AUK Semiconductor

SM1316-L

Chip LED

Features

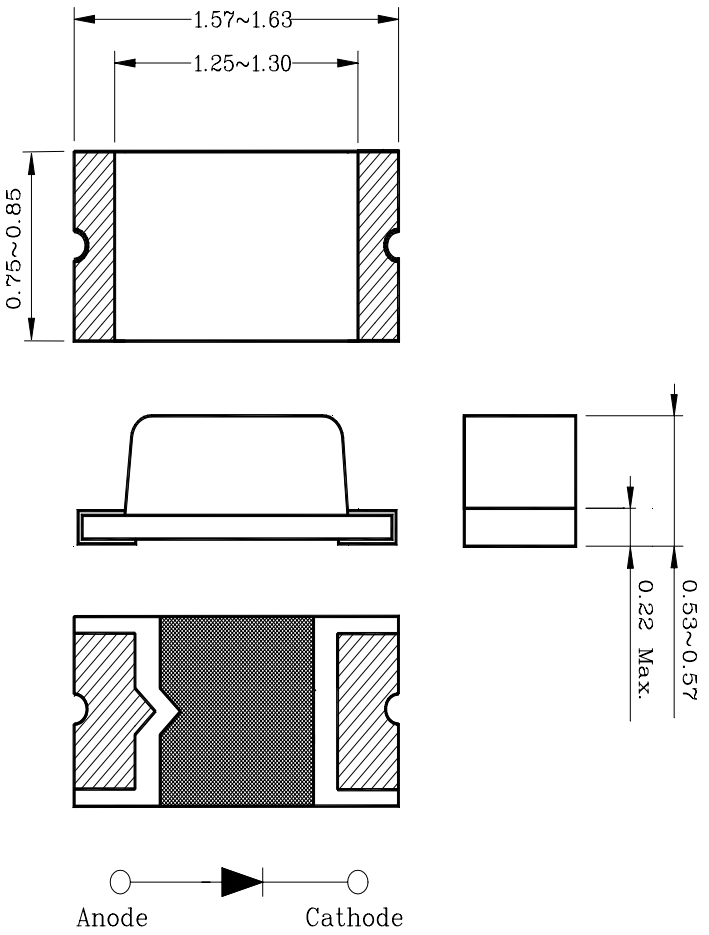
- 1.6mm(L)×0.8mm(W) small size surface mount type
- Thin package of 0.55mm(H) thickness
- Transparent clear lens optic
- Low power consumption type chip led

Applications

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

Outline Dimensions

unit : mm



Absolute Maximum Ratings

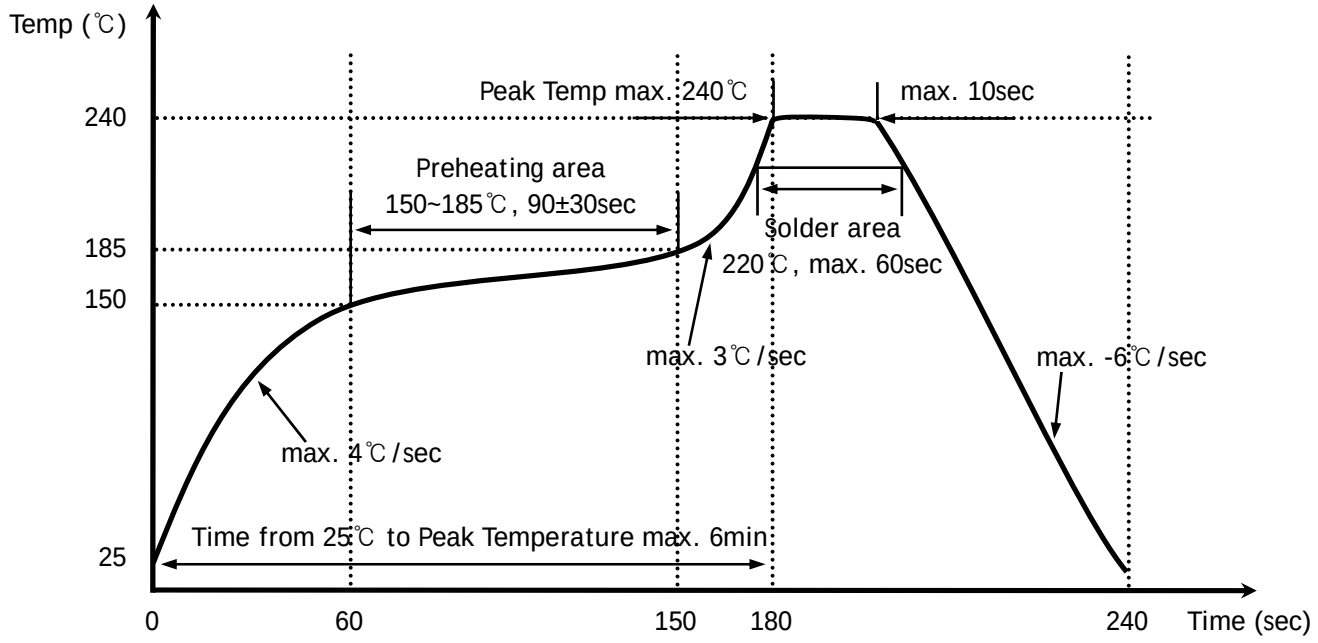
(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Power dissipation	P_D	60	mW
Forward current	I_F	25	mA
*1Peak forward current	I_{FP}	50	mA
Reverse voltage	V_R	4	V
Operating temperature range	T_{opr}	-25～80	℃
Storage temperature range	T_{stg}	-30～100	℃
*2Soldering 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= 20mA	2.0	-	2.4	V
*3 Luminous intensity	I_V		I_F= 20mA	4	-	17	mcd
Peak wavelength	λ_P		I_F= 20mA	558	561	565	nm
Spectrum bandwidth	$\Delta\lambda$		I_F= 20mA	-	30	-	nm
Reverse current	I_R		V_R=4V	-	-	10	uA
*4 Half angle	θ1/2	X	I_F= 20mA	-	±65	-	deg
		Y		-	±70	-	

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

(The test result of I_F=20mA is only for reference)

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

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

Test Condition @ I_F=20mA		
Forward Voltage [V]	Luminous Intensity [mcd]	Peak Wavelength [nm]
1 : 2.0~2.2	E : 4~6	a : 558~561
	F : 6~10	
2 : 2.2~2.4	G : 10~17	b : 561~565

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

Characteristic Diagrams

Fig. 1 I_F - V_F

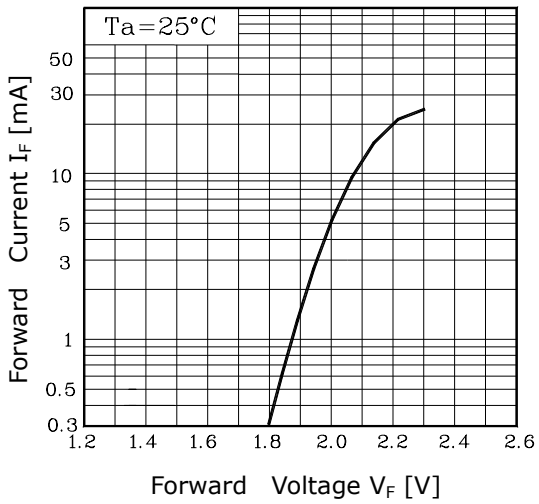


Fig. 2 I_V - I_F

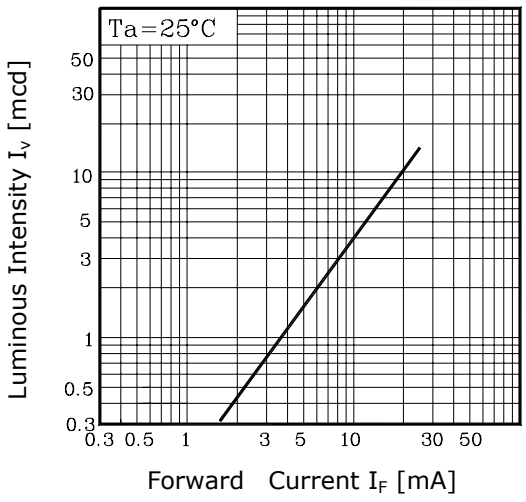


Fig. 3 I_F – Ta

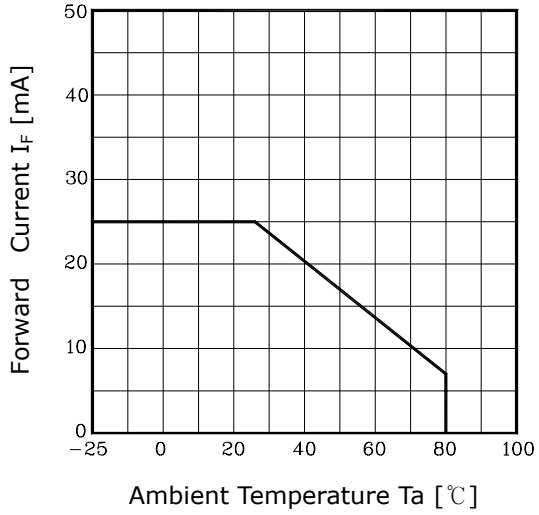


Fig.4 Spectrum Distribution

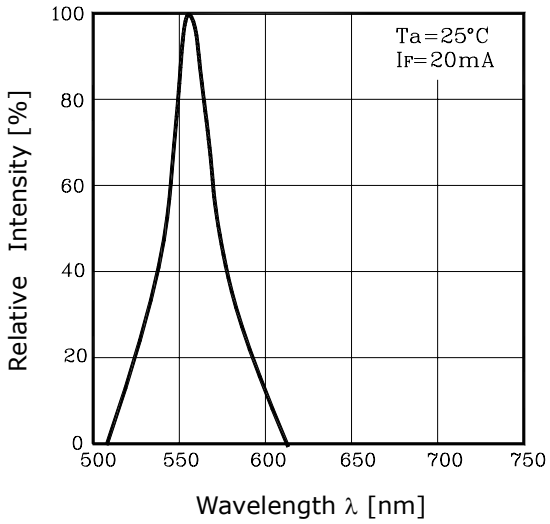


Fig. 5-1 Radiation Diagram(X)

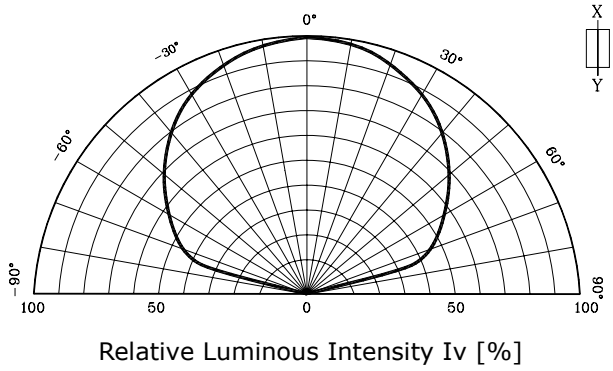
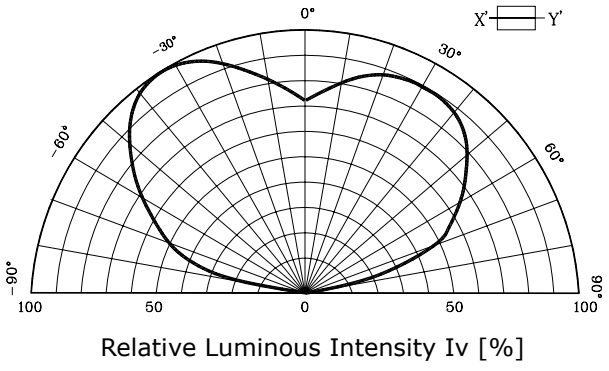


Fig. 5-2 Radiation Diagram(Y)



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