

NPN SILICON PHOTOTRANSISTOR LED LAMPS



Lead-Free Parts

LPTV34443/A-PF

# DATA SHEET

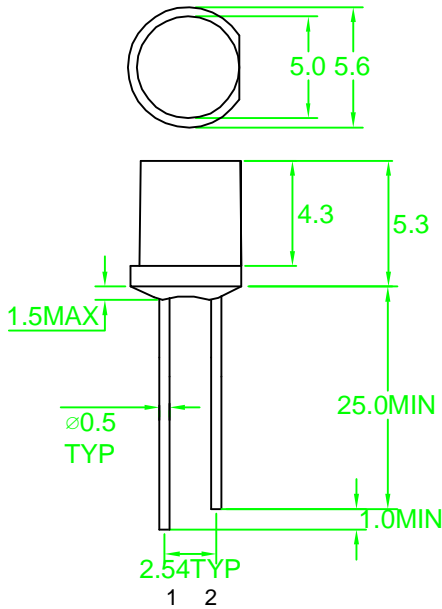
DOC. NO : QW0905- LPTV34443/A-PF

REV. : A

DATE : 03 - Jul. - 2015



Package Dimension



Features

- . High illumination sensitivity
- . Stable characteristics
- . Spectrally and mechanically matched with visible light LED

Description

The LPTV34443/A-PF series are silicon nitride passivated NPN planar phototransistors with exceptionally stable characteristics and high illumination sensitivity the cases of LPTV34443/A-PF are encapsulated in water clear plastic T1 3/4 package individualt

Note:1.All dimension are in millimeter tolerance is  $\pm 0.25\text{mm}$  unless otherwise noted  
 2.Specifications are subject to change without notice

• MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

PARAMETER	MAXIMUM RATINGS	UNIT
Power Dissipation	100	mw
Collector-Emitter Voltage	30	V
Emitter-Collector Voltage	3	V
Operating Temperature	-50°C TO +100°C	
Storage Temperature	-50°C TO +100°C	
Lead Soldering Temperature(1.6mm From Body)	260°C for 5 seconds	

• ELECTRICAL CHARACTERISTICS(Ta=25°C)

PARAMETER	SYMBOL	Min.	Typ.	Max.	UNIT	TEST CONDITION
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	$I_c=1mA$ $E_v=0Lux$
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	3			V	$I_E=100 \mu A$ $E_v=0Lux$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.2	0.4	V	$I_c=2mA$ $E_v=1000Lux$
Collector Dark Current	$I_{CEO}$			50	nA	$V_{CE}=5V$ $E_v=0Lux$
On State Collector Current	$I_{p(on)}$	15	25	40	uA	$V_{CE}=5v$ $E_v=10Lux$ CCT=2865K
		60	100	140	uA	$V_{CE}=5v$ $E_v=50Lux$ CCT=2865K
		150	190	230	uA	$V_{CE}=5v$ $E_v=100Lux$ CCT=2865K
The peak wavelength	$\lambda P$		630		nm	
spectral sensitivity of the wavelength range	$\Delta \lambda$		400-650		nm	
Half angle	$2\theta$		80		°	
Rise time	$T_r$		10		us	$V_{CE}=5V, R_{ss}=10kohm$
Fall time	$T_f$		10		us	

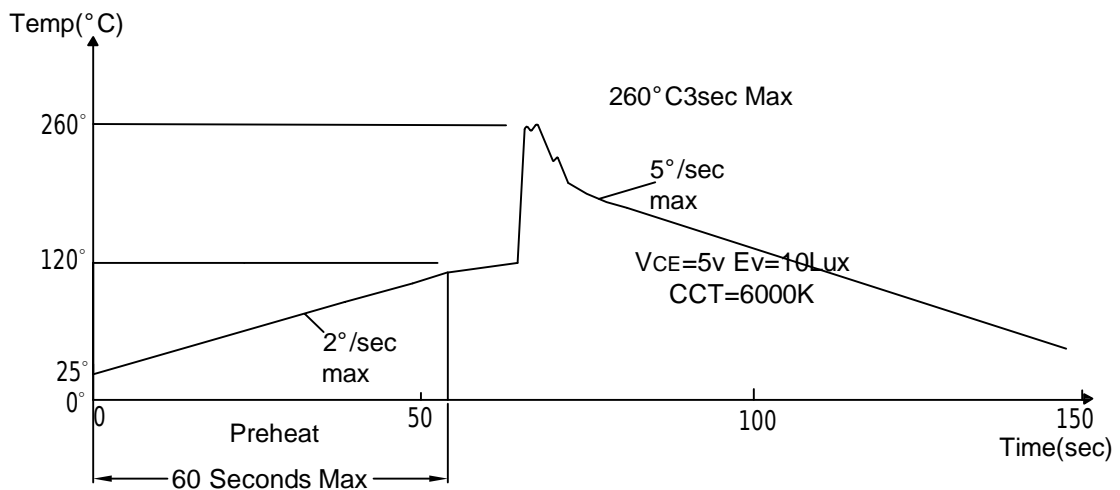
## Soldering Condition(Pb-Free)

### 1.Iron:

Soldering Iron:30W Max  
Temperature 350° C Max  
Soldering Time:3 Seconds Max(One time only)  
Distance:2mm Min(From solder joint to body)

### 2.Wave Soldering Profile

Dip Soldering  
Preheat: 120° C Max  
Preheat time: 60seconds Max  
Ramp-up  
2° C/sec(max)  
Ramp-Down:-5° C/sec(max)  
Solder Bath:260° C Max  
Dipping Time:3 seconds Max  
Distance:2mm Min(From solder joint to body)



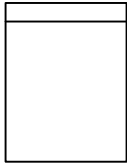
- Note: 1.Wave solder should not be made more than one time.  
2.You can just only select one of the soldering conditions as above.

**Reliability Test:**

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of determining the resistance of a part in electrical and themal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=85 °C ±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40 °C ±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 °C ±5°C 2.RH=90%~95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105 °C ±5°C & -40 °C ±5°C (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260 °C ±5°C 2.Dwell time= 10 ±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230 °C ±5°C 2.Dwell time=5 ±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2

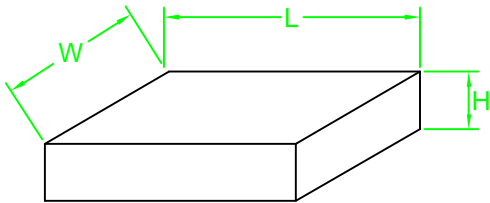
## PACKING SPECIFICATION

1. 500PCS / BAG



2. 8 BAG / INNER BOX

SIZE : L X W X H 33.5cm X 19cm X 7.5cm



3. 12 INNER BOXES / CARTON

SIZE : L X W X H 58.5cm X 34cm X 34cm

