2023-11

Asahi Crosslink
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AL-8M-033

Product Datasheet

Properties

LED Compatibility [distribution angle 6°～12°]

6.80×6.80mm, flat top

UV-A | Visible | Infrared

Material: ASR-A80MC Clear Silicone

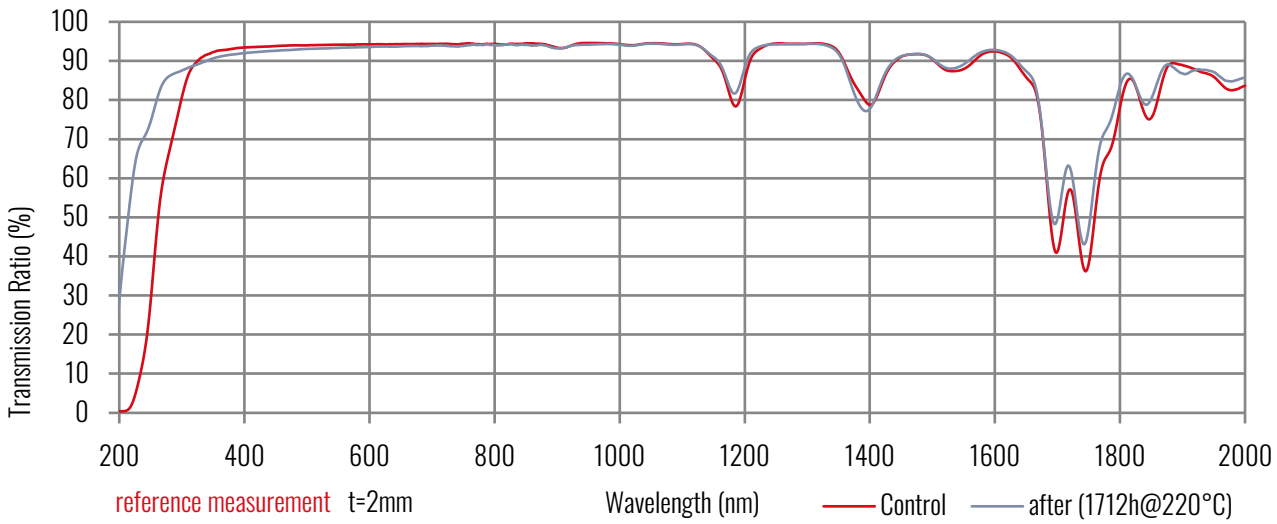
A80/S±5 hardness

ROHS3 Compliant

Refractive index 1.41±0.03
(25°C, D-line 589nm)

REACH Unaffected

Test Type	Test Method	Test Conditions	Period	Appearance	Change in Transmittance ⊿T (%)	Yellowing ⊿YI
Thermal Shock	JEITA ED-4701 300 307	-40°C > 120°C 15min 15 min	500 cycles	No cracks or other defects	0.32	1.09
High Temperature Storage	JEITA ED-4701 200 201	Ta=150°C	1000hr	No cracks or other defects	0.69	1.55
High Temp and Humidity Storage	JEITA ED-4701 100 103	Ta=85°C RH=85%	1000hr	No cracks or other defects	0.99	0.76
Low Temperature Storage	JEITA ED-4701 200 202	Ta=-40°C	1000hr	No cracks or other defects	0.45	0.06
Solvent Resistance	JEITA ED-4701 500 501	Solvent: IPA 20-25°C 5 minutes	1 time	No cracks or other defects	-	-
Drop Test	-	Drop on 20mm steel plate from 1m	5 times	No cracks or other defects	-	-

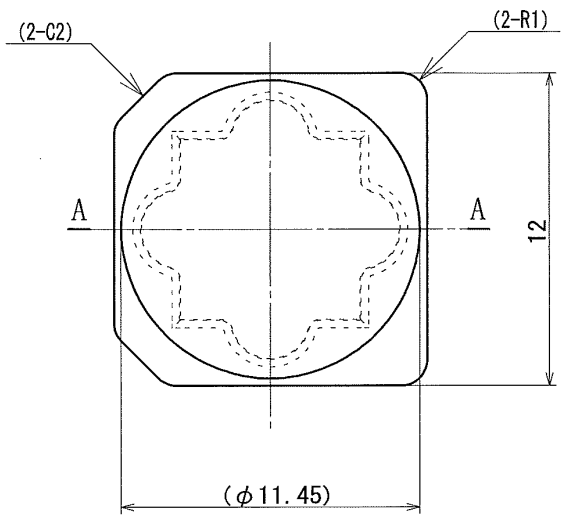


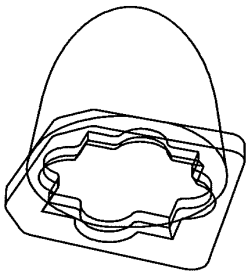
SPECIFICATIONS <仕様図> / REFERENCE <参考図>	SURFACE TREATMENT <表面処理> / HEAT TREATMENT <熱処理> / FINISH <仕上げ>

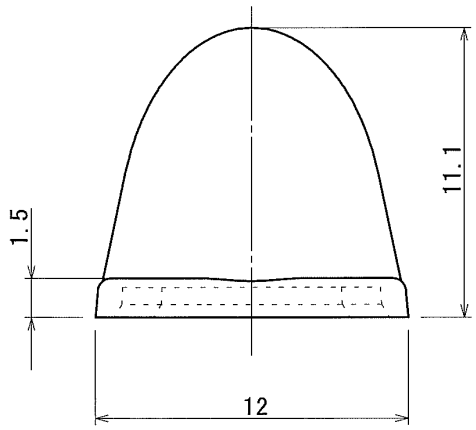
SYM	DATE	REVISION	REVR	APPR
1 ×				
2 ×				
3 ×				

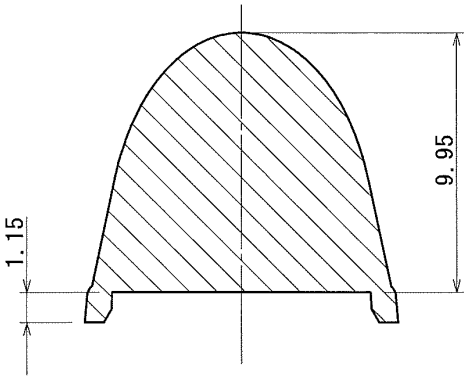
CAD ZRD

Drawing Paper for Rubber Parts

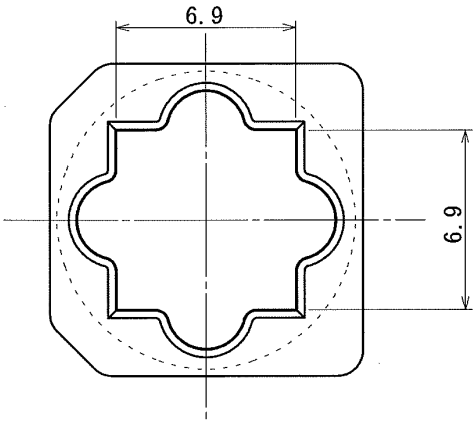








A-A断面図



NOTE)
・一般寸法公差：±0.1

TOLERANCE UNLESS SPECIFIED			
RANGE	A	B	C
LESS THAN 6	±0.2	±0.1	±0.1
OVER 6 TO 20	±0.3	±0.2	±0.1
OVER 20 TO 50	±0.5	±0.3	±0.2
OVER 50 TO 100	±1.0	±0.5	±0.3
OVER 100 TO 300	±2.0	±1.0	±0.5
OVER 300 TO 500	±5.0	±2.5	±1.0
ANGLE		±2°	

ORIGINAL DATE	MATERIAL (COMPOUND)	TITLE
2013/9/2		AL-8M-033 製品図
SCALE 4:1 / UNIT mm	COLOR	DRAWING NO. 13090202M
SIZE A4 / 3RD ANGLE SYSTEM	HARDNESS	

ASAHI RUBBER INC.
株式会社朝日ラバー

DESIGN	DRAWN	CHECKED	APPROVED
T. Motoyanagi	T. Motoyanagi	T. Kanahira	M. Tasaki

A4VT-031112

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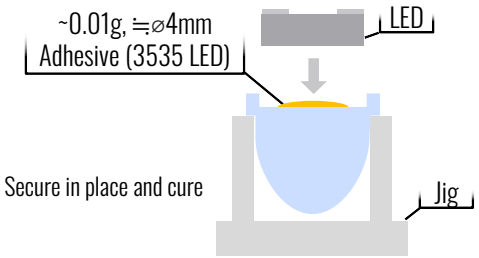
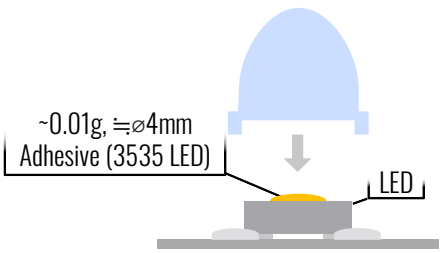
Attachment Guide

1. LED to Lens Adhesion (Recommended)

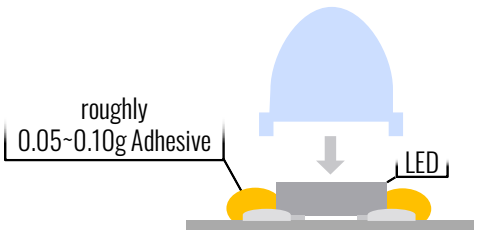


2. Lens to Mounted LED Adhesion



Ensure no floating or tilting of lens before curing

3. Lens to PCB Adhesion



Ensure no floating or tilting of lens before curing
Recommended for opaque or room temp-curing adhesives

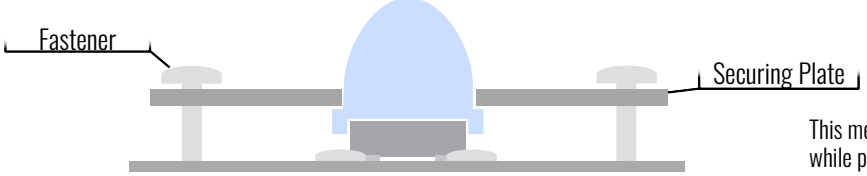
Ensure your selected adhesive:	
(Types 1 and 2) -Has appropriate transparency -Does not yellow	(All Cases) -Is silicone based -Has low siloxane levels -Has appropriate strength -Is compatible with your processes
(Type 3) -Has high viscosity	

Adhesive Recommendations			
Maker	Dow Corning	Momentive	Shin-Etsu Silicone
Product Number	SE9186L	TSE3221S	X-32-1964
Cure Condition	20°C, 55%×6h (Room Temp Cure)	100°C×3h -or- 130°C×1h	100°C×3h
Viscosity	25 Pa·s	58 Pa·s	0.025 Pa·s
Type	Room Temp Cure (1 Component)	Heat Cure (1 Component)	Heat Cure (1 Component)
Adhesion Method	Lens to PCB (3)	LED to Lens / Lens to LED (1, 2)	

4. Mechanical

Secure a plate with a hole of ~5% larger diameter than the lens optic, fitted over the lens

Care must be taken to ensure no scraping or other physical damage to the lens optic when mounting



This method allows easier lens replacement while preserving the LED, where desired

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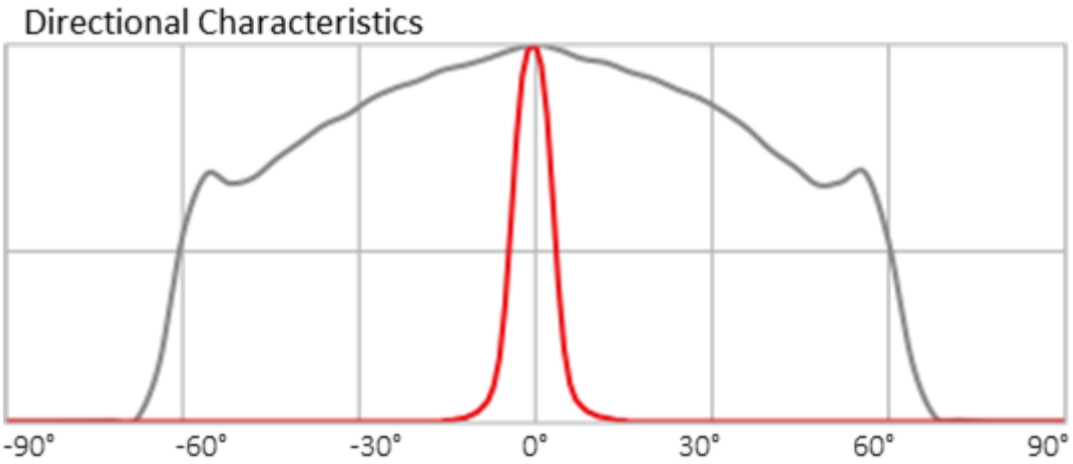
Photometrics



Directivity with NSCU033B ~8°

Silicone Rubber (ASR-A80MC) UV Durability Testing

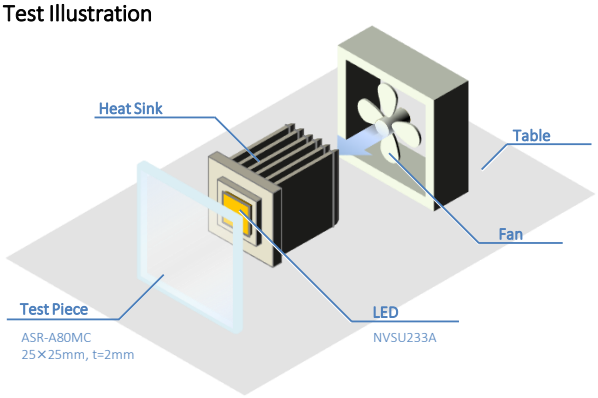
Test Method

UV-LED lit for extended duration; collected pre- and post-test transmittance data compared.

Test Description

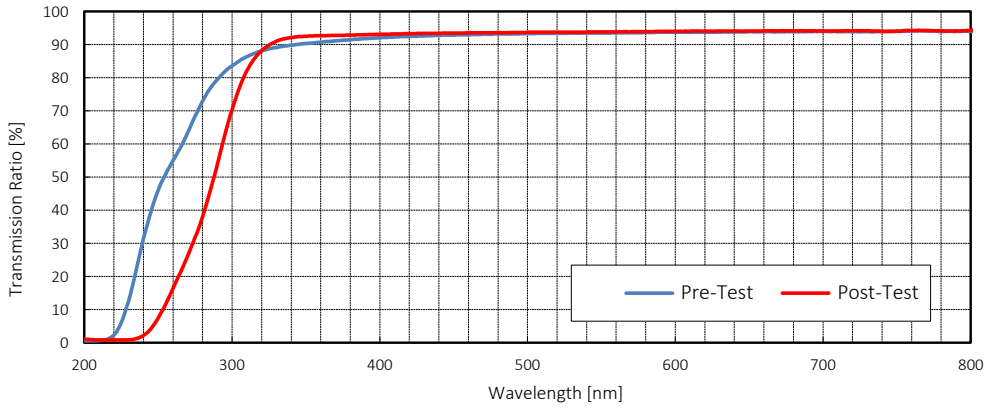
LED Package	Nichia NVSU233A (365nm)
Drive Current	1.4A (specification max)
Radiant Flux	1442mW (Nichia reference value)
Cooling	Heat sink with forced air
Ambient Temp.	25°C
Duration	6300 Hours
Distance	~2mm between LED and test piece

Test Illustration



Measured Results (Change in Transmittance)

Some loss in transmittance below 320nm was observed. Conversely, increase in transmittance observed in 320nm~460nm range.



Summary

1. From ~320nm boundary, transmittance decreases in shorter wavelengths, yet increases in longer wavelengths.
2. UV irradiation clearly causes a change in the optical qualities of the material; whether this can be considered degradation or long-duration curing of a sort depends on one's viewpoint.
3. The material can be considered highly UV-durable at a reference wavelength of 365nm.