

A-BRIGHT A-BRIGHT INDUSTRIAL CO., LTD.

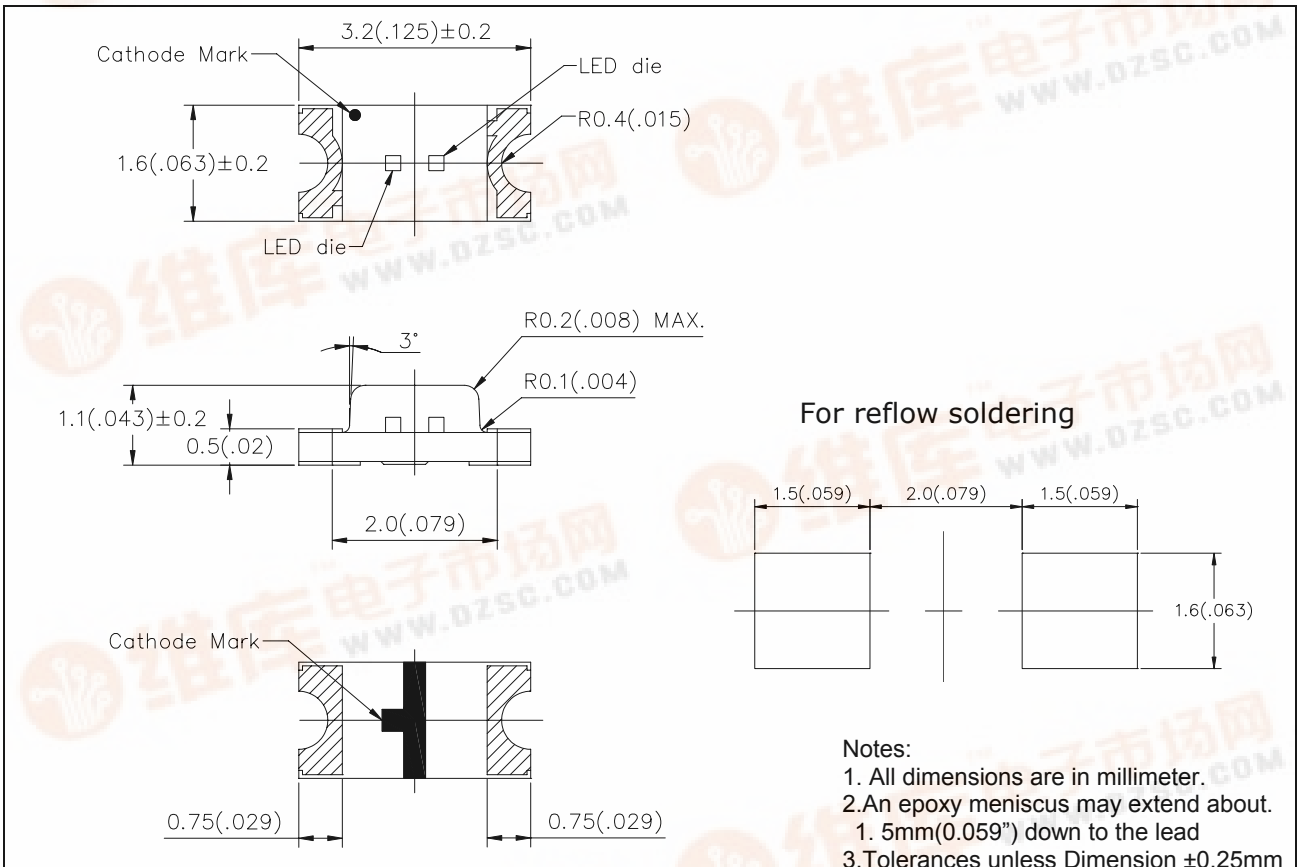
Part No. **AL-HD1X133**

Diff No.

3.2x1.6x1.1 mm

Type : SMD LED

Package Dimension :



■ Features :

- Choice of various viewing angles.
- Available on Tape and Reel.
- Reliable and robust.

■ Descriptions :

- The series is specially designed for application requiring higher brightness.
- The LED lamps are available with different colors, intensity, epoxy colors etc.

■ Applications :

- TV set
- Monitor
- Telephone

Part No. **AL-HD1X133**

Diff No.

3.2x1.6x1.1 mm

Type : SMD LED

PART NO.	Chip		Lens Color
	Material	Emitted Color	
AL-HD1X133	GaAlAs/GaAs	Super Red	Water Clear
	GaP/GaP	Hi-Eff Green	

■ Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Forward Current	I _F	30	mA
Operating Temperature	T _{opr}	-25 to +80	°C
Storage Temperature	T _{stg}	-30 to +85	°C
Soldering Temperature	T _{sol}	260 ± 5	°C
Power Dissipation	P _D	R : 60	mW
		G : 100	
Peak Forward Current (Duty 1/10@1KHz)	I _F (Peak)	100	mA
Reverse Voltage	V _R	5	V

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition	
Luminous Intensity	I _v	R	12.3	25.0	/	mcd	I _F =20mA
		G	5.5	12.0	/		
Viewing Angle	2θ _{1/2}	/	120	/	deg	I _F =20mA	
Peak Wavelength	λ _p	R	/	660	/	nm	I _F =20mA
		G	/	575	/		
Dominant Wavelength	λ _d	R	/	643	/	nm	I _F =20mA
		G	/	570	/		
Spectrum Radiation Bandwidth	Δλ	R	/	20	/	nm	I _F =20mA
		G	/	30	/		
Forward Voltage	V _F	R	/	1.8	2.6	V	I _F =20mA
		G	/	2.2	2.6		
Reverse Current	I _R	/	/	100	μA	V _R =5V	

Part No. **AL-HD1X133**

Diff No.

3.2x1.6x1.1 mm

Type : SMD LED

■ Reliability test items and conditions :

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS-C-7021 :B-1	Connect with a power If=20mA Ta=Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	Ta=+65°C±5°C RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High Ta=+85°C±5°C Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-35°C±5°C Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	-35°C ~ +25°C ~ +85°C ~ +25°C 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	-35°C±5°C ~+85°C±5°C 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating : 140°C-160°C, within 2 minutes. Operation heating : 260°C (Max.), within 10seconds. (Max.)	0/20

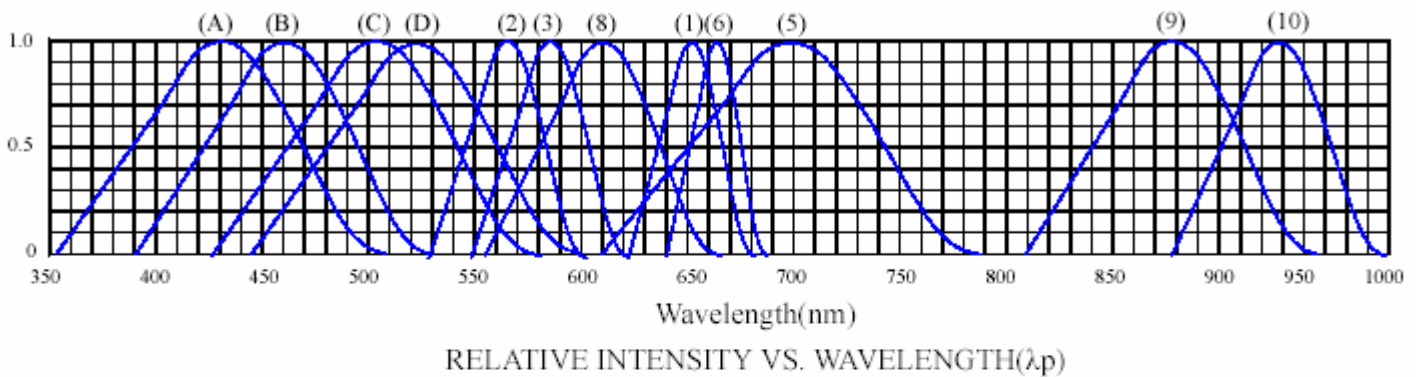
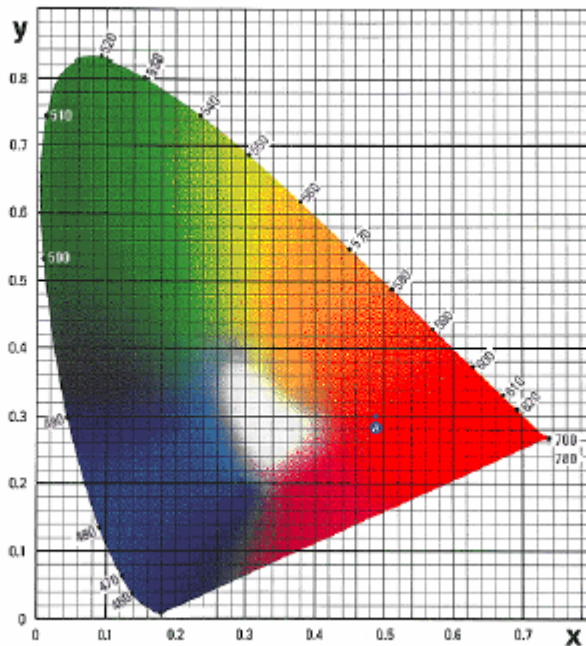
Part No. **AL-HD1X133**

Diff No.

3.2x1.6x1.1 mm

Type : SMD LED

◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES



- (1) GaAsP/GaAs 655nm/Red
- (2) GaP 568nm/ Yellow Green
- (3) GaAsP/GaP 585nm/Yellow
- (4) GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) GaP 700nm/Bright Red
- (6) GaAlAs/GaAs 660nm/Super Red
- (8) GaAsP/GaP 610nm/Super Red

- (9)- GaAlAs 880nm
- (10)-GaAs/GaAs&GaAlAs/GaAs 940nm
- (A)- GaN 430nm/Blue
- (B)- InGaN 470nm/Blue
- (C)- InGaN 502nm/Ultra Green
- (D)- InGaN 523nm/Ultra Green

Part No. **AL-HD1X133**

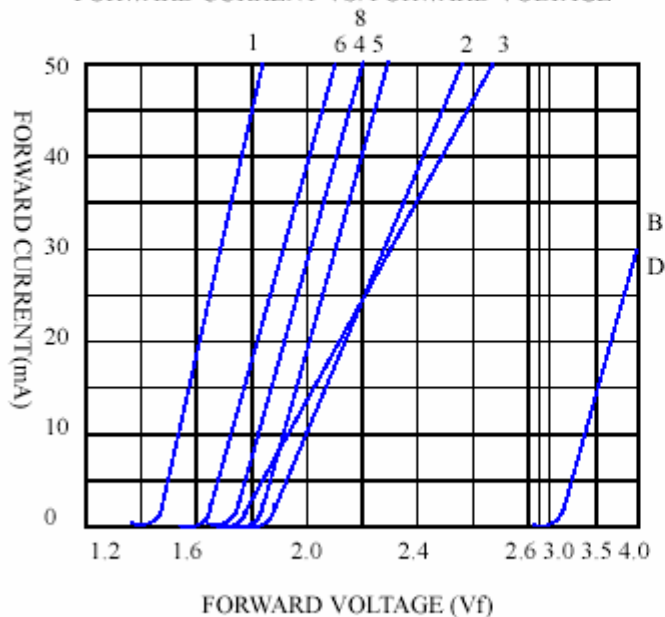
Diff No.

3.2x1.6x1.1 mm

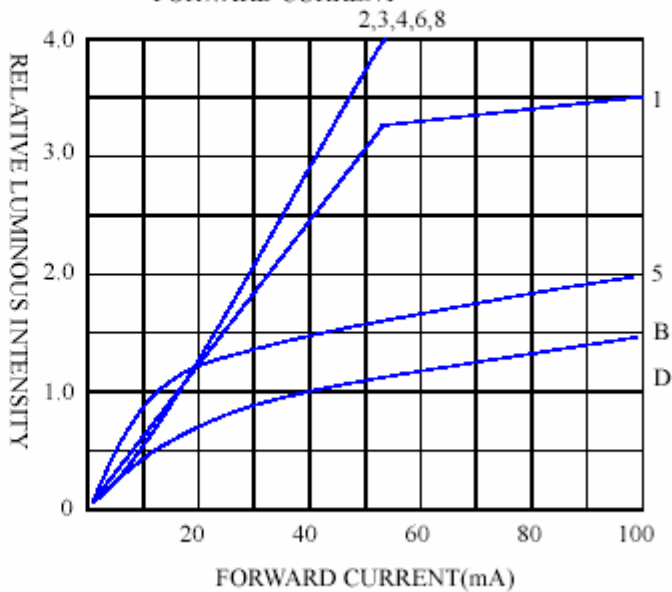
Type : SMD LED

◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

