



American Opto Plus LED Corp.

Case Mold Type LED Display

CTD1010LB-PD-BW

FEATURES

- Excellent character appearance.
- Case mold type.
- Touch pad.
- Black face (overlay) / White segment.
- RoHS compliant, Pb Free.

DESCRIPTION

The CTD1010LB-PD-BW is a Touch Pad with 10.0 mm X 10.0 mm icon LED display. This device utilizes Super bright Blue LED chip which are made from InGaN on a transparent GaN substrate.

The display has Black face (overlay), White segment.

This mold of display is attached with overlay.

DEVICE

PART NO.	DESCRIPTION
CTD1010LB-PD-BW	Touch pad with LED Display

RoHS Compliance



Pb free.



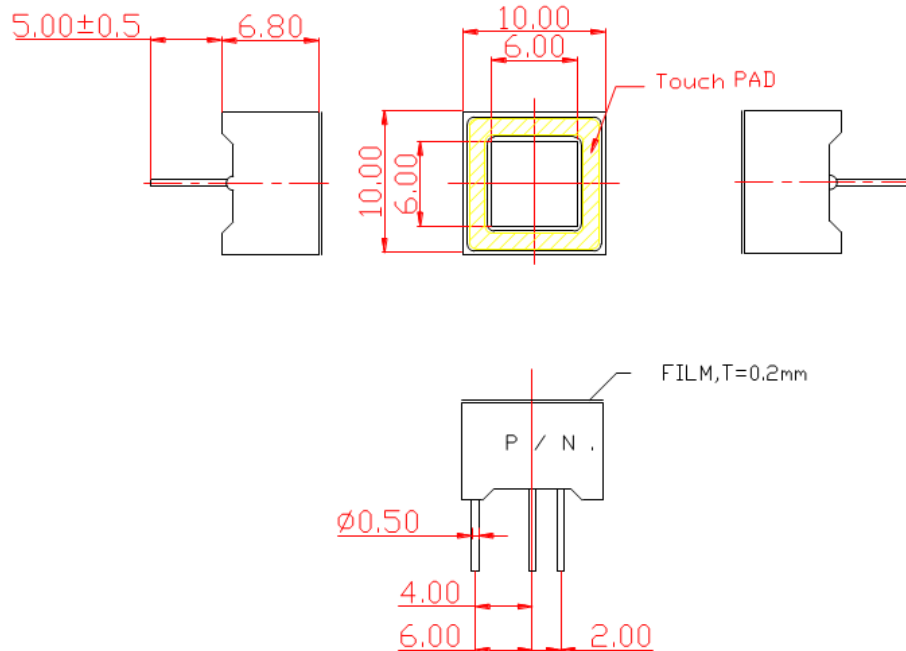


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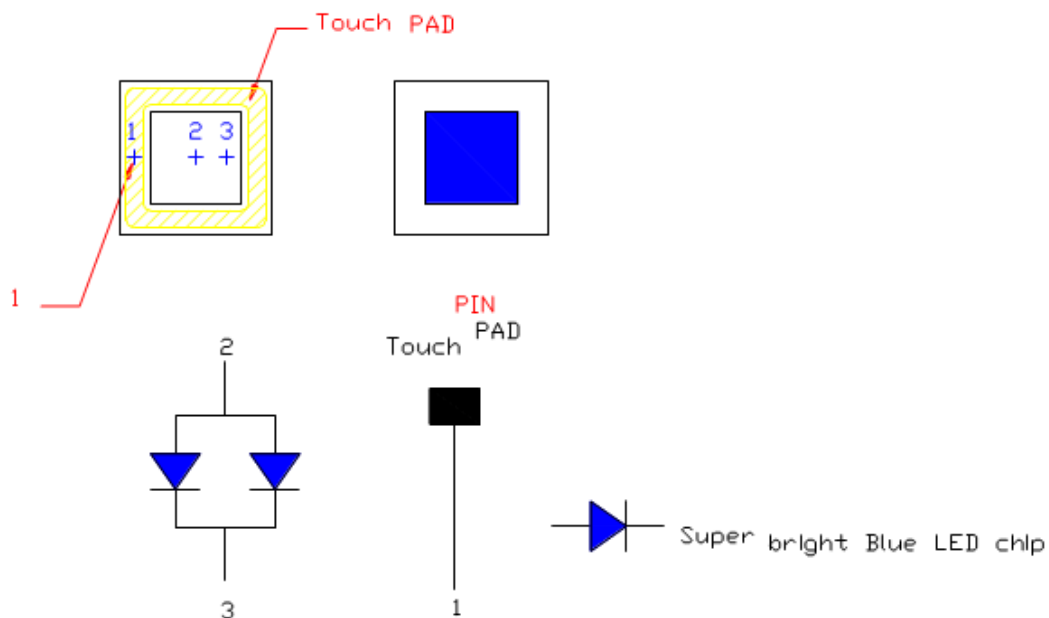
MECHANICAL DIMENSIONS



Notes:

1. All dimensions are in millimeters (inches); tolerances are ± 0.25 mm (0.01") specified

TYPICAL INTERNAL EQUIVALENT CIRCUIT



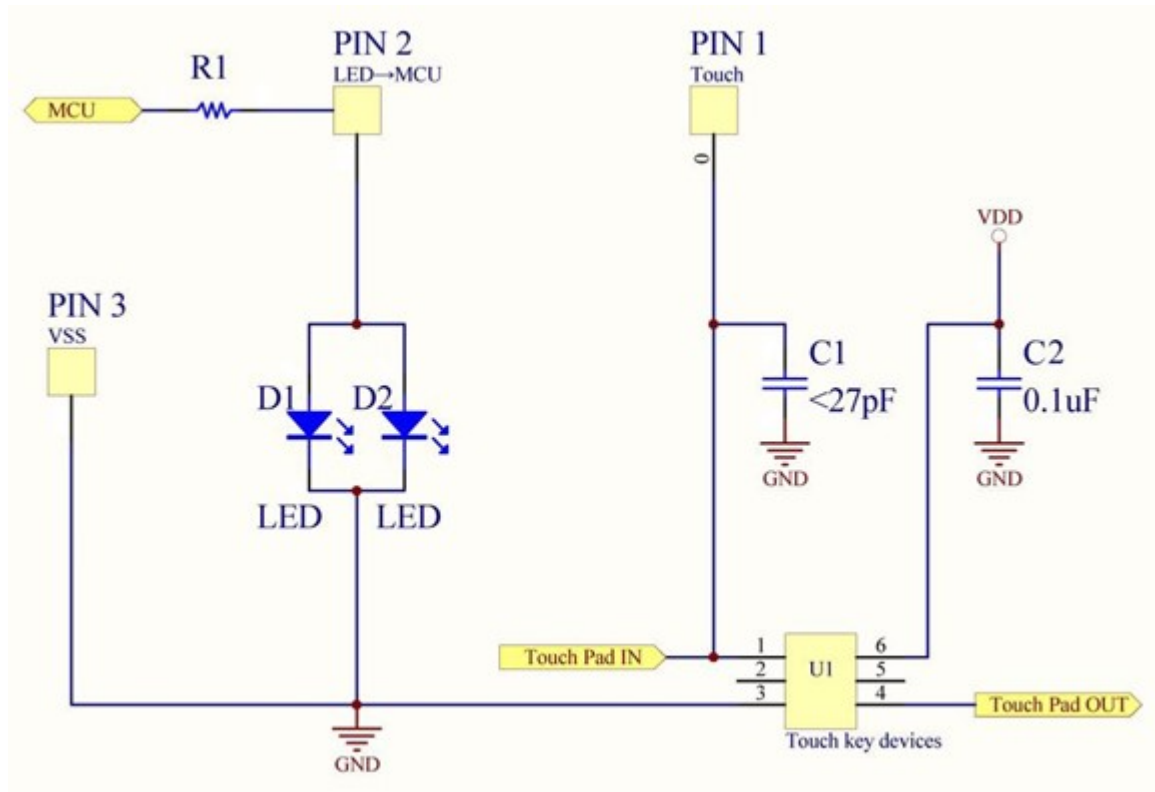


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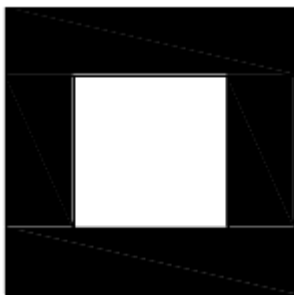
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APPLICATION CIRCUITS



INTERNAL COMPONENTS, NOT CUSTOMER ACCESSIBLE.

FILM





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LB: SUPER BRIGHT BLUE (InGaN/GaN)

ABOSULTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation per dice	P _{AD}	120	mW
Derating liner from 25°C per dice	-	0.3	mA / °C
Continuous forward current per dice	I _{AF}	30	mA
Peak current (duty cycle 1/10, 1kHz)	I _{PF}	100	mA
Reverse voltage per dice	V _R	5	V
Operating temperature	T _{OPR}	-25 to +85	°C
Storage temperature	T _{STG}	-25 to +85	°C

ELECTRICAL-OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Type.	Max.	Unit
Forward Voltage	V _F	I _F = 20mA	-	3.2	4.0	V
Reverse Current	I _R	V _R = 5V	-	-	10	μA
Dominant Wavelength	λ _D	I _F = 20mA	460	470	475	nm
Average Luminous Intensity	I _V	I _F = 20mA	-	60	-	mcd
Spectral Radiation Bandwidth	Δλ	I _F = 20mA	-	30	-	nm



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LB: SUPER BRIGHT BLUE (InGaN/GaN) CURVE

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVE

$T_a = 25^\circ\text{C}$

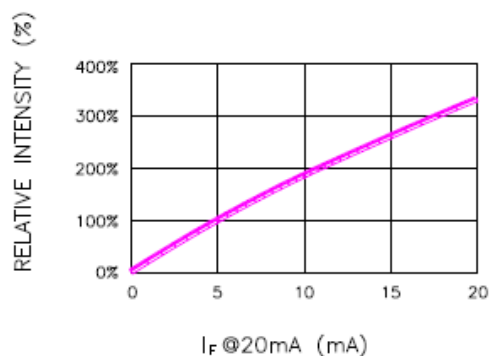


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

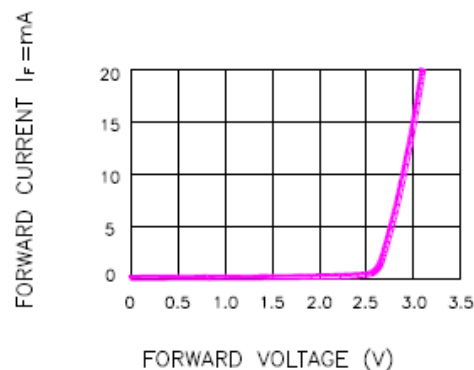


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

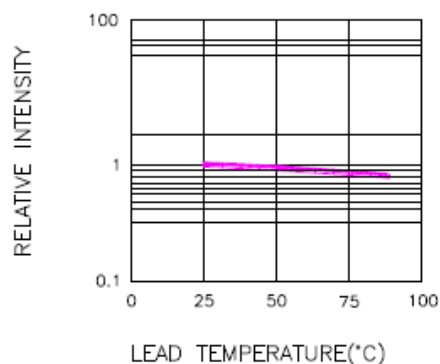


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

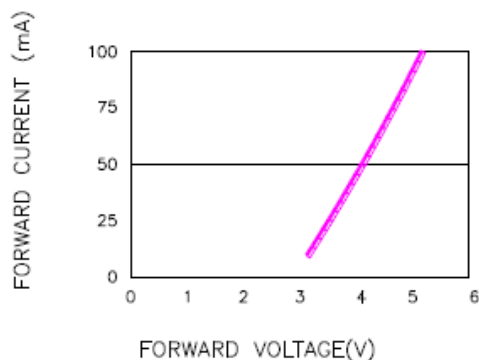


Fig.4 PEAK FORWARD VOLTAGE
VS. FORWARD (100us TEST PULSE, 1% DUTY CYCLE)

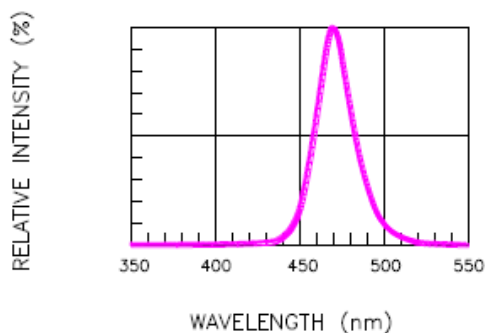


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

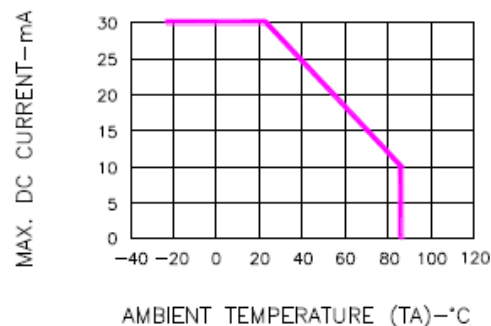


Fig.6 MAX. ALLOWABLE DC CURRENT
VS. AMBIENT TEMPERATURE

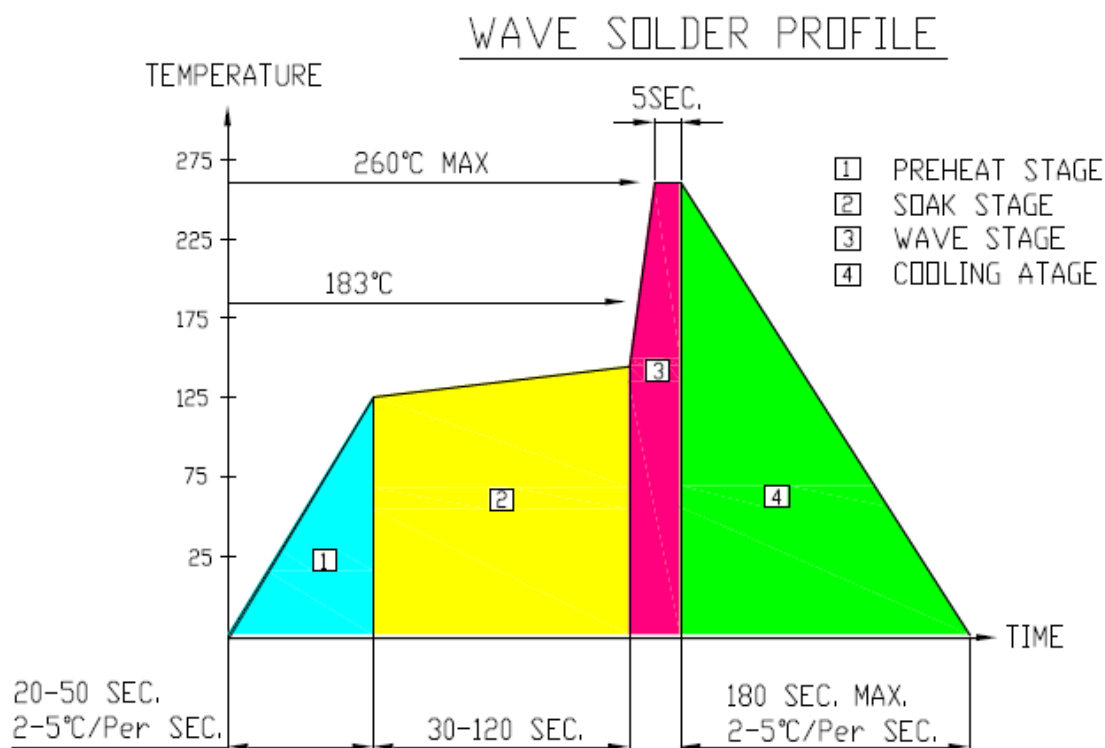


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RECOMMEND SOLDERING PROFILE



NOTES

1. Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
2. Peak wave soldering temperature between 245°C ~ 225°C for 3 sec (5 sec max)
3. No more than one wave soldering pass

SOLDERING IRON

- Basic spec is ≤ 4 sec when 260°C. If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C

REWORK

1. Customer must finish rework within 3 sec under 350°C
2. The head of soldering iron cannot touch copper foil