



American Opto Plus LED Corp.

Case Mold Type LED Display

CTD1010LE-PD-BW

FEATURES

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

DESCRIPTION

The CTD1010LE-PD-BW is a Touch Pad with 10.0 mm X 10.0 mm icon LED display. This device utilizes Super bright Red LED chip which are made from AlInGaP on a transparent GaAs substrate.

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

This mold of display is attached with overlay.

DEVICE

PART NO.	DESCRIPTION
CTD1010LE-PD-BW	Touch pad with LED Display

RoHS Compliance



Pb free.



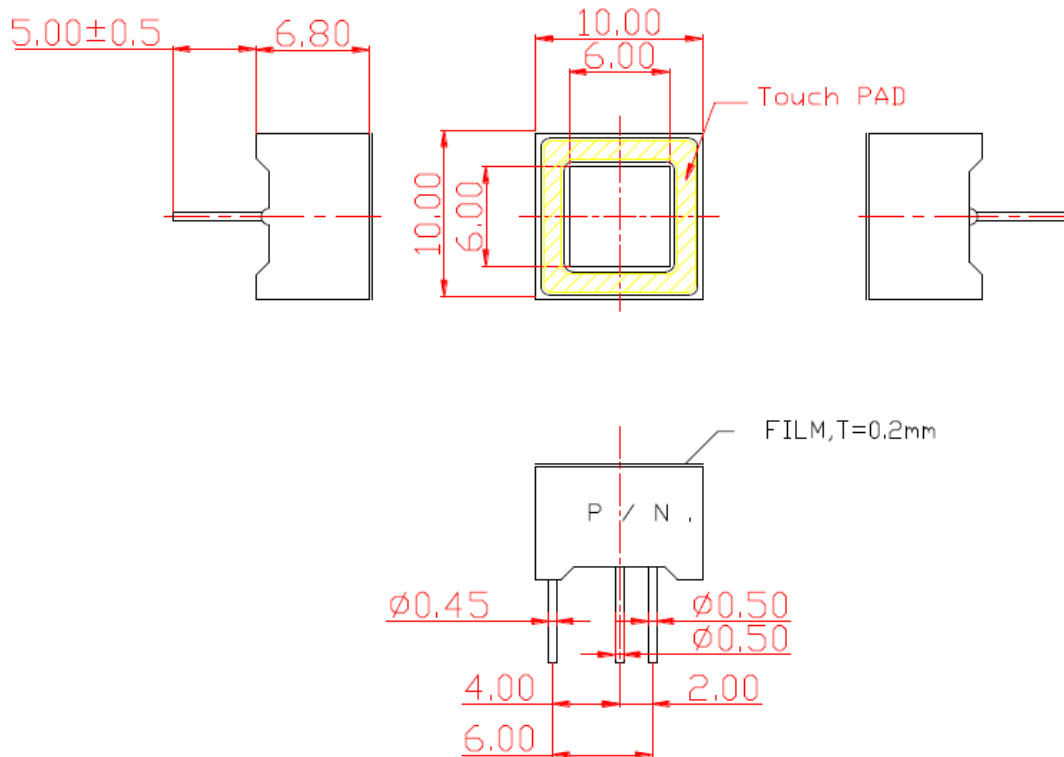


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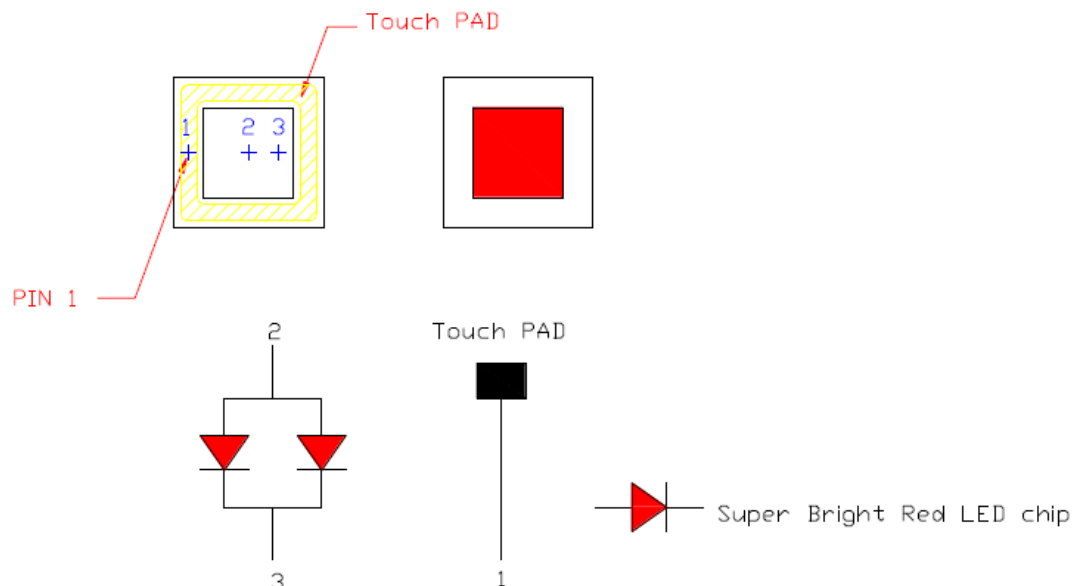
MECHANICAL DIMENSIONS



Notes:

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

TYPICAL INTERNAL EQUIVALENT CIRCUIT



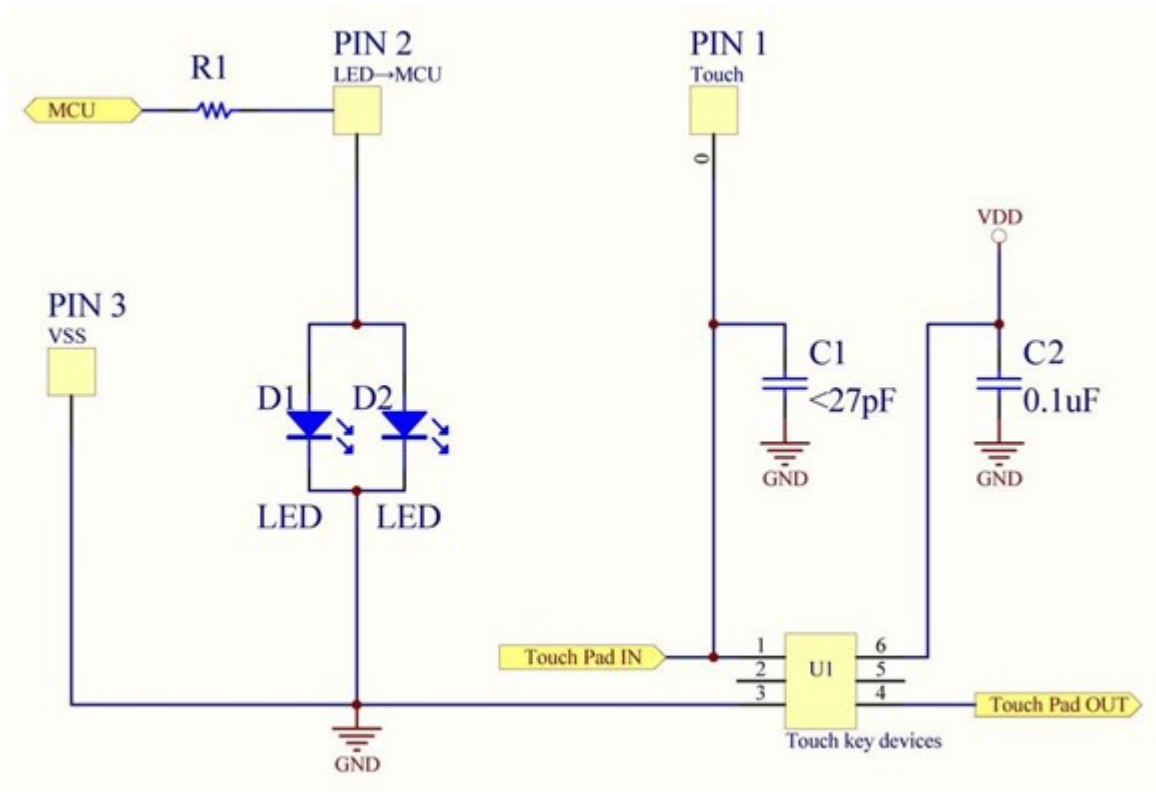


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APPLICATION CIRCUITS



INTERNAL COMPONENTS, NOT CUSTOMER ACCESSIBLE.

FILM





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LE: SUPER BRIGHT RED (AlGaInP/GaAs)

ABOSULTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation per dice	P_{AD}	70	mW
Derating liner from 25°C per dice	-	0.28	mA / °C
Continuous forward current per dice	I_{AF}	25	mA
Peak current (duty cycle 1/10, 1kHz)	I_{PF}	90	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	$I_F = 20\text{mA}$	-	2.0	2.6	V
Reverse Current	I_R	$V_R = 5\text{V}$	-	-	10	μA
Peak Wavelength	λ_P	$I_F = 20\text{mA}$	-	632	-	Nm
Dominant Wavelength	λ_D	$I_F = 20\text{mA}$	-	624	-	nm
Average Luminous Intensity	I_V	$I_F = 20\text{mA}$	-	40	-	mcd
Spectral Radiation Bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm



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LE: SUPER BRIGHT RED (AlGaInP/GaAs) CURVE

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVE

Ta=25°C

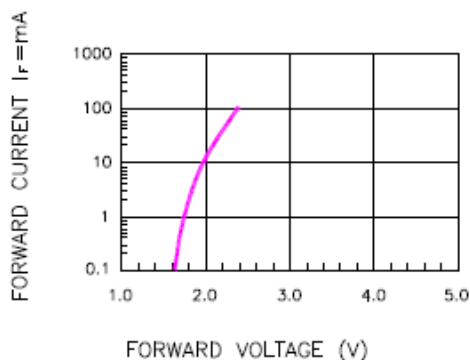


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

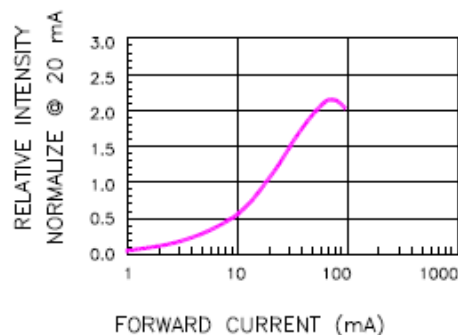


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

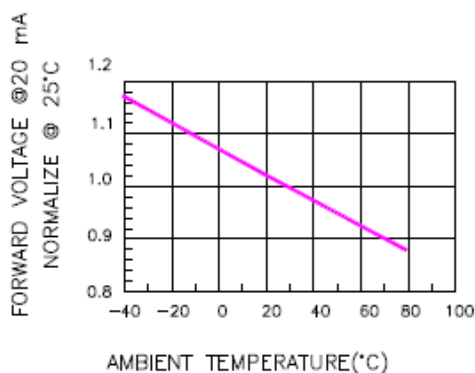


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

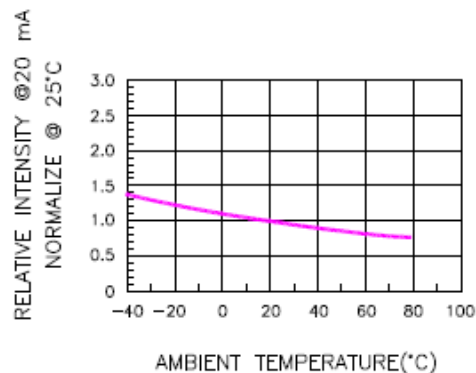


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

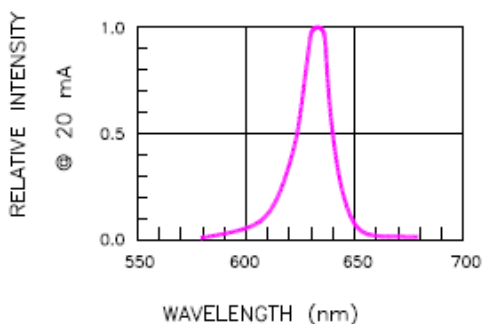


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

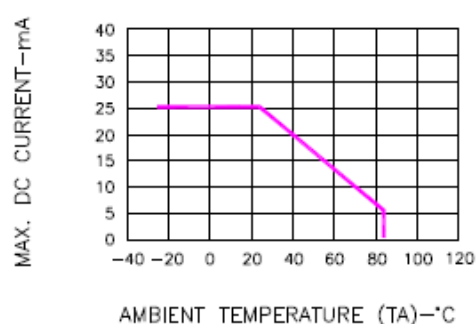


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

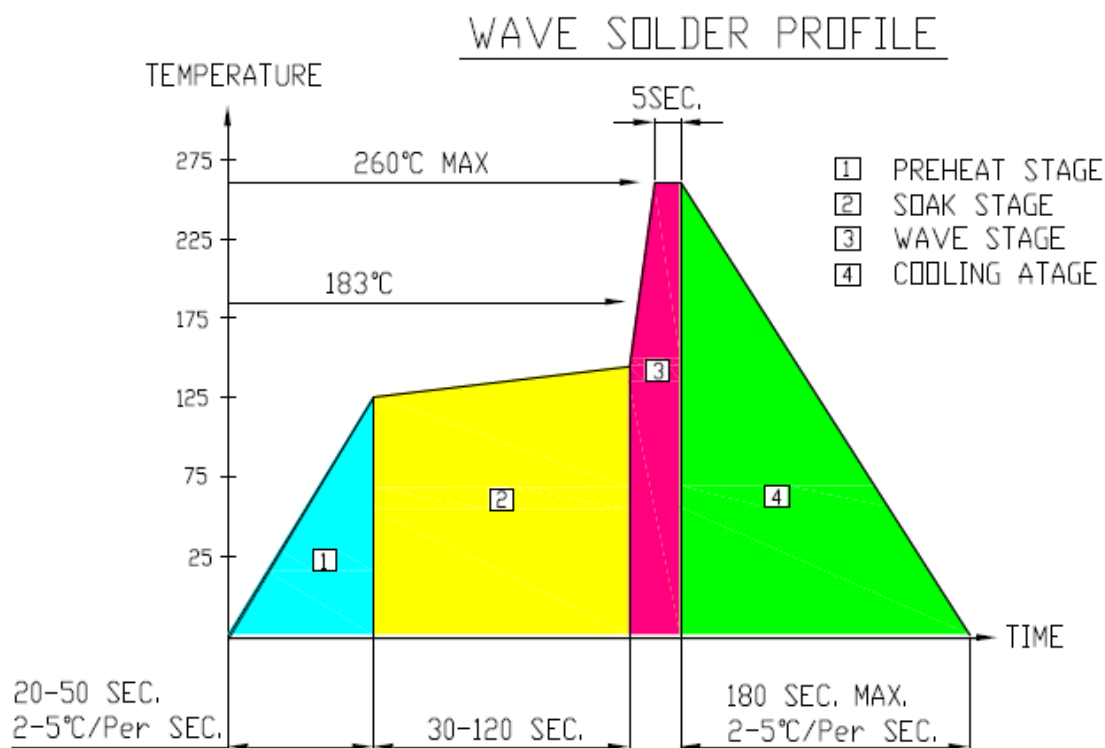


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RECOMMEND SOLDERING PROFILE



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