

N1713U Series HIGH POWER UVA CSP

Introduction

The N1713U LED from TSLC brings industry leading technology to the solid state lighting market with its high quality and performance. N1713U LEDs from TSLC feature is very high brightness and efficacy, as well as excellent lifetime.



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RoHS Compliant

Characteristics

Absolute Maximum Ratings (Ta=25°C)

Daramatar	Rating		
Parameter	N1713U Series		
DC Forward Current	700 mA		
LED Junction Temperature	115°C		
LED Operating Temperature -30°C~85°C			
Storage Temperature 5°C ~35°C			
Reverse VoltageLED should not be tested in the reverse bias			

Product Name

<u>N 1713 U – UN W 1</u>

1 2~5 6 7 8~9 10 11 Code 1: Substrate composition, N: Ceramic AIN (Au) Code 2.3.4.5: Package size, 1713: 1.7*1.3mm Code 6: Product Class, U: UV (<430nm) Code 8.9: Wavelength/CCT Class ,UN: UV (380~420nm) Code 10: Lens type, L: 125~140 degree, A: 90 degree, F: 55 degree, W: without lens Code 11: Internal code



General Characteristics (Tj = 25 °C at 500mA)

Part number	Color	Peak wavelength		Peak wavelength Color 20	2θ _{1/2}	Temperature Coefficient of Vf (mV/°C)	Thermal Resistance Junction to Pad (°C/W)
			Min	Max		ΔVF /ΔTJ	RΘ _{J-L}
N1713U-UNW1	U60	400nm	410nm	130	-2 ~ -4	10	

Notes:

- 1. Flux is measured with an accuracy of \pm 10%.
- 2. Wavelength is measured with an accuracy of \pm 1.0nm

Radiometric Power and Forward Voltage (Tj = 25°C)

	Color	Performance at Test Current (500mA)					
Part Number		Group	Radiometric Power (mW)		VF		
			Min	Max	Min	Max	
	U60 (400-410nm)	NE3	480	520	3.0	4.0	
		NE4	520	560	3.0	4.0	
N1713U-UNW1		NE5	560	600	3.0	4.0	
		NF1	600	650	3.0	4.0	
		NF2	650	700	3.0	4.0	

Note: 1. Radiometric power is measured with an accuracy of $\pm 10\%$

- 2. The forward voltage is measured with an accuracy of $\pm 0.2 V$
- * Calculated values are for reference only.



Mechanical Dimensions



Notes :

- 1. Drawing is not to scale
- 2. All dimensions are in millimeter
- 3. Dimensions are ± 0.13 mm unless otherwise indicated



Recommended Solder Pad Design

Recommended Solder Pad



Recommended Stencil Pattern (Hatched Area is opening)



Note:

Dimensions are in millimeters. ± 0.1 Measurement tolerances : ± 0.05 Drawing not to scale





Typical Relative Spectral Power Distribution

Typical Spatial Radiation Pattern







Typical Forward L-I Characteristics, Tj=25°C

Typical Forward I-V Characteristics, Tj=25°C





Recommended Soldering Profile

The LEDs can be soldered using the parameters listed below. As a general guideline, the users are suggested to follow the recommended soldering profile provided by the manufacturer of the solder paste. Although the recommended soldering conditions are specified in the list, reflow soldering at the lowest possible temperature is advised for the LEDs.



Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average Ramp-up Rate (Ts _{max} to Tp)	3°C/second max.	3°C/second max.
Preheat		
- Temperature Min(Ts _{min})	100°C	150°C
 Temperature Max(Ts_{max}) 	150°C	200°C
- Time(ts _{min} to ts _{max})	60-120 seconds	60-180 seconds
Time maintained above:		
 Temperature(T_L) 	174°C	208°C
- Time(t∟)	60-150 seconds	60-150 seconds
Peak/classification	206°C	260°C
Temperature(Tp)		
Time within 5° C of actual Peak	10.20 seconds	20.40 seconds
Temperature(tp)	TO-20 26C0102	20-40 Seconds
Ramp-Down Rate	6°C/second max.	6°C/second max.
Time 25 $^{\circ}$ C to Peak Temperature	6 minutes max.	8 minutes max.



Packing Information

Max QTY:2000ea/roll



ltem	Specification	Tol. (+/-)
w	8.00	± 0.20
E	1.75	± 0.10
F	3.50	± 0.05
D0	1.50	+0.10, -0
D1	1.00	± 0.10
P0	4.00	± 0.05
P1	4.00	± 0.10
P2	2.00	± 0.05
P0 x 10	40.00	± 0.20

t	0.20	± 0.03
A0	1.55	± 0.10
B0	1.90	± 0.10
K0	0.70	± 0.05
A1		
B1		
K1		





About Us

TSLC Corporation is devoted to developing high-density, and multi-size emitters with powerful output to satisfy the needs of every customer.

TSLC Corporation is the leader in LED solutions. Unlimited design flexibility for interior and exterior spaces with high-end lighting effect; energy-efficient for UV curing to improve the quality of medical care; horticulture solutions create a better environment for everyone; high-intensity rotatable lightings for the entertainment industry, TSLC is always there for your lighting needs.

For further company or product information, please visit us at **www.tslc.com.tw** or please contact **sales@ tslc.com.tw**.





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