

# LTST-C19HE1WT

## 片式发光二极管 ChipLight Emitting Diode

### 技术数据表 Technical Data Sheet

本产品主要作为信号指示及照明的电子元件广泛应用于各类使用表面贴装结构的电子产品中,如家用电器的开关指示灯、手机键盘灯、汽车仪表盘照明等。本产品也广泛用作液晶显示屏(LCD)的背光源。

This product is generally used as indicator and illuminant for electronic equipment such as household appliance, communication equipment, and dashboard. And it can also be used as flat backlight for Liquid Crystal Display (LCD).

#### 特性:

##### Features:

- 管芯材料: AlGaInP  
Material: AlGaInP
- 发光颜色: 红、绿、蓝  
Emitting Color: Red、Green、Blue
- 光强高, 功耗低  
High Luminous Intensity and Low Power Dissipation
- 可靠性高, 寿命长  
Good Reliability and Long Life
- 符合欧盟公布的 RoHS 指令要求  
Complied With RoHS Directive

\* 产品规格如因工艺改进而有所改变, 恕不另行通知。

\*The Specifications of the product may be modified for improvement without notice.

## 电性参数

### Electrical Characteristics

◇ **极限参数** (温度=25℃):

#### Absolute Maximum Ratings (Temperature=25°C):

参数名称 Parameter	符号 Symbol	数值 Rating	单位 Unit
正向电流 Forward Current	$I_F$	25 MAX	mA
正向脉冲电流* Pulse Forward Current*	$I_{FP}$	100 MAX	mA
反向电压 Reverse Voltage	$V_R$	5 MAX	V
工作温度 Operating Temperature	$T_{OPR}$	-30 ~ +85	℃
贮存温度 Storage Temperature	$T_{stg}$	-40 ~ +100	℃
功耗 Power Dissipation	$P_D$	75 MAX	mW

\* 注: 脉冲宽度 $\leq 0.1ms$ , 占空比 $\leq 1/10$

\* Note: Pulse width $\leq 0.1ms$ , Duty $\leq 1/10$


◇ **光电参数** (温度=25℃):

#### Electro-Optical Characteristics (Temperature=25°C):

参数名称 Parameter	符号 Symbol	条件 Condition	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Unit
反向电流 Reverse Current	$I_R$	$V_R=5V$			10	$\mu A$
正向电压 Forward Voltage	$V_F$	$I_F=20mA$		R:2.2 G:3.2 B:3.2		V
峰值波长 Peak Wavelength	$\lambda_P$			R:620 G:520 B:470		nm
主波长 Dominant Wavelength	$\lambda_D$			R:620 G:520 B:470		nm
半波宽度 Spectrum Radiation Bandwidth	$\Delta\lambda$					nm
光强 Luminous Intensity	$I_V$				R:120 G:280 B:120	mcd
视角 View Angle	$2\theta_{1/2}$				130	deg.

## 可靠性试验

### Reliability Test Items And Conditions

试验项目 Test Items	试验条件 Test Conditions	试验数量 Quantity	判断标准 Judging Criteria
可焊性试验 Solderability	焊接温度 (Solder Temperature): 300°C 焊接时间 (Solder Duration): (3.5±0.5) sec.	15	湿润良好 上锡面积在 95%以上 Solderable Area Over 95%
温度快速变化继之以 循环湿热 Thermal Shock Followed by High Temperature And High Humidity Cyclic	-40°C → 10 min. 5 次循环 5 Cycles  转移 (2~3) min. 100°C → 10 min. ↓ 25°C~55°C (90%~95%) RH 2 次循环 48 hrs., 恢复 2 hrs. 2 Cycles for 48 hrs., Recover for 2 hrs.	11	C=0 & I**
耐焊接热试验 Resistance For Soldering Heat	红外回流焊法 Reflow Soldering	15	C=0 & I**
电耐久性试验 DC Operating Life	1000 hrs. 正向电流: 25mA Forward Current: 25mA	22	C=0 & I*
高温贮存试验 High Temperature Storage	100°C → 1000 hrs.	15	C=0 & I*
循环湿热 High Temperature And High Humidity Cyclic	25°C~55°C (90%~95%) RH 6 次循环 144 hrs., 恢复 2 hrs. 6 Cycles for 144 hrs., Recover for 2 hrs.	11	C=0 & I*

#### \*1 失效判断标准 Criteria For Judging Damage

测试项目 Items	符号 Symbol	测试条件 Test Conditions	失效判断标准 I* Criteria For Judging Damage I*	失效判断标准 I** Criteria For Judging Damage I**
正向电压 Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	≥USL×1.2	≥USL
反向电流 Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	≥USL×2.0	≥USL
光强 Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =20mA	≤LSL×0.5	≤LSL

\* USL: 标准值上限值, LSL: 标准值下限值 \* USL: Upper Standard Level, LSL: Lower Standard Level