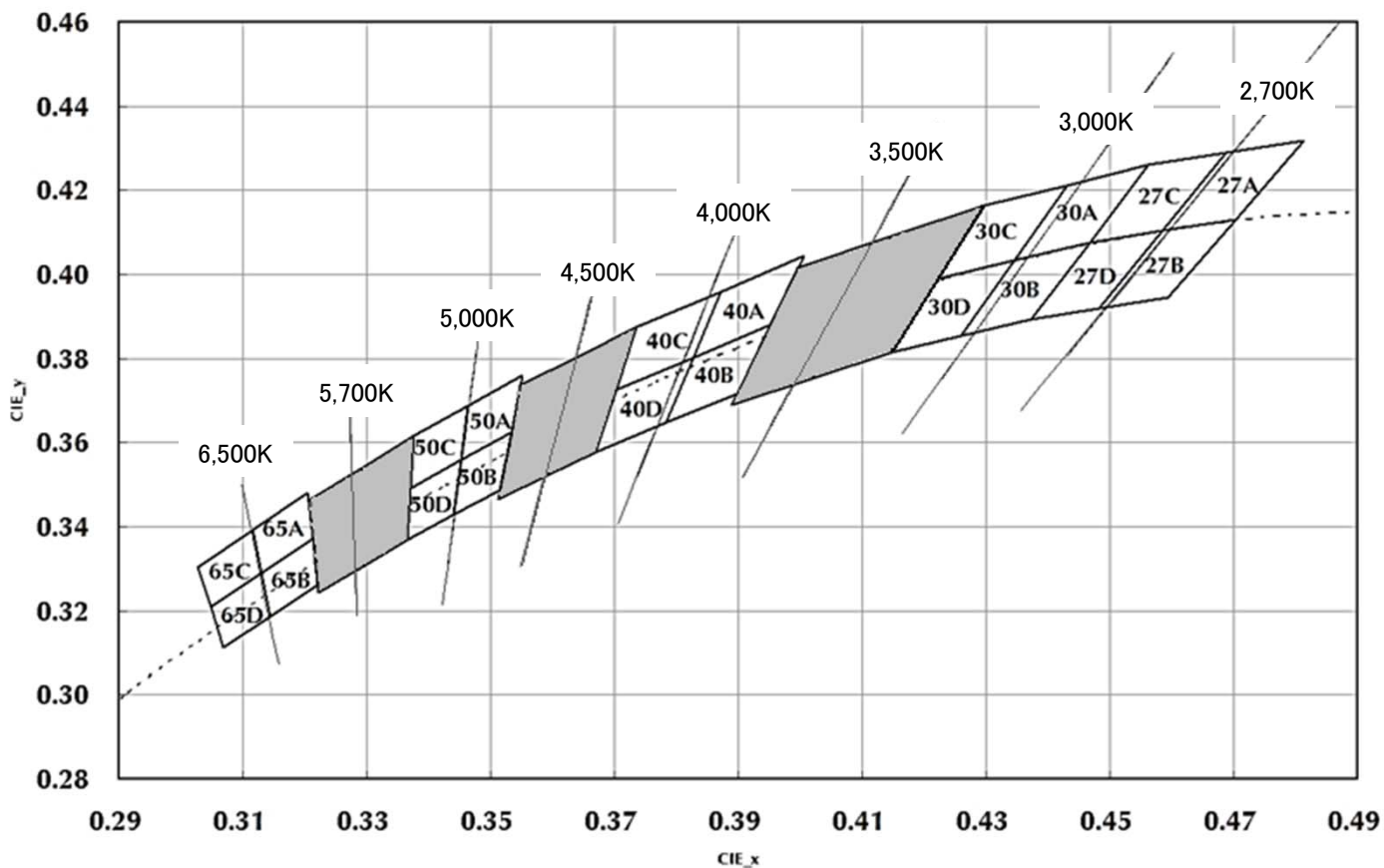


Rank	Color Temp.	x	y	Rank	Color Temp.	x	y	Rank	Color Temp.	x	y
27A	2,700K	0.4813	0.4319	30A	3,000K	0.4562	0.4260	40A	4,000K	0.4006	0.4044
		0.4688	0.4299			0.4431	0.4213			0.3871	0.3959
		0.4585	0.4104			0.4345	0.4033			0.3828	0.3803
		0.4703	0.4132			0.4468	0.4077			0.3952	0.3880
27B	2,700K	0.4703	0.4132	30B	3,000K	0.4468	0.4077	40B	4,000K	0.3952	0.3880
		0.4585	0.4104			0.4345	0.4033			0.3828	0.3803
		0.4483	0.3919			0.4260	0.3854			0.3784	0.3647
		0.4593	0.3944			0.4373	0.3893			0.3898	0.3716
27C	2,700K	0.4688	0.4290	30C	3,000K	0.4431	0.4213	40C	4,000K	0.3871	0.3959
		0.4562	0.4260			0.4299	0.4165			0.3736	0.3874
		0.4468	0.4077			0.4223	0.3990			0.3703	0.3726
		0.4585	0.4104			0.4345	0.4033			0.3828	0.3803
27D	2,700K	0.4585	0.4104	30D	3,000K	0.4345	0.4033	40D	4,000K	0.3828	0.3803
		0.4468	0.4077			0.4223	0.3990			0.3703	0.3726
		0.4373	0.3893			0.4147	0.3814			0.3670	0.3578
		0.4483	0.3919			0.4260	0.3854			0.3784	0.3647

Please contact our sales concerning rank designation.

Sorting Chart for Chromaticity Coordinates

(Ta=25)



Tolerance Each Rank : +/-0.02

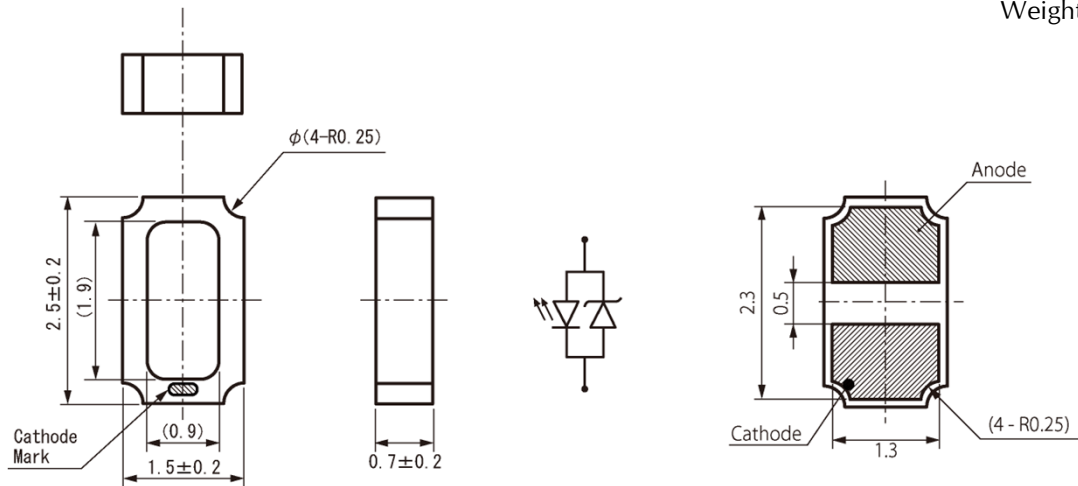
Rank	Color Temp.	x	y	Rank	Color Temp.	x	y
50A	5,000K	0.3551	0.3760	65A	6,500K	0.3205	0.3481
		0.3464	0.3688			0.3117	0.3393
		0.3452	0.3558			0.3131	0.3290
		0.3533	0.3624			0.3213	0.3371
50B	5,000K	0.3533	0.3624	65B	6,500K	0.3213	0.3371
		0.3452	0.3558			0.3131	0.3290
		0.3441	0.3428			0.3145	0.3187
		0.3515	0.3487			0.3221	0.3261
50C	5,000K	0.3464	0.3688	65C	6,500K	0.3117	0.3393
		0.3376	0.3616			0.3028	0.3304
		0.3371	0.3493			0.3048	0.3209
		0.3452	0.3558			0.3131	0.3290
50D	5,000K	0.3452	0.3558	65D	6,500K	0.3131	0.3290
		0.3371	0.3493			0.3048	0.3209
		0.3366	0.3369			0.3068	0.3113
		0.3441	0.3428			0.3145	0.3187

Please contact our sales concerning rank designation.

Package Dimensions

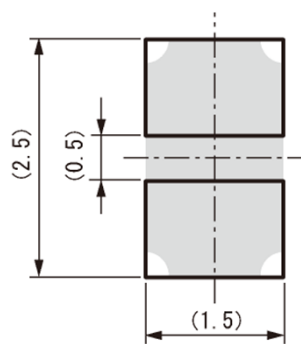
(Unit : mm)

Weight : (6.9)mg



Recommended Soldering Pattern (Reflow)

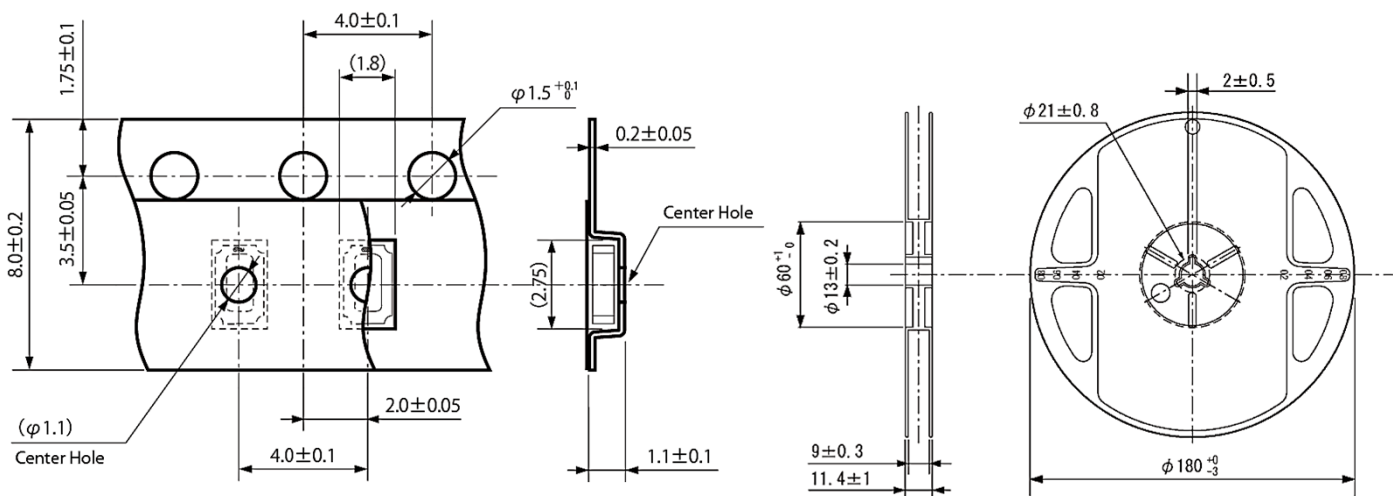
(Unit : mm)



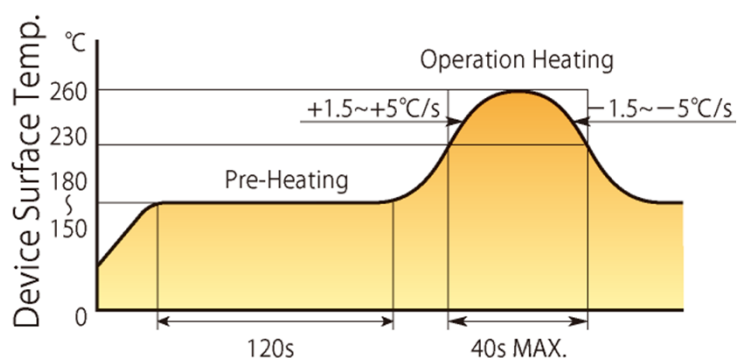
Taping Specification

(Unit : mm)

Quantity : 3,000pcs/reel(standard)



Reflow Soldering Conditions



- 1) The above profile temperature gives the maximum temperature of the LED resin surface. Please set the temperature so as to avoid exceeding this range.
- 2) Total times of reflow soldering process shall be no more than 2 times. When the second reflow soldering process is performed, intervals between the first and second reflow should be short as possible (while allowing some time for the component to return to room temperature after the first reflow) in order to prevent the LED resin from absorbing moisture.

Manual Soldering Condition

Iron tip temp	350	(MAX)
Soldering time and frequency	3s	(MAX)
	1 time	(MAX)

Reliability Testing Result

Reliability Testing Result	Applicable Standard	Testing Conditions	Duration	Failure
Room Temp. Operating Life	EIAJ ED-4701/100(101)	Ta = 25°C, If = Maximum Rated Current	1,000 h	0/20
High Temp. Operating Life	EIAJ ED-4701/100(101)	Ta = Maximum Rated Operating Temp., If = 80mA	1,000 h	0/20
Low Temp. Operating Life	EIAJ ED-4701/100(101)	Ta = -40°C, If = Maximum Rated Current	1,000 h	0/20
Wet High Temp. Operating Life	EIAJ ED-4701/100(102)	Ta = 60°C, 90%, If = 80mA	1,000 h	0/20
Temperature Cycling	EIAJ ED-4701/100(105)	Ta = -40°C ~ Maximum Rated Storage Temp. (each 15min.)	1,000 cycles	0/20
Resistance to Soldering Heat	EIAJ ED-4701/300(301)	Preheating : 150 ~ 180°C(120s Max.) Operation Heating : 260°C	2 times	0/20

Failure Criteria

Items	Symbols	Conditions	Failure criteria
Luminous Intensity	Iv	If=80mA	Testing Min. Value < Spec. Min. Value x 0.5
Forward Voltage	Vf	If=80mA	Testing Max. Value ≥ Spec. Max. Value x 1.2
Cosmetic Appearance	-	-	Occurrence of notable decoloration, deformation and cracking

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