

ROUND TYPE LED LAMPS



Lead-Free Parts

LWK73433Z-WW-D01

DATA SHEET

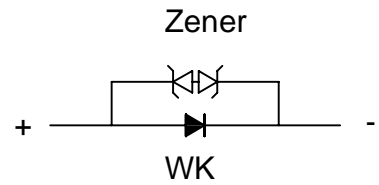
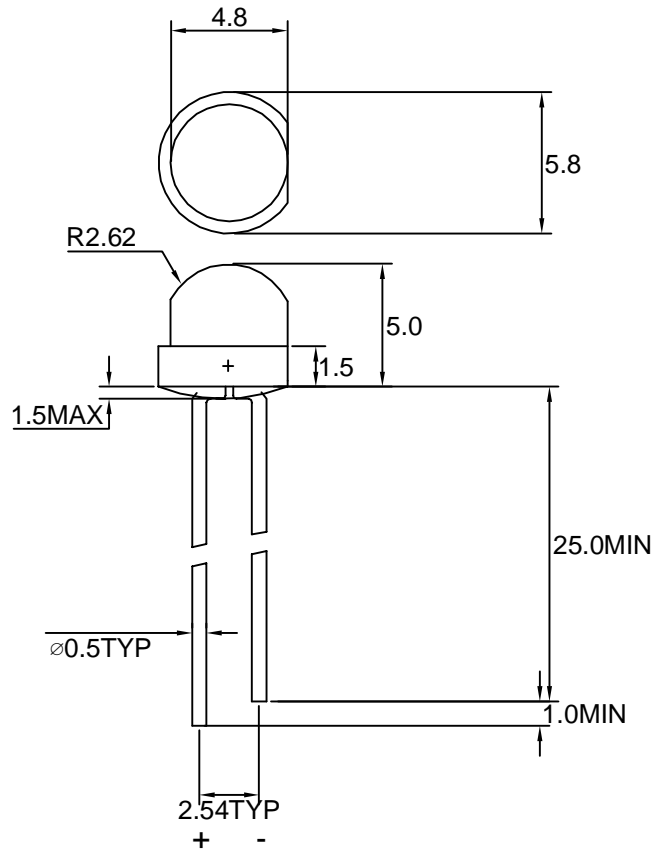
DOC. NO : QW0905-LWK73433Z-WW-D01

REV. : A

DATE : 15 - Aug. - 2011

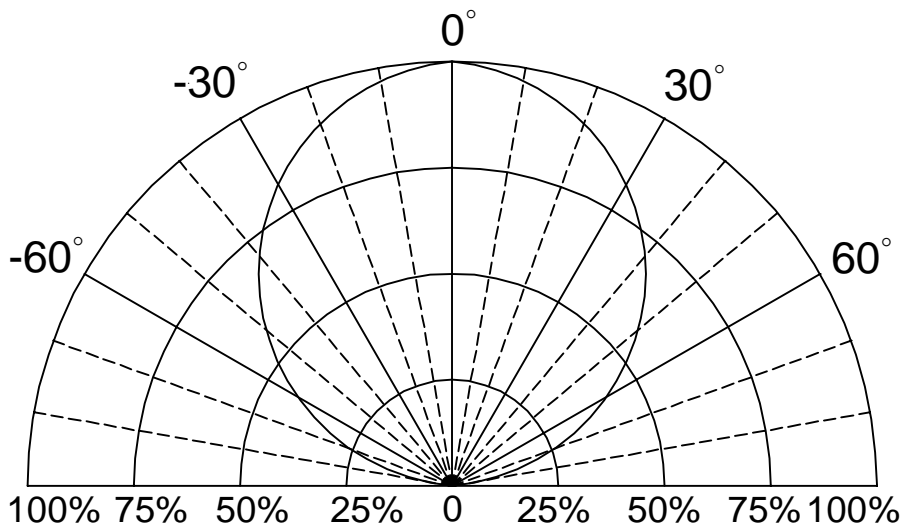


Package Dimensions



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.

Directivity Radiation



Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Ratings	UNIT
		WK	
Forward Current	IF	30	mA
Peak Forward Current Duty 1/10@10KHz	IFP	100	mA
Power Dissipation	PD	80≤PD≤120	mW
Reverse Current @5V	Ir	10	μA
Electrostatic Discharge(*)	ESD	8000	V
Operating Temperature	Topr	-30~ +80	°C
Storage Temperature	Tstg	-40~ +100	°C

* Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handing these LED. All devices, equipment and machinery must be properly grounded.

Typical Electrical & Optical Characteristics (Ta=25 °C)

PART NO	MATERIAL	COLOR		Chromaticity Coordinates (Typ.)		CRI @20 mA	CCT @20 mA		Forward voltage @20mA(V)		Luminous intensity @20mA(mcd)		Luminous intensity @20mA(LM)		Viewing angle 2θ 1/2 (deg)
		Emitted	Lens	X	Y	Min.	Min.	Max.	Min.	Max.	Min.	Typ.	Min.	Typ.	
LWK73433Z-WW-D01	InGaN/GaN	White	Water Clear	0.43	0.41	80	2670	3500	2.8	3.5	1300	1800	4	4.2	110

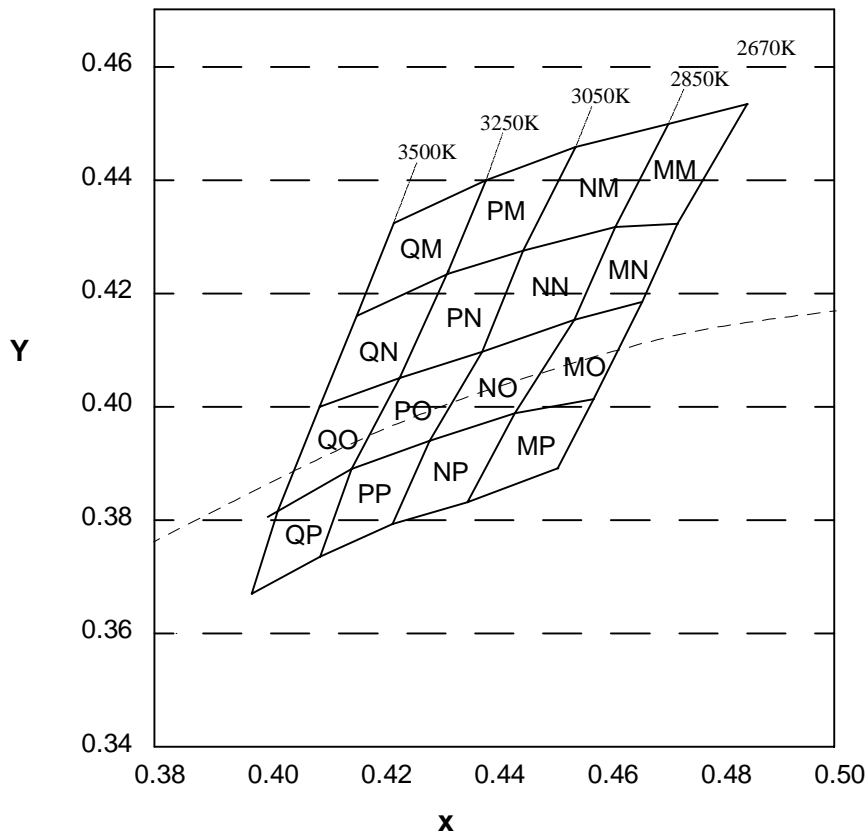
Note : 1.The forward voltage data did not including ±0.1V testing tolerance.
2. The luminous intensity data did not including ±15% testing tolerance.
3.The CRI data did not including ±2% testing tolerance.

. Chromaticity Coordinates Specifications for Bin Grading

BIN	X1	Y1	X2	Y2	X3	Y3	X4	Y4	TC (K)	
M	MM	0.4710	0.4510	0.4610	0.4330	0.4770	0.4370	0.4870	0.4540	2670-2850K
	MN	0.4610	0.4330	0.4530	0.4160	0.4670	0.4200	0.4770	0.4370	
	MO	0.4530	0.4160	0.4440	0.3990	0.4580	0.4030	0.4670	0.4200	
	MP	0.4580	0.4030	0.4440	0.3990	0.4360	0.3840	0.4490	0.3880	
N	NM	0.4540	0.4460	0.4460	0.4290	0.4610	0.4330	0.4710	0.4510	2850-3050K
	NN	0.4460	0.4290	0.4380	0.4120	0.4530	0.4160	0.4610	0.4330	
	NO	0.4380	0.4120	0.4290	0.3940	0.4440	0.3990	0.4530	0.4160	
	NP	0.4440	0.3990	0.4290	0.3940	0.4220	0.3790	0.4360	0.3840	
P	PM	0.4380	0.4400	0.4310	0.4230	0.4460	0.4290	0.4540	0.4460	3050-3250K
	PN	0.4310	0.4230	0.4240	0.4070	0.4380	0.4120	0.4460	0.4290	
	PO	0.4240	0.4060	0.4160	0.3890	0.4290	0.3940	0.4380	0.4120	
	PP	0.4290	0.3940	0.4160	0.3890	0.4100	0.3740	0.4220	0.3790	
Q	QM	0.4210	0.4330	0.4150	0.4160	0.4310	0.4230	0.4380	0.4400	3250-3500K
	QN	0.4150	0.4160	0.4090	0.4000	0.4240	0.4070	0.4310	0.4230	
	QO	0.4090	0.4000	0.4020	0.3820	0.4160	0.3890	0.4240	0.4060	
	QP	0.4160	0.3890	0.4020	0.3820	0.3970	0.3670	0.4100	0.3740	

Note : 1.The Chromaticity Coordinates data did not including ± 0.005 testing tolerance.

. CIE Chromaticity Diagram



Typical Electro-Optical Characteristics Curve

WK CHIP

Fig.1 Forward current vs. Forward Voltage

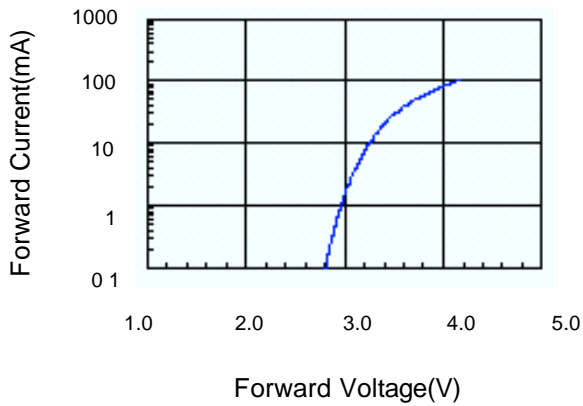


Fig.2 Relative Intensity vs. Forward Current

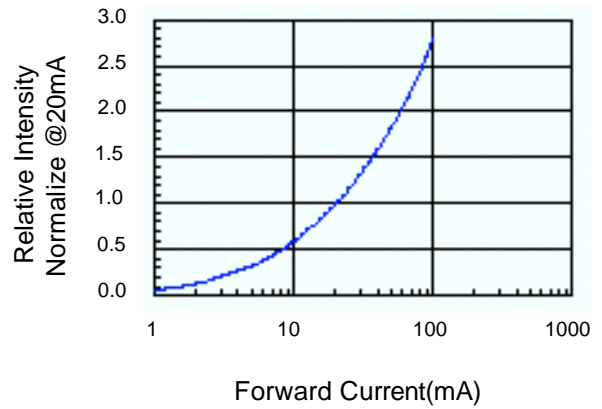


Fig.3 Forward Voltage vs. Temperature

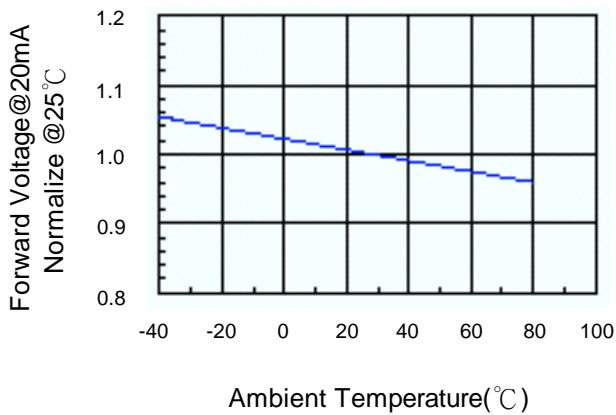


Fig.4 Relative Intensity vs. Temperature

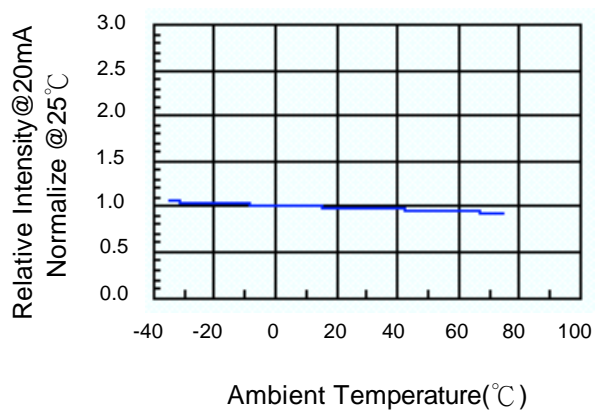
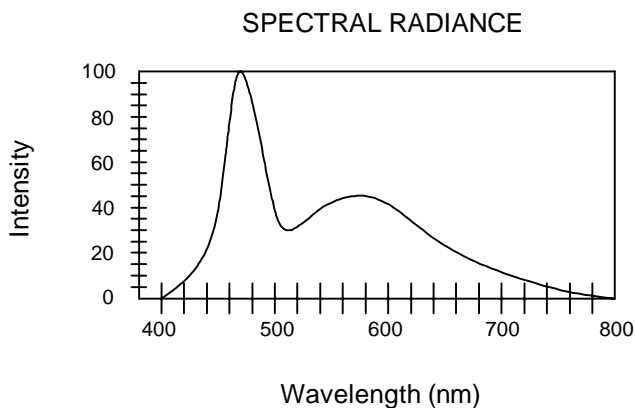


Fig.5 Luminous Spectrum (Ta=25°C)

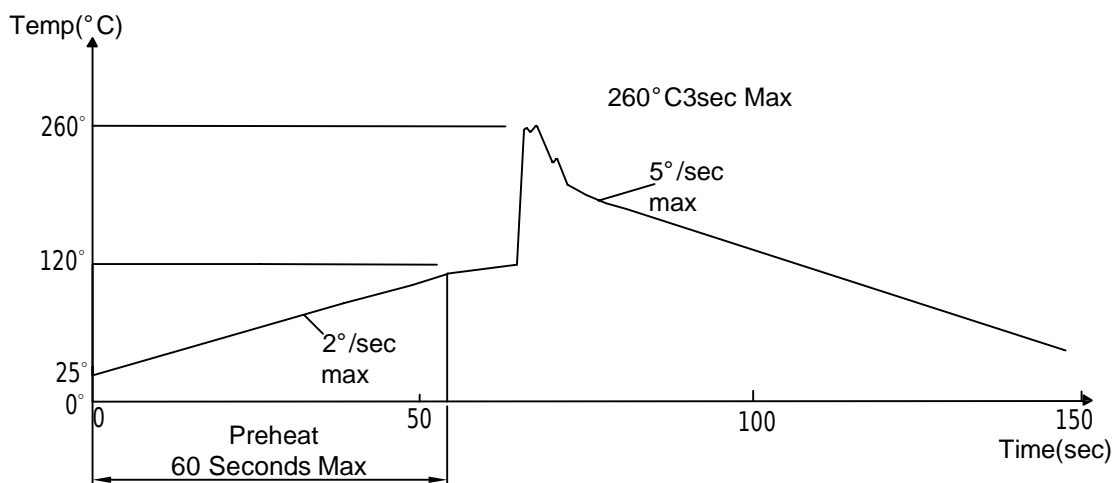


Soldering Condition(Pb-Free)**1.Iron:**

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 thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 °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