

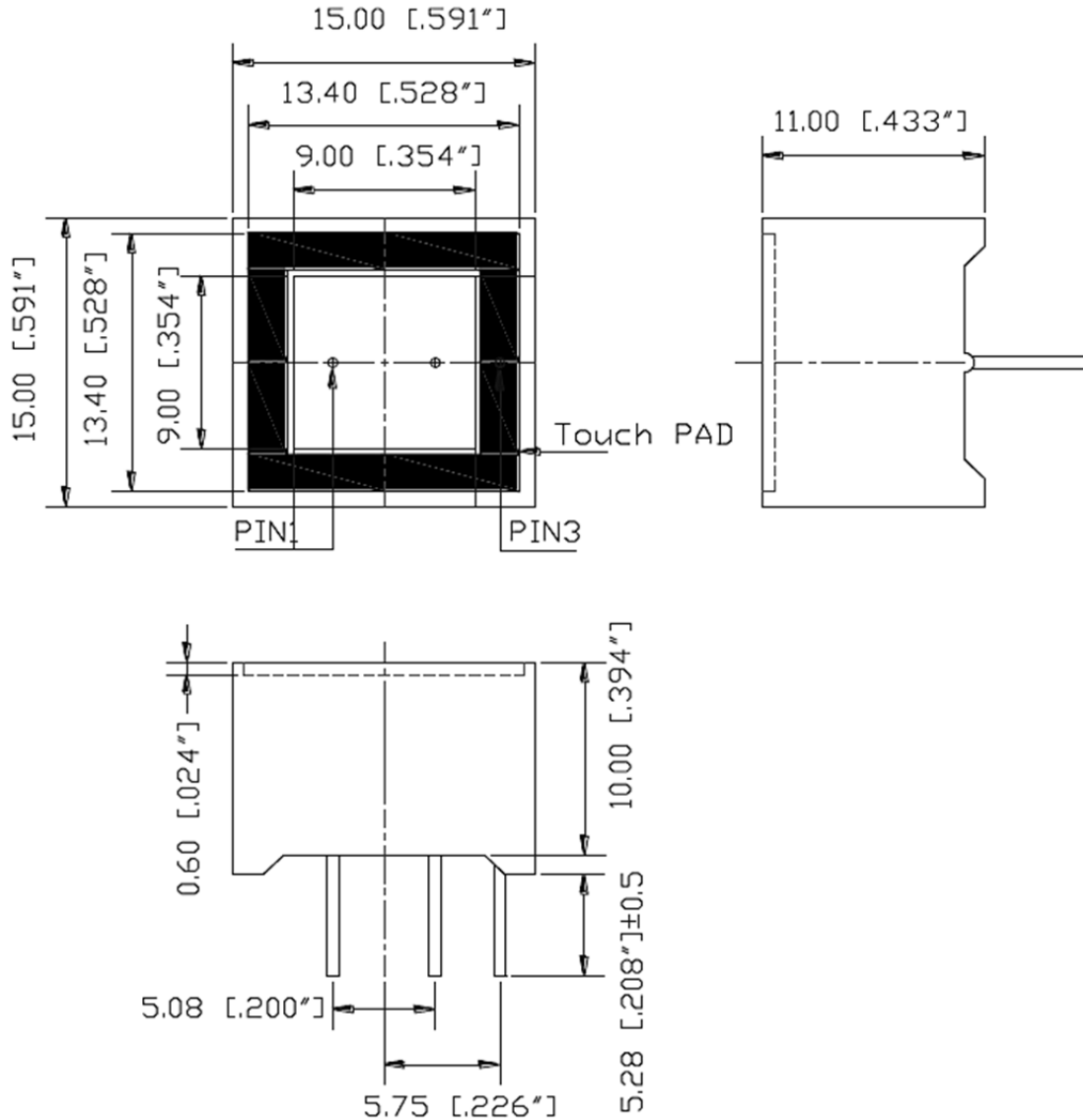


American Opto Plus LED Corp.

CTD591W-W/W

15.0 x 15.0 x 11.0 mm Touch LED White Display

PACKAGE DIMENSION



Notes:

1. All pins are $\Phi 0.60[0.24]$, dimensions in millimeter.
2. Tolerances are $\pm 0.25[0.01]$ unless otherwise noted.

Part No.	Chip Material	Chip Emitted	Face/Segment
CTD591W-W/W	InGaN	White	White/ White

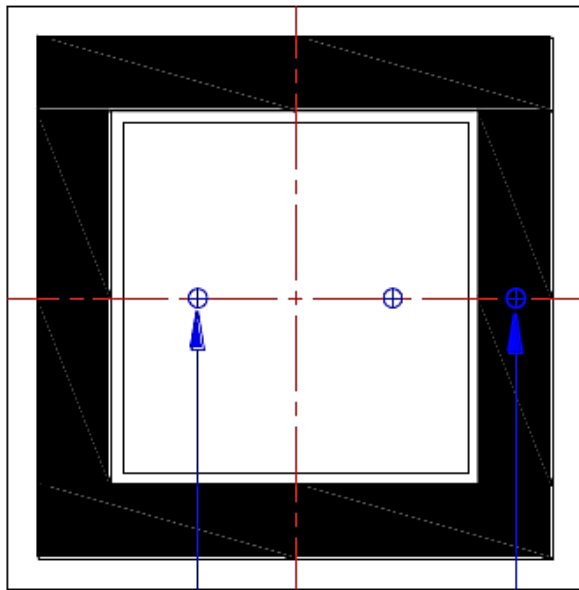


American Opto Plus LED Corp.

CTD591W-W/W

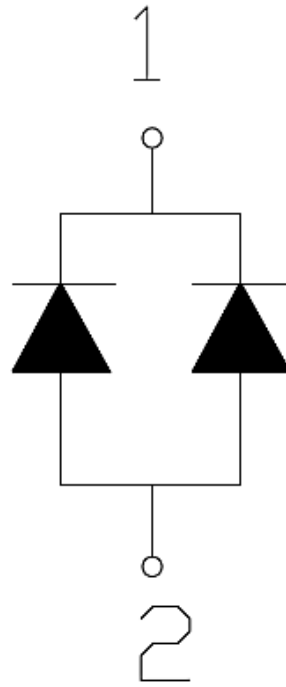
15.0 x 15.0 x 11.0 mm Touch LED White Display

PIN POSITION & INTERNAL CIRCUIT DIAGRAM



PIN1

PIN3



Touch PAD



3



American Opto Plus LED Corp.

CTD591W-W/W

15.0 x 15.0 x 11.0 mm Touch LED White Display

ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Value	Unit
Power Dissipation Per Dice	P _D	114	mW
Derating Liner from 25°C Per Dice	--	0.4	mA/°C
Continuous Forward Current Per Dice	I _F	30	mA
Peak Current Per Dice (duty cycle 1/10, 1KHz)	I _{FP}	100	mA
Reverse Voltage Per Dice	V _R	5	V
Electrostatic Discharge (HBM)	ESD	1500	V
Operating Temperature Range	T _{OPR}	-35~+85	°C
Storage Temperature Range	T _{STG}	-35~+85	°C

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Forward Voltage	V _F	I _F =20mA	--	3.2	3.8	V
Luminous Intensity	I _V		180	310	--	mcd
Chromaticity Coordinates	X	I _F =10mA	--	0.27	--	--
	Y		--	0.25	--	--
Luminous Intensity Matching Ratio	I _{V-m}		--	--	2:1	--
Reverse Current	I _R	V _R =5V	--	--	100	µA

Forward voltage tolerance: ±0.1V

Luminous intensity tolerance: ±20%

Chromaticity coordinates tolerance: ±0.01



American Opto Plus LED Corp.

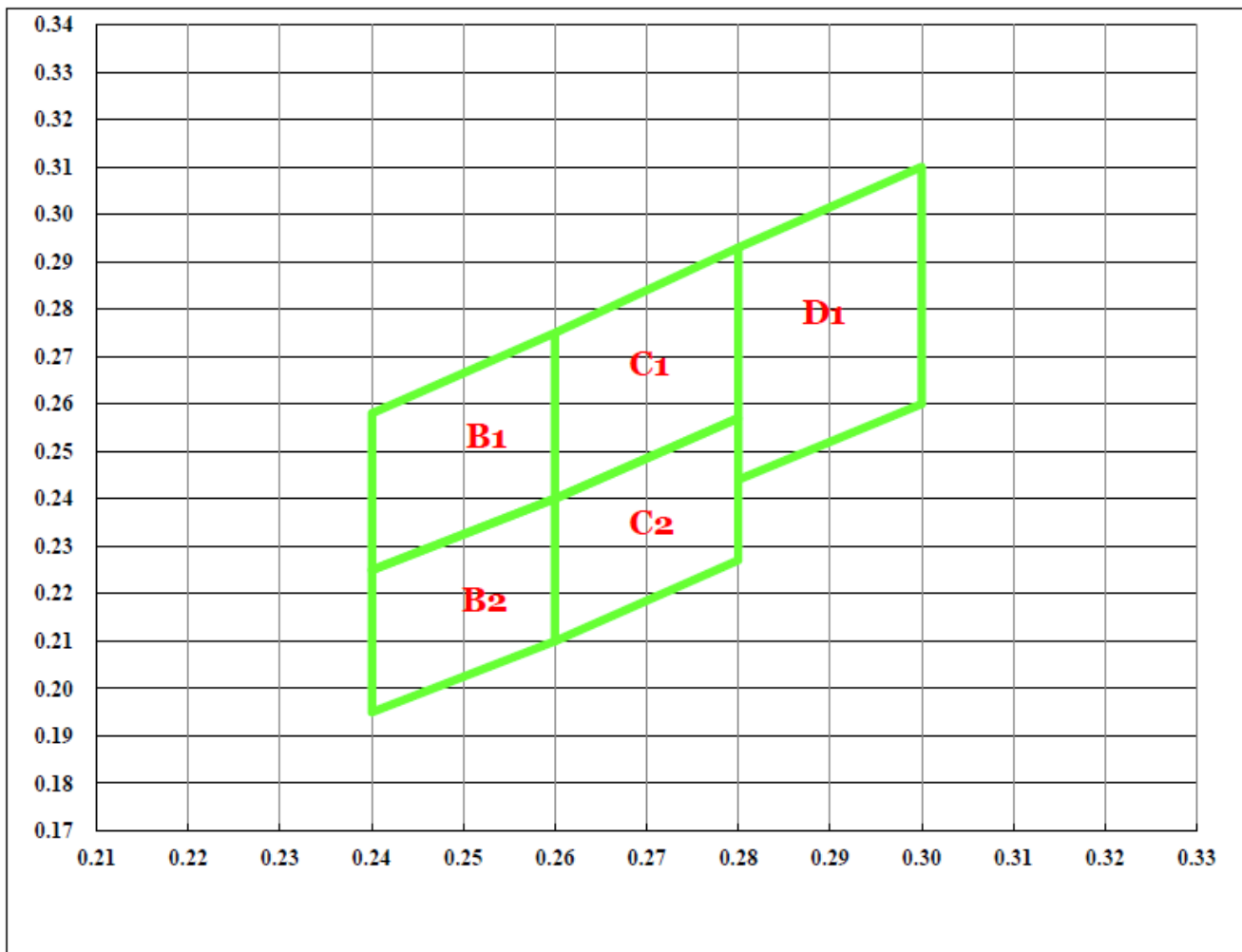
CTD591W-W/W

15.0 x 15.0 x 11.0 mm Touch LED White Display

LUMINOUS INTENSITY BIN GRADE ($I_F=20\text{mA}$)

R	S	T
180.623	288.997	462.397
288.996	462.396	739.835

COLOR RANK LIMITS ($I_F=10\text{mA}$)





American Opto Plus LED Corp.

CTD591W-W/W

15.0 x 15.0 x 11.0 mm Touch LED White Display

B1				
X	0.240	0.240	0.260	0.260
Y	0.225	0.258	0.275	0.240

B2				
X	0.240	0.240	0.260	0.260
Y	0.195	0.225	0.240	0.210

C1				
X	0.260	0.260	0.280	0.280
Y	0.240	0.275	0.293	0.257

C2				
X	0.260	0.260	0.280	0.280
Y	0.210	0.240	0.257	0.227

D1				
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260



American Opto Plus LED Corp.

CTD591W-W/W

15.0 x 15.0 x 11.0 mm Touch LED White Display

OPTICAL CHARACTERISTIC CURVES

Fig 1. Forward Current Vs. Ambient Temperature

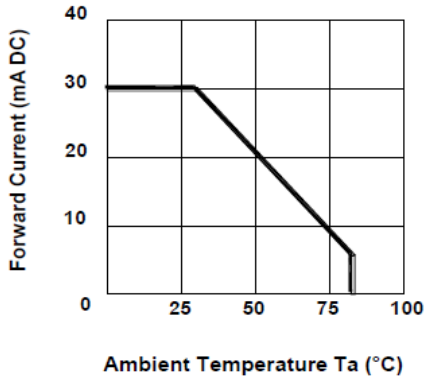


Fig 2. Forward Current Vs. Forward Voltage

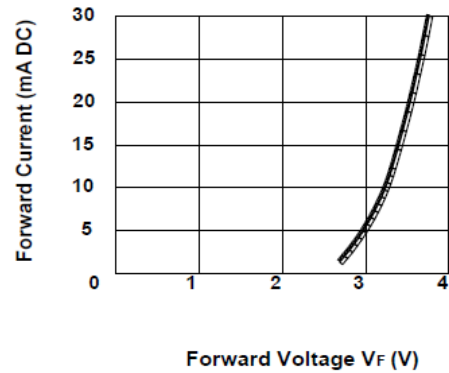


Fig 3. Relative Intensity Vs. Forward Current

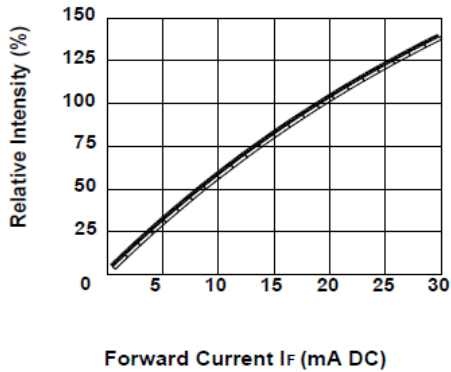


Fig 4. Peak Forward Voltage Vs. Forward Current (100us test pulse, 1% duty cycle)

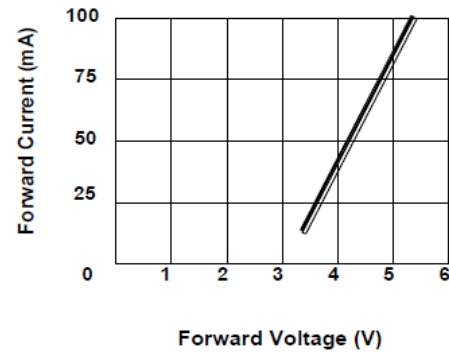
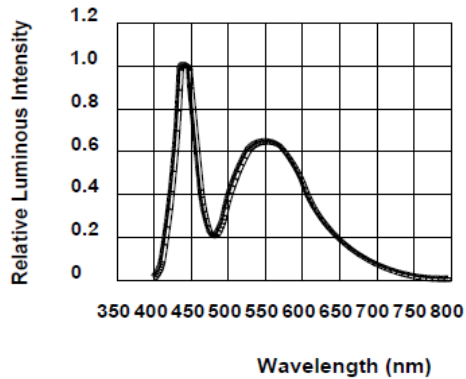


Fig 5. Relative Intensity Vs. Wavelength





American Opto Plus LED Corp.

CTD591W-W/W

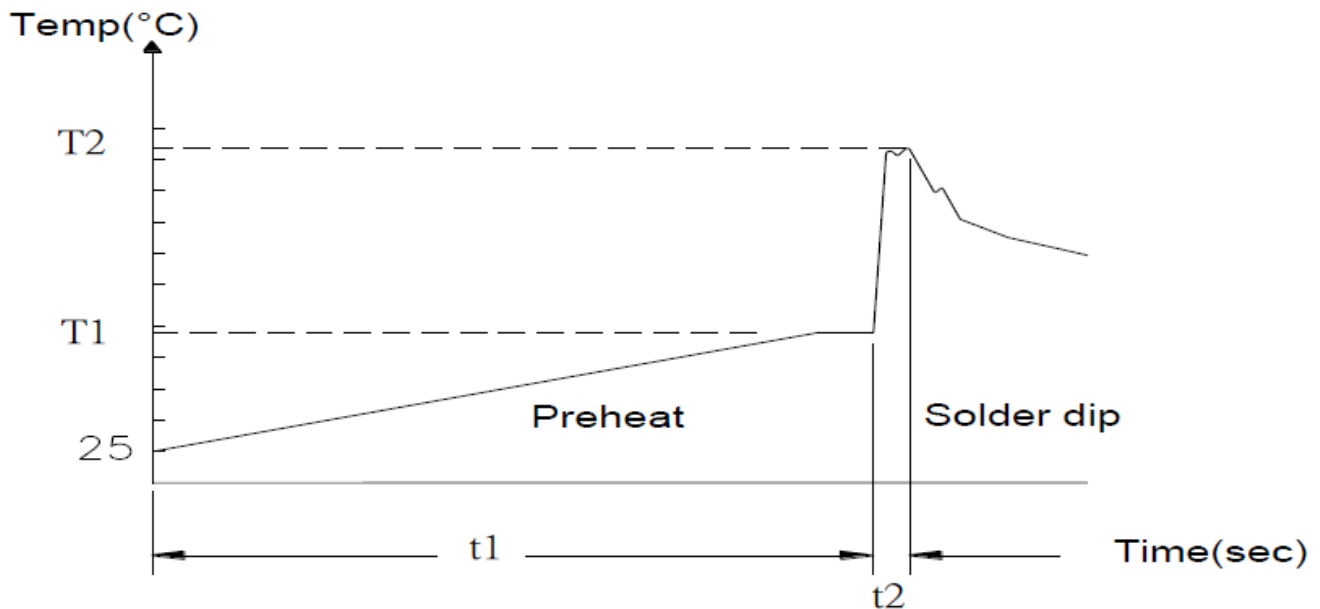
15.0 x 15.0 x 11.0 mm Touch LED White Display

RECOMMENDED SOLDERING CONDITIONS

1. Wave Soldering Profile

Distance: 1.6mm min (from seating plane)

Item	Condition		Note
Preheat	Temperature T1	80 – 120°C	PWB temperature (Soldering side surface)
	Time t1	60 – 180sec	
Solder Dip	Temperature T2	230 – 260°C	Bath temperature
	Time t2	2 – 4sec	Solder tank passage time



2. Hand Soldering (Iron Condition)

Soldering Iron: 30W Max
Temperature: 350°C Max
Soldering Time: 3 seconds Max (one time)
Distance: 1.6mm min (from seating plane)