AUK Semiconductor

SPG1316E-H

High Brightness Chip LED

Features

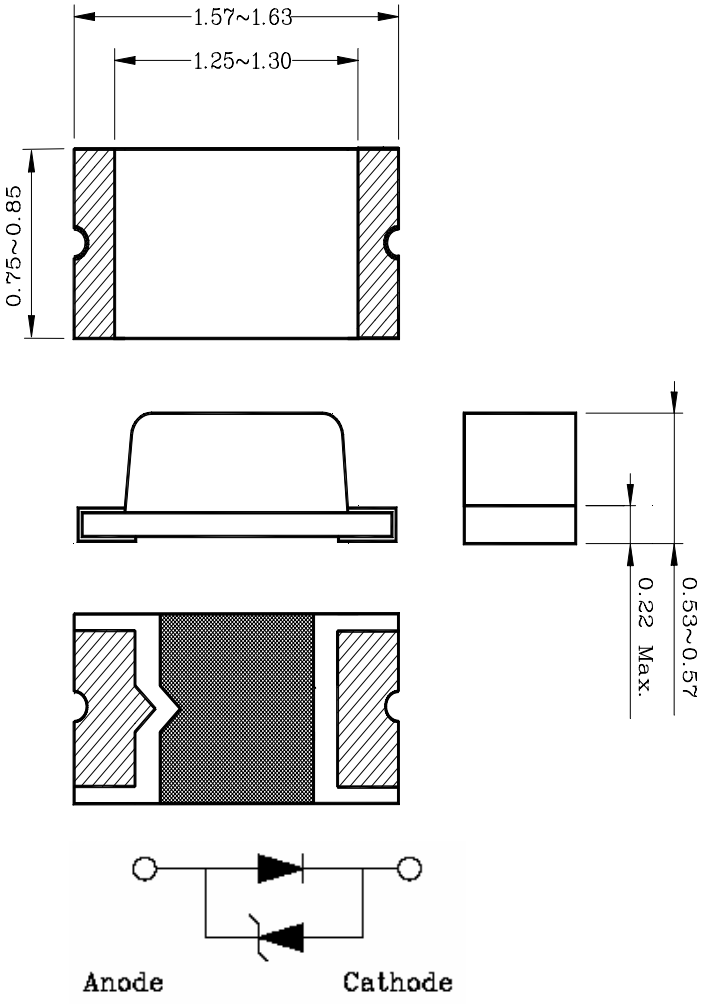
- 1.6mm(L)×0.8mm(W) small size surface mount type
- Thin package of 0.55mm(H) thickness
- Transparent clear lens optic
- Low power consumption type chip LED
- Emitting light green (530nm)
- **E ; ESD Protected (±2.0KV, 3 Times @100pF, 1.5KΩ)**

Applications

- LCD backlighting
- Keypad backlighting
- Symbol backlighting
- Front panel indicator lamp

Outline Dimensions

unit : mm



Absolute Maximum Ratings

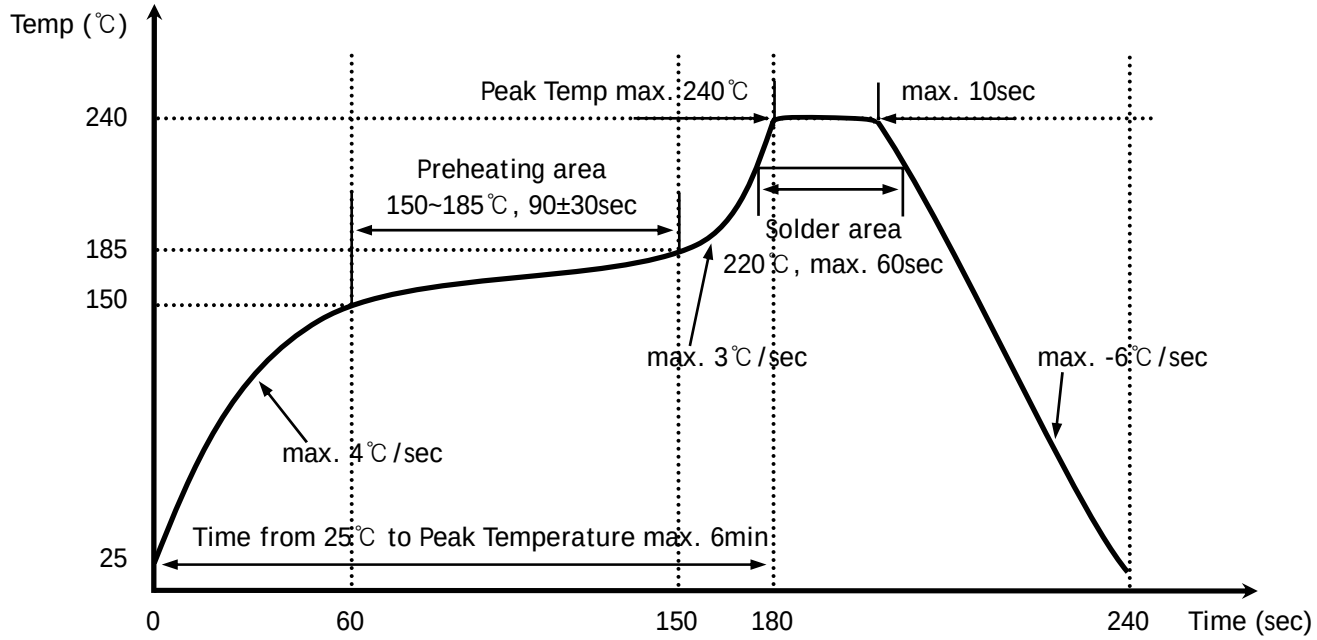
(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Power dissipation	P_D	64	mW
Forward current	I_F	20	mA
*[1]Peak forward current	I_{FP}	50	mA
Operating temperature range	T_{opr}	-25～80	℃
Storage temperature range	T_{stg}	-30～100	℃
*[2]Soldering temperature	T_{sol}	240℃ for 10 seconds	

*1. Duty ratio = 1/16, Pulse width = 0.1ms

*2. Recommended reflow soldering temperature profile

- Preheating 150℃ to 185℃ within 120 seconds soldering 240℃ within 10 seconds
  Gradual cooling (Avoid quenching)



Electrical / Optical Characteristics

(Ta=25°C)

Characteristic	Symbol		Test Condition	Min	Typ	Max	Unit
Forward voltage	V_F		I_F= 5mA	2.6	-	3.2	V
*[4]Luminous intensity	I_V		I_F= 5mA	33	-	95	mcd
Peak wavelength	λ_P		I_F= 5mA	524	-	536	nm
Spectrum bandwidth	$\Delta\lambda$		I_F= 5mA	-	35	-	nm
*[3]Half angle	$\theta 1/2$	X	I_F= 5mA	-	±65	-	deg
		Y		-	±70	-	

*3. θ1/2 is the off-axis angle where the luminous intensity is 1/2 the peak intensity

*4. Luminous intensity maximum tolerance for each grade classification limit is ±18%

(The test result of I_F=5mA is only for reference)

• V_F / I_V / λ_P Grade Classification (Ta=25℃)

<table>
<tr><td colspan="3">Test Condition @I_F = 5mA</td></tr>
<tr><td>Forward Voltage [V]</td><td>Luminous Intensity [mcd]</td><td>Peak Wavelength [nm]</td></tr>
<tr><td rowspan="2">2 : 2.6~2.8</td><td>A : 33~43</td><td rowspan="2">c : 524~530</td></tr>
<tr><td rowspan="2">3 : 2.8~3.0</td><td>B : 43~56</td></tr>
<tr><td>C : 56~73</td><td rowspan="2">d : 530~536</td></tr>
<tr><td>4 : 3.0~3.2</td><td>D : 73~95</td></tr>
</table>

(Do not use to combine grade classification. It must be used separately grade classification)

Characteristic Diagrams

Fig. 1 I_F - V_F

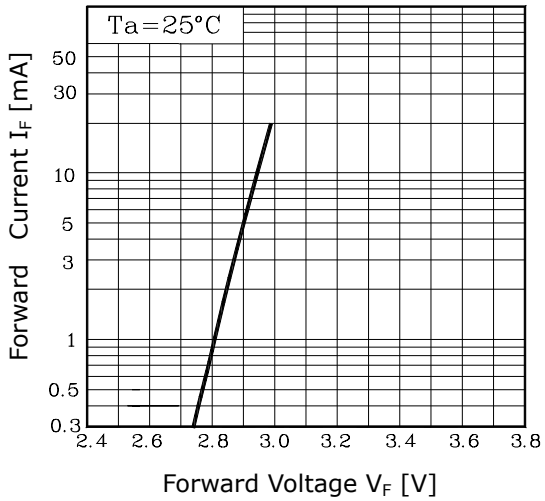


Fig. 2 I_V - I_F

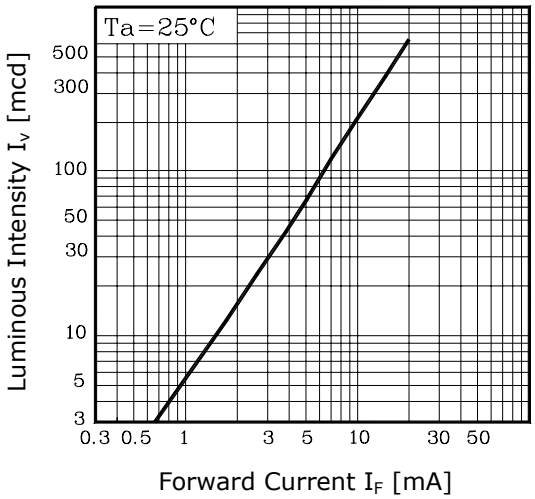


Fig. 3 I_F – Ta

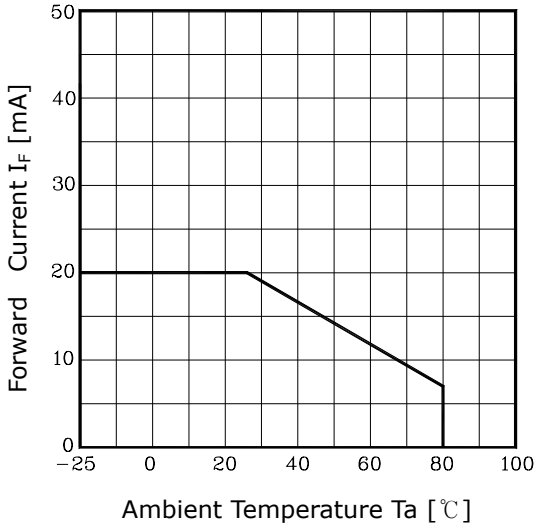


Fig.4 Spectrum Distribution

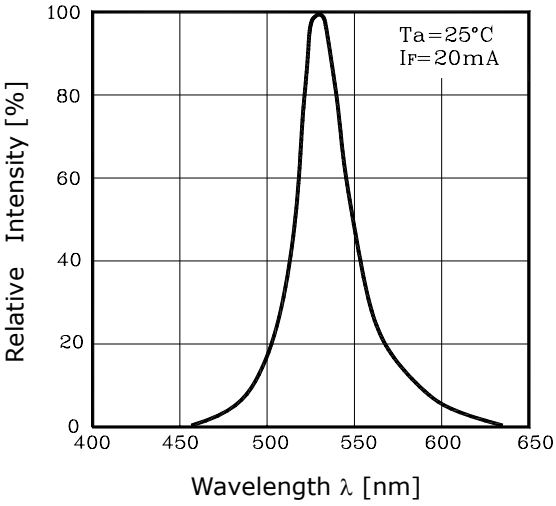


Fig. 5-1 Radiation Diagram(X)

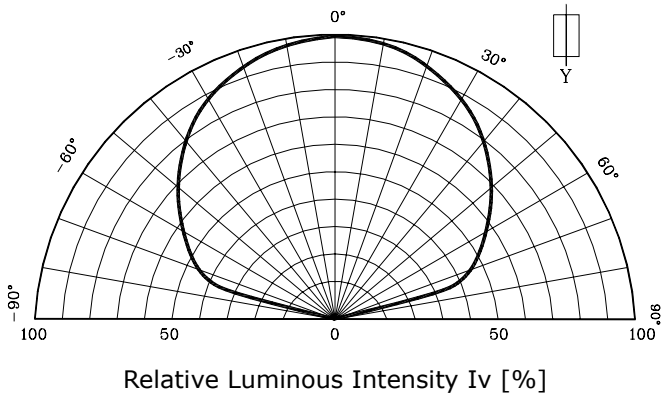
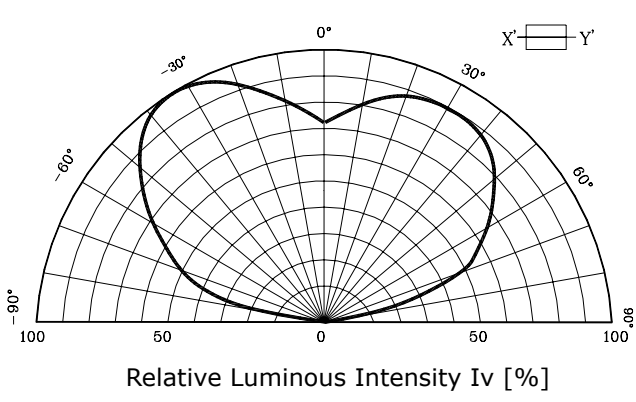


Fig. 5-2 Radiation Diagram(Y)



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