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LED ARRAY



Lead-Free Parts

LA193B/DBKP

DATA SHEET

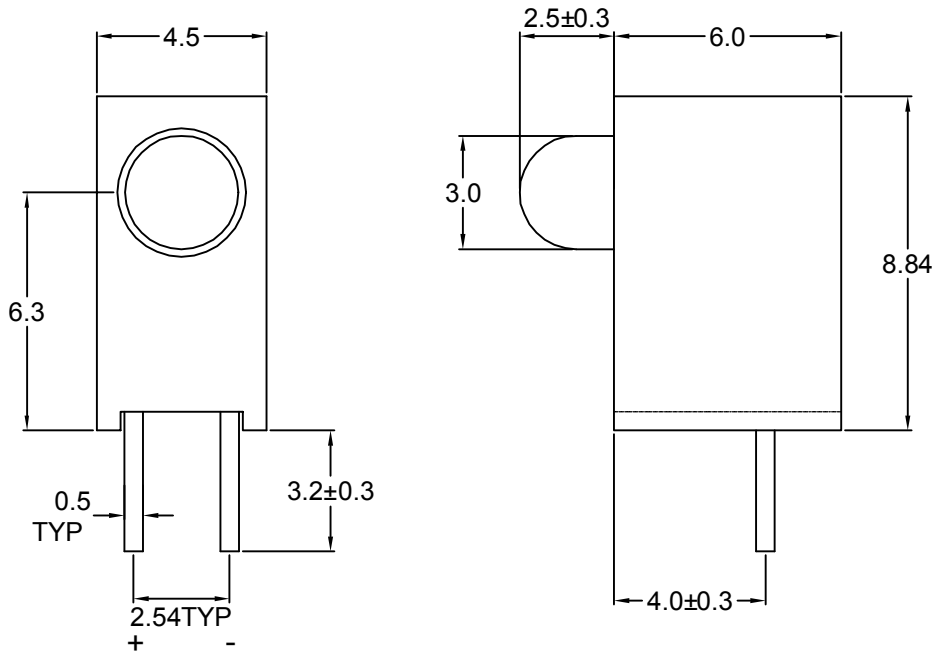
DOC. NO : QW0905-LA193B/DBKP

REV. : A

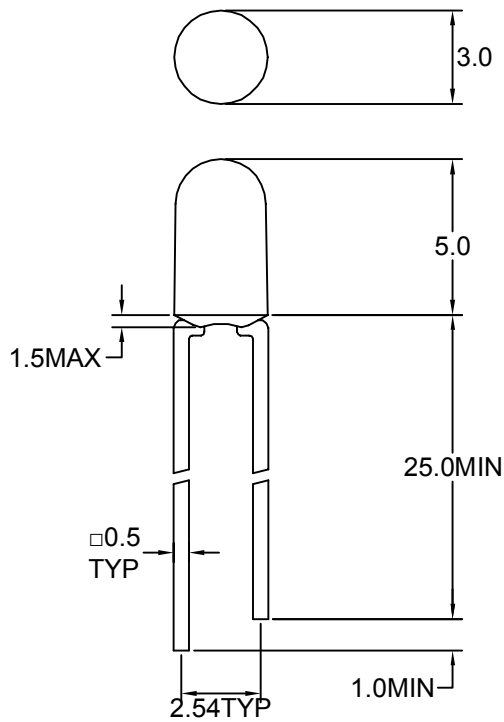
DATE : 01 - Mar - 2005



Package Dimensions



LDBK2340-PF



Note : 1.All dimension are in millimeter tolerance is ±0.25mm unless otherwise noted.
2.Specifications are subject to change without not



Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Ratings	UNIT
		DBK	
Forward Current	IF	30	mA
Peak Forward Current Duty 1/10@10KHz	IFP	100	mA
Power Dissipation	PD	120	mW
Reverse Current @5V	Ir	50	μ A
Electrostatic Discharge	ESD	150	V
Operating Temperature	Topr	-20 ~ +80	
Storage Temperature	Tstg	-30 ~ +100	
Soldering Temperature	Tsol	Max 260 for 5 sec Max (2mm from body)	

Typical Electrical & Optical Characteristics (Ta=25)

PART NO	MATERIAL	COLOR		Dominant wave length Dnm	Spectral halfwidth nm	Forward voltage @20mA(V)		Luminous intensity @20mA(mcd)		Viewing angle 2 1/2 (deg)
		Emitted	Lens			Typ.	Max.	Min.	Typ.	
LA193B/DBKP	InGaN/GaN	Blue	Blue Diffused	470	30	3.5	4.0	350	700	36

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



Typical Electro-Optical Characteristics Curve

DBK CHIP

Fig.1 Forward current vs. Forward Voltage

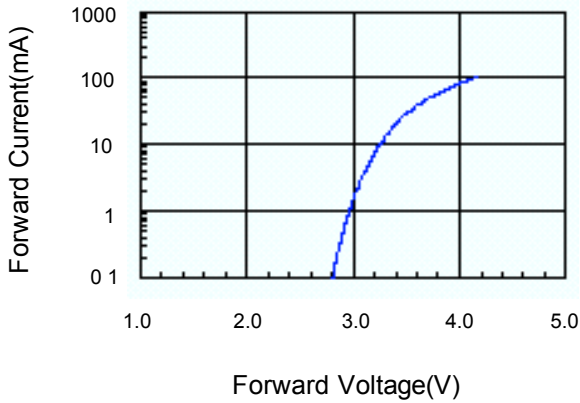


Fig.2 Relative Intensity vs. Forward Current

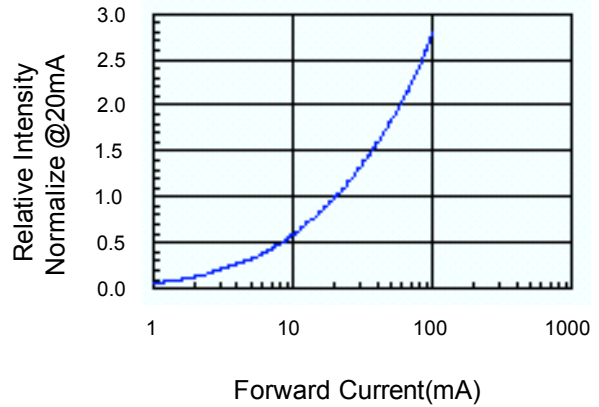


Fig.3 Forward Voltage vs. Temperature

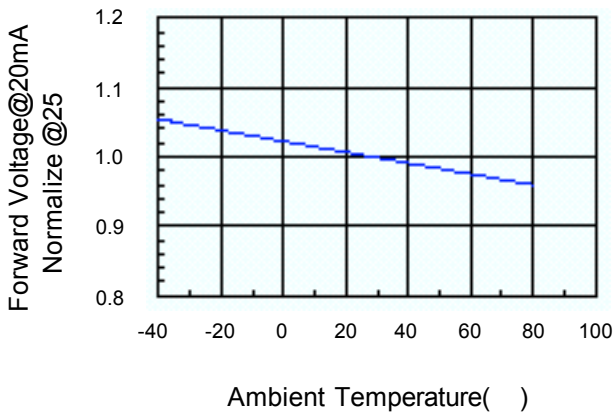


Fig.4 Relative Intensity vs. Temperature

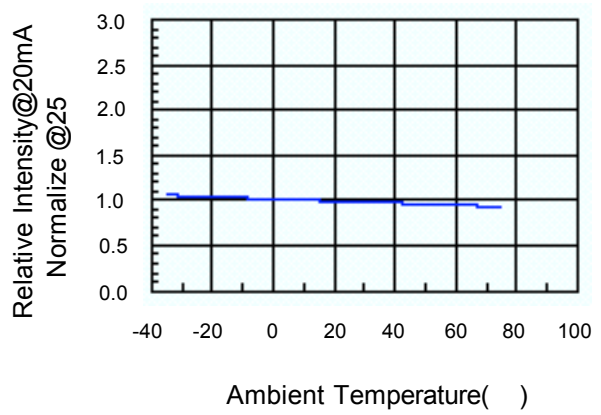
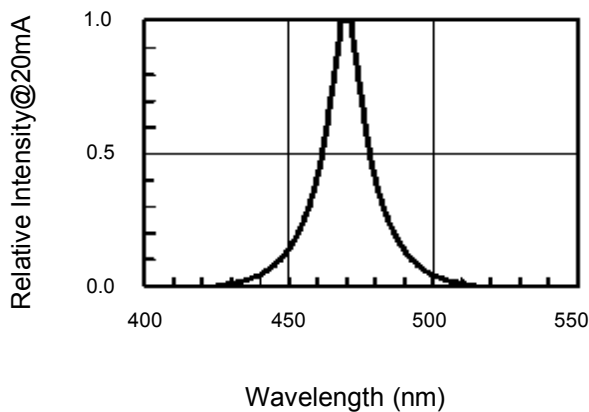


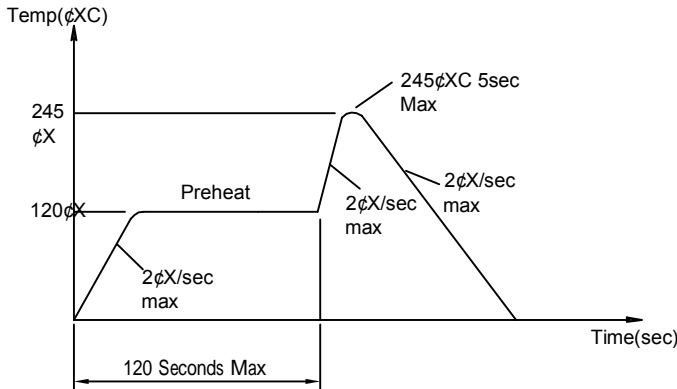
Fig.5 Relative Intensity vs. Wavelength





Recommended Soldering Conditions

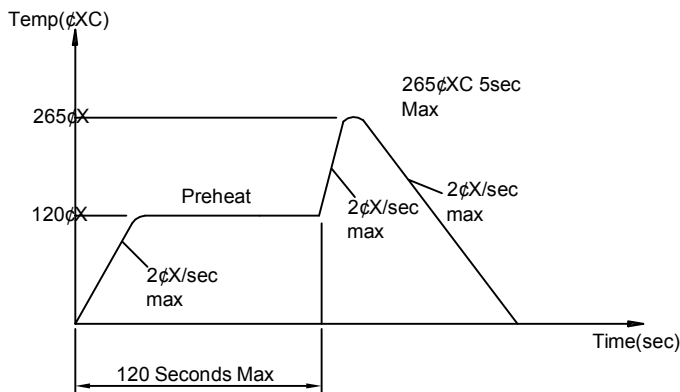
1. Wave Solder



Soldering
 Soldering Iron:30W Max
 Temperature 300°C Max
 Soldering Time:3 Seconds Max
 Distance:2mm Min(From solder joint to case)

Dip Soldering
 Preheat: 120°C Max
 Preheat time: 120 seconds Max
 Ramp-up:2°C/sec(max)
 Ramp-Down:2°C/sec(max)
 Solder Bath:245°C Max
 Dipping Time:5 seconds Max
 Distance:2mm Min(From solder joint to case)

2. PB-Free Wave Solder



Soldering
 Soldering Iron:30W Max
 Temperature:350 °C Max
 Soldering Time:3seconds Max
 Distance:2mm Min(From solder joint to case)

Dip Soldering
 Preheat: 120°C Max
 Preheat time: 120seconds Max
 Ramp-up:2°C/sec(max)
 Ramp-Down:2°C/sec(max)
 Solder Bath:265°C Max
 Dipping Time:5 seconds Max
 Distance:2mm Min(From solder joint to case)

**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 ±5 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 ±5 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 ±5 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 ±5 & -40 ±5 (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 ±5 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 ±5 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

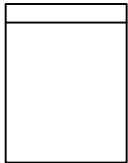


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PACKING SPECIFICATION

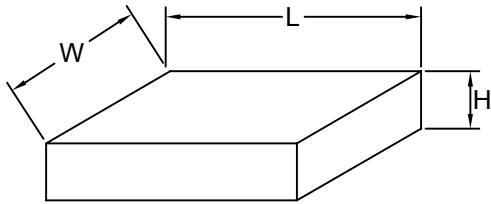
PART NO. LA193B/DBKP

1.500 PCS / 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

