



582 SERIES

IR EMC SMD LED With Domed Lens

3838 Package

MECHANICAL / SPECIFICATIONS

PART NUMBER:
[582-E16A10-503HPE](#)

DIMENSIONS:
3.80×3.80×2.15mm

LENS COLOR: Water Clear

STANDARD PACKAGING: 3000 pcs / reel

MOISTURE SENSITIVITY LEVEL: 3

VIEWING ANGLE: 100°

CERTIFICATIONS & RATINGS

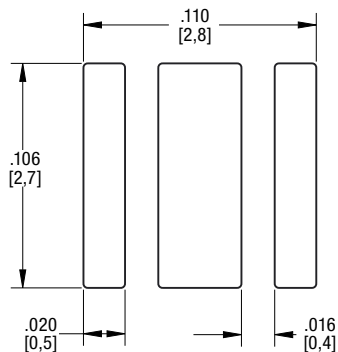
RoHS Compliant

FEATURES & BENEFITS

- This product is designed with EMC packaging technology for high performance, heat resistance, and thermal conductivity at high drive currents.
- Single Junction, Peak Wavelength 850nm / IF=500mA

DIMENSIONS inches [mm]

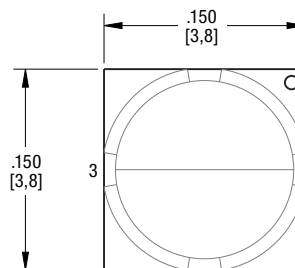
RECOMMENDED PAD LAYOUT



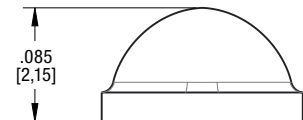
LED SCHEMATIC



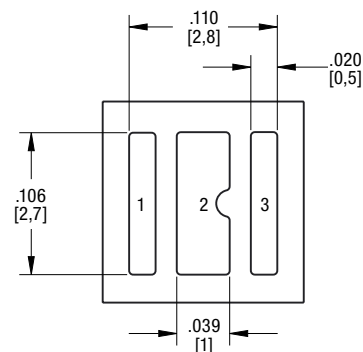
TOP VIEW



SIDE VIEW



BOTTOM VIEW



1. All dimensions are in millimeters.
2. Tolerance is ± 0.2 mm unless otherwise noted.

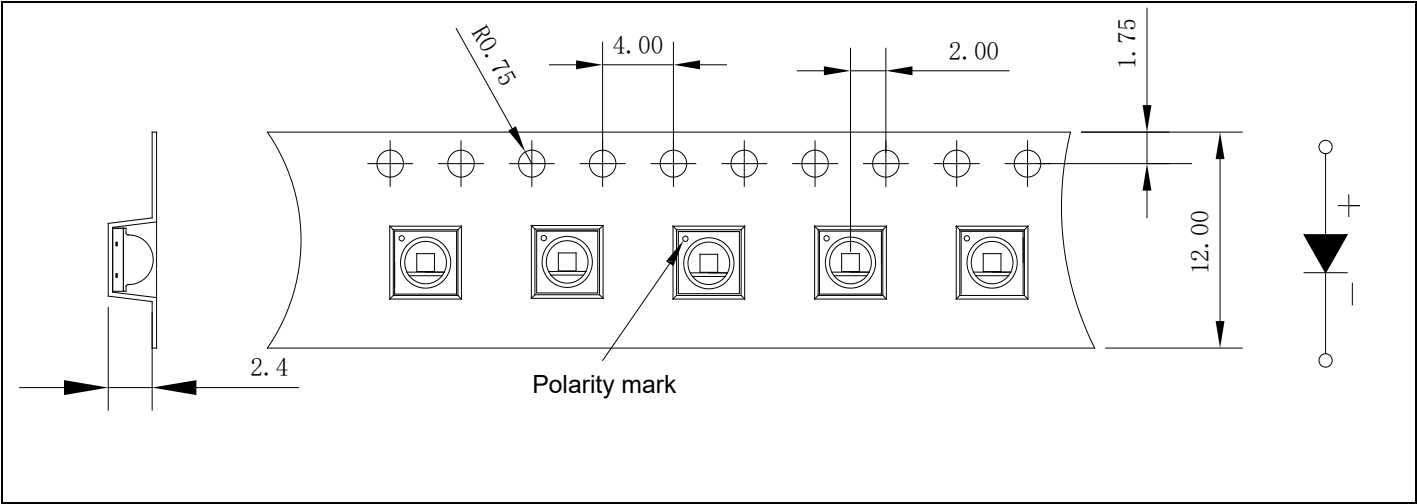
ABSOLUTE MAXIMUM RATINGS @ $T_s=25^{\circ}\text{C}$

Parameter	Symbol	Rating	Unit
Power Dissipation	P_D	1	W
Forward Current	I_F	500	mA
Reverse Voltage	V_R	5	V
Electrostatic Discharge	E_{SD}	2000	V
Operating Temperature	T_{OPR}	$-40 \sim +105$	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	$-40 \sim +105$	$^{\circ}\text{C}$
Junction Temperature	T_J	125	$^{\circ}\text{C}$

ELECTRICAL / OPTICAL CHARACTERISTICS @ $T_s=25^{\circ}\text{C}$

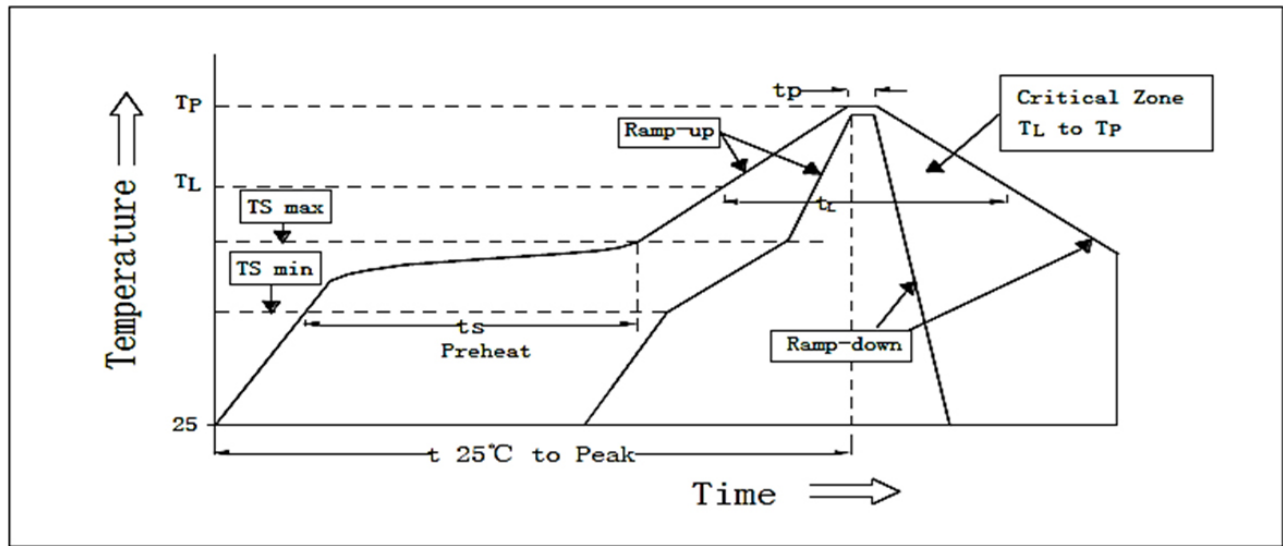
Item	Symbol	Test Condition	Values			Unit
			Min.	Typ.	Max.	
Reverse Current	I_R	$V_R=V5/10\text{ms}$			10	μA
Forward Voltage	V_F	$I_F=500\text{mA}$	1.4	1.7	2.0	V
Peak Wavelength	λ_p	$I_F=500\text{mA}$	830	850	870	nm
Spectrum Radiation Bandwidth	$\Delta\lambda$	$I_F=500\text{mA}$		40		nm
Total Radiant Flux	ϕ_e	$I_F=500\text{mA}$	280	320	450	mW
Viewing Angle	$2\theta_{1/2}$	$I_F=500\text{mA}$		100		deg
Thermal Resistance	R_{THJ-S}	$I_F=500\text{mA}$		14		$^{\circ}\text{C/W}$

TAPE AND REEL SPECIFICATION



Technical drawing of the LED reel specification. The drawing shows a top view of the reel with dimensions: A (width of the reel), B (height of the reel), C (width of the reel), and D (height of the reel). A label is indicated on the reel.	Reel Dimension
	A
	12.7 ± 0.3mm
	B
	330.2 ± 2mm
	C
	79.5 ± 1mm
	D
	14.3 ± 0.2mm

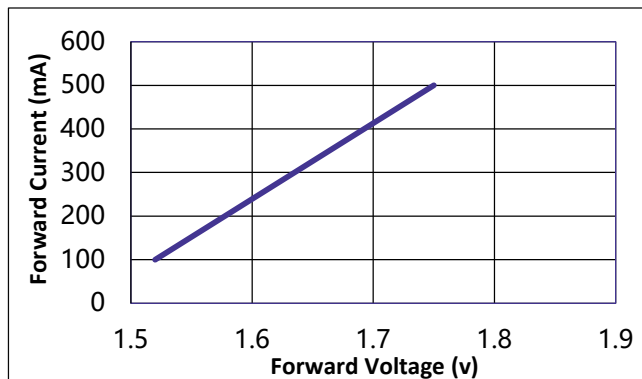
REFLOW SOLDERING PROFILE



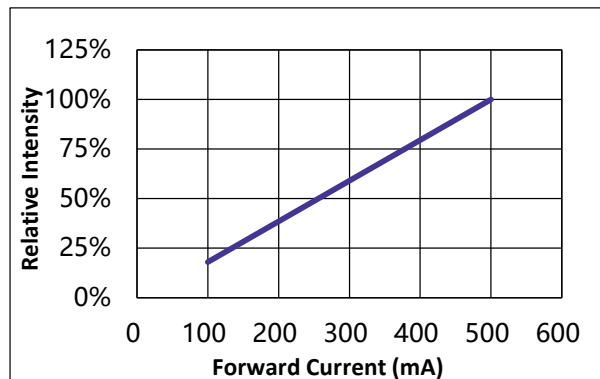
Average temperature rise speed (T _{smax} T _p)	Max 3°C/ s
Preheating: minimum temperature (T _{smin})	150°C
Preheating: Max temperature (T _{smax})	200°C
Preheating: Time (T _{smin} T _{smax})	60s-120s
Time limited to maintain high temperature: the temperature (T _L)	217 °C
Time limited to maintain high temperature: The Time (t _L)	60s-150s
Peak / Classification of temperature: (T _p)	260 °C
Time limit classification of peak temperature time (t _p)	Max 10s
Hold time within 5 °C with the actual peak temperature (TP)	Max 30s
Cooling speed	Max 6 °C/ s
Needed time from 25 °C to T _p	Max 8 minutes

TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CURVES

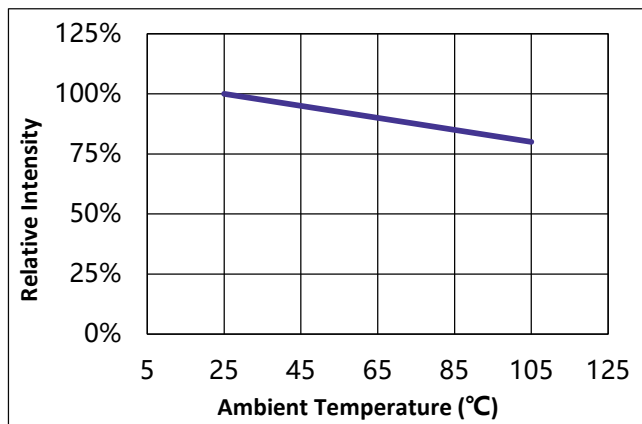
Forward Current vs. Forward Voltage $T_s=25^\circ\text{C}$



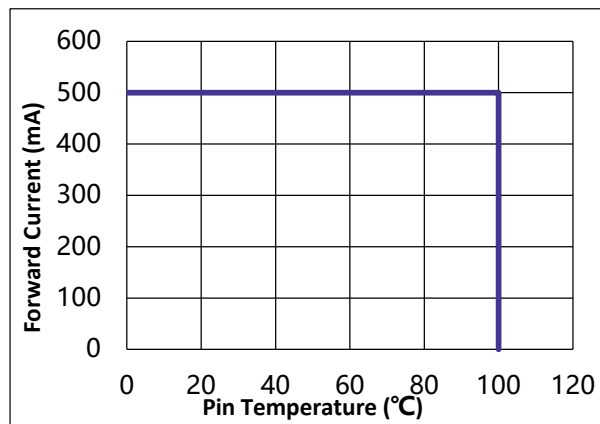
Forward Current vs Relative Intensity ($T_s=25^\circ\text{C}$)



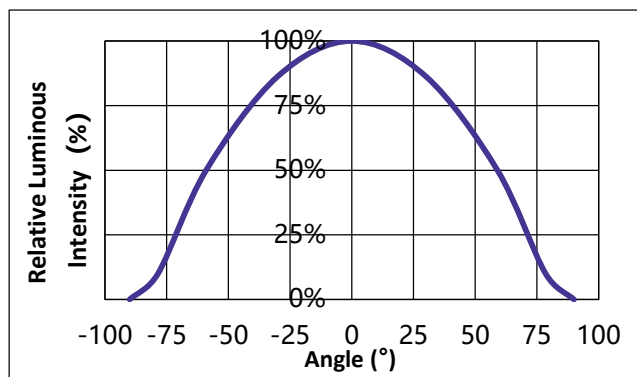
Pin Temperature vs Relative Intensity



Pin Temperature vs Forward Current



Forward Current vs Dominate Wavelength ($T_a=25^\circ\text{C}$)



Relative Intensity vs Wavelength ($T_a=25^\circ\text{C}$)

