



SMC780



TECHNICAL DATA

Visible LED, SMD

AlGaAs

SMC780 is a AlGaAs LED mounted on a ceramic SMD package and sealed with silicone or epoxy resin for damp proof. On forward bias, it emits a radiation of typical 10 mW at a peak wavelength of 780 nm.

Specifications

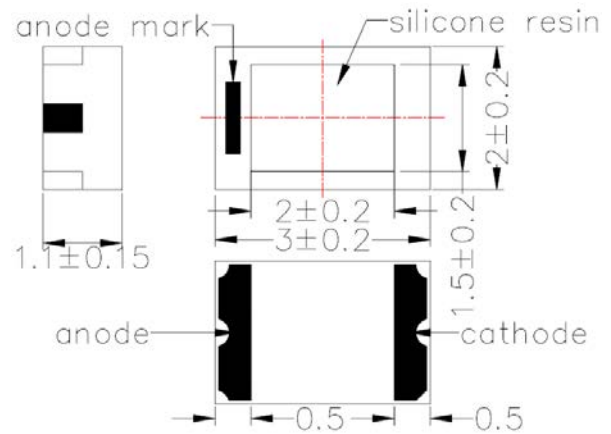
- Structure: AlGaAs
- Peak Wavelength: typ. 780 nm
- Optical Output Power: typ. 10 mW
- Package: Ceramic SMD, silicone / epoxy resin

Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$)

Item	Symbol	Value	Unit
Power Dissipation	P_D	190	mW
Forward Current	I_F	100	mA
Pulse Forward Current**	I_{FP}	500	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-30 ... +80	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40 ... +80	$^{\circ}\text{C}$
Soldering Temperature *	T_{sol}	240	$^{\circ}\text{C}$

* must be completed within 5 seconds

** max duty cycle 1%, max puls width 10 μs



(Unit: mm)

Electro-Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 50 \text{ mA}$	-	1.75	1.95	V
Reverse Current	I_R	$V_R = 5 \text{ V}$	-	-	10	μA
Total Radiated Power*	P_O	$I_F = 50 \text{ mA}$	5.0	10.0	-	mW
Radiation Intensity	I_E	$I_F = 50 \text{ mA}$	2.0	5.0	-	mW/sr
Peak Wavelength	λ_P	$I_F = 50 \text{ mA}$	765	780	795	nm
Half Width	$\Delta\lambda$	$I_F = 50 \text{ mA}$	-	35	-	nm
Viewing Half Angle	$\Theta_{1/2}$	$I_F = 50 \text{ mA}$	-	± 55	-	deg.
Rise Time	t_R	$I_F = 50 \text{ mA}$	-	80	-	ns
Fall Time	t_F	$I_F = 50 \text{ mA}$	-	80	-	ns

* Total Radiated Power is measured by Photodyne #500

Notes

- Do not view directly into the emitting area of the LED during operation!
- The above specifications are for reference purpose only and subjected to change without prior notice.

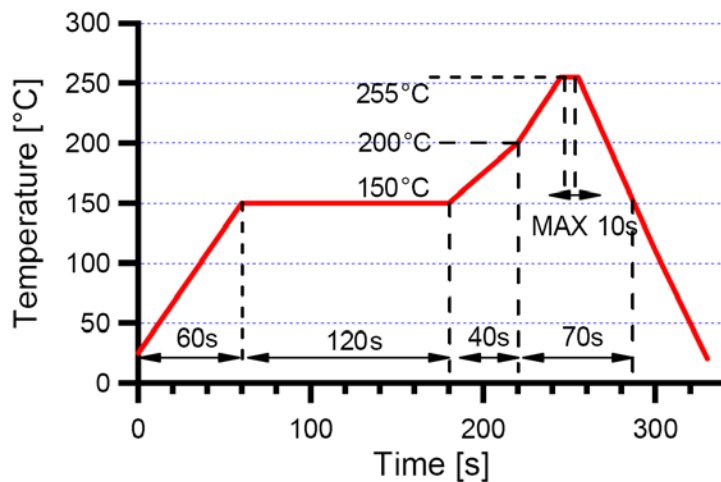




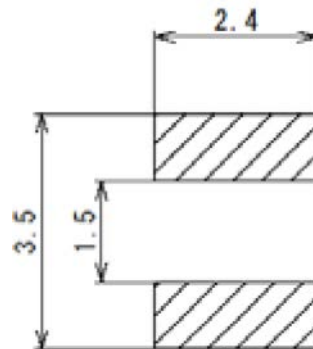
Soldering Conditions

- DO NOT apply any stress to the lead particularly when heat.
- After soldering the LEDs should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.

Temperature Profile



PCB Footprint Layout



(Unit: mm)

Static Electricity

- LEDs are very sensitive to Static Electricity and surge voltage. It is recommended to always wear a wrist band or an anti-electrostatic glove when handling the LEDs.
- All devices, equipment and machinery must be grounded properly. It is recommended that precautions should be taken against surge voltage to the equipment that mounts the LEDs.