



Pb-free
HEAT



GSW5803B

φ 5 Flush Mount Type White LED

Features

Package	φ 5 Flush Mount Type. Water clear resin
Product features	<ul style="list-style-type: none">• Outer Dimension φ 5 Flush Mount Type.• Low power consumption type (recommended operating conditions $I_F=5mA$)• Operation temperature range Storage Temperature Operating Temperature• Lead-free soldering compatible• RoHs compliant
Chromaticity coordinates	$x = 0.31TYP.$, $y = 0.32TYP.$
Spatial distribution	40 deg.
Die materials	InGaN
Rank grouping parameter	Sorted by luminous intensity rank and chromaticity rank
Soldering methods	TTW (Through The Wave) soldering and manual soldering
ESD-withstand voltage	Up to 1kV (HBM)
Packing	Bulk : 200pcs(MIN.)

Recommended Applications

Amusement Equipment, OA/FA, Other General Applications

Color and Luminous Intensity

(Ta=25°C)

Part No.	Material	Emitted Color	Lens Color	Luminous Intensity		
				Iv (mcd)		
				MIN.	TYP.	I _F (mA)
GSW5803B	InGaN	White	Water Clear	1,200	2,400	5

Absolute Maximum Ratings

(Ta=25°C)

Item	Symbol	Absolute Maximum Ratings	Unit
Power Dissipation	P _d	36	mW
Forward Current	I _F	10	mA
Pulse Forward Current ※ 1	I _{FRM}	20	mA
Derating (Ta=25°C or higher)	Δ I _F	0.130	mA/°C
	Δ I _{FRM}	0.267	mA/°C
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +100	°C

 ※ 1 I_{FRM} Measurement condition : Pulse Width 1ms., Duty 1/20.

Electro-Optical Characteristics

(Ta=25°C)

Item	Condition	Symbol	Characteristics		Unit
			TYP.	MAX.	
Forward Voltage	I _F =5mA	V _F	TYP.	2.9	V
			MAX.	3.3	
Reverse Current	V _R =5V	I _R	MAX.	100	μA
Chromaticity Coordinates	I _F =5mA	x	TYP.	0.31	-
		y	TYP.	0.32	-
Half Intensity Angle	I _F =5mA	2θ _{1/2}	TYP.	40	deg.

Luminous Intensity Rank

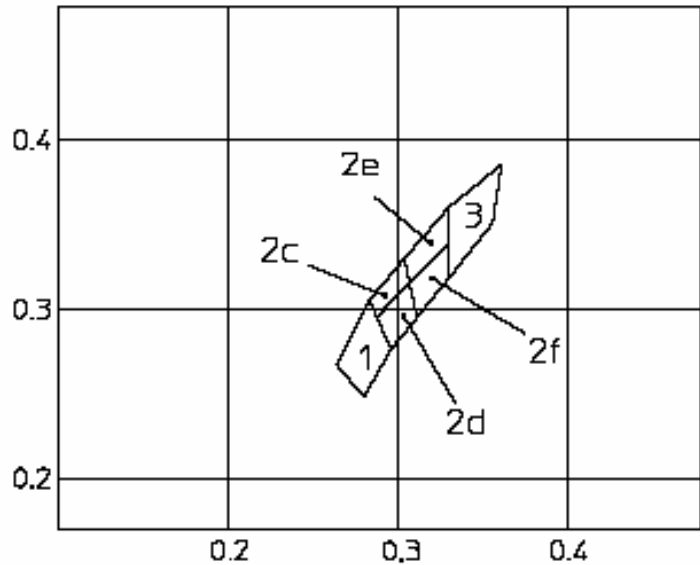
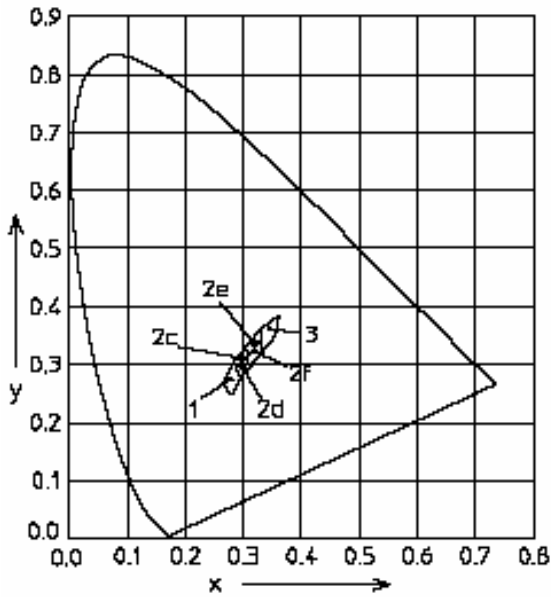
(Ta=25°C)

Rank	I _v (mcd)		Condition
	MIN.	MAX.	
A			I _F = 5mA
B			
C	to be prepared		
D			
E			

※ Please contact our sales staff concerning rank designation.

Sorting Chart for Chromaticity Coordinates

(Ta=25°C)

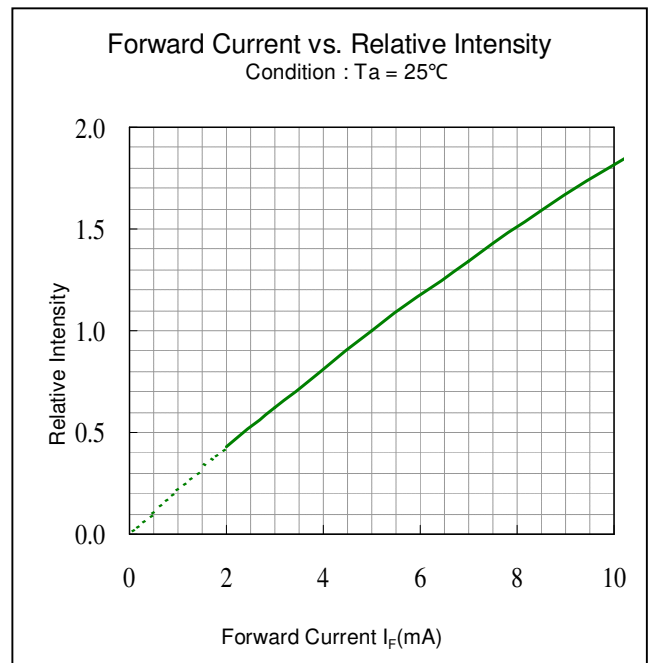
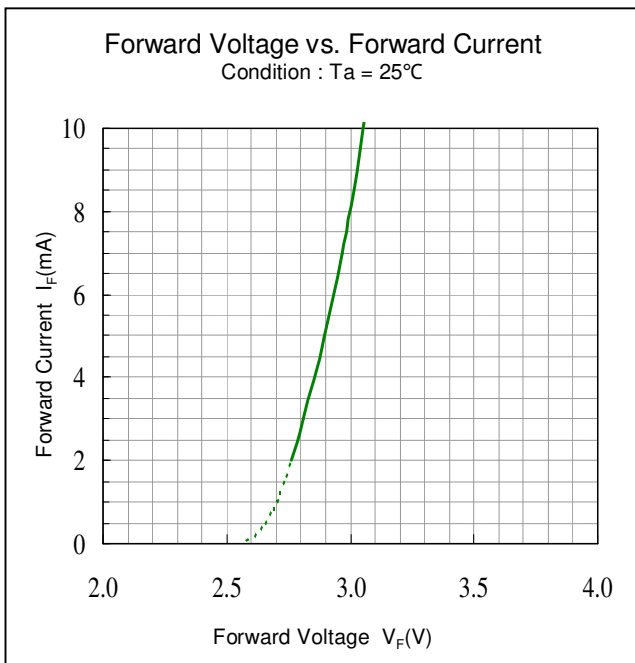
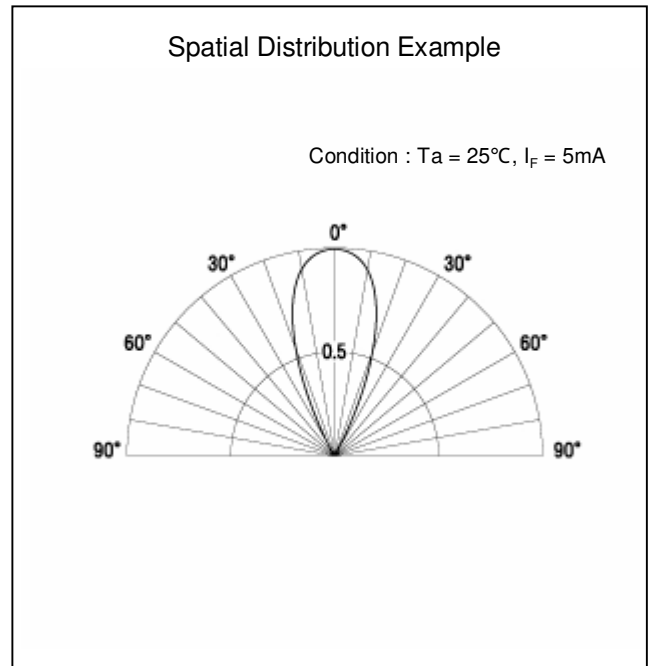
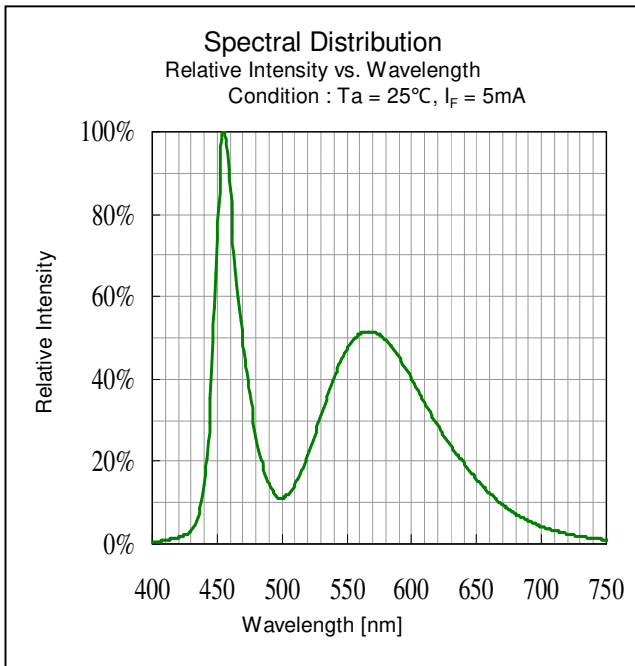


Rank	LEFT DOWN point		LEFT UP point		RIGHT UP point		RIGHT UP point		Conditions
	x	y	x	y	x	y	x	y	
1	0.280	0.248	0.264	0.267	0.283	0.305	0.296	0.276	I _F = 5mA
2c	0.287	0.295	0.283	0.305	0.304	0.330	0.307	0.315	
2d	0.296	0.276	0.287	0.295	0.307	0.315	0.311	0.294	
2e	0.307	0.315	0.304	0.330	0.330	0.360	0.330	0.339	
2f	0.311	0.294	0.307	0.315	0.330	0.339	0.330	0.318	
3	0.330	0.318	0.330	0.360	0.361	0.385	0.356	0.351	

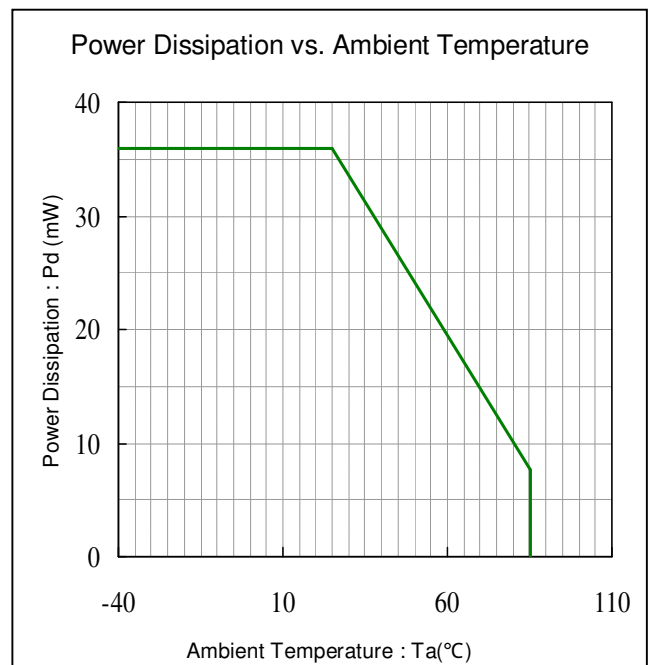
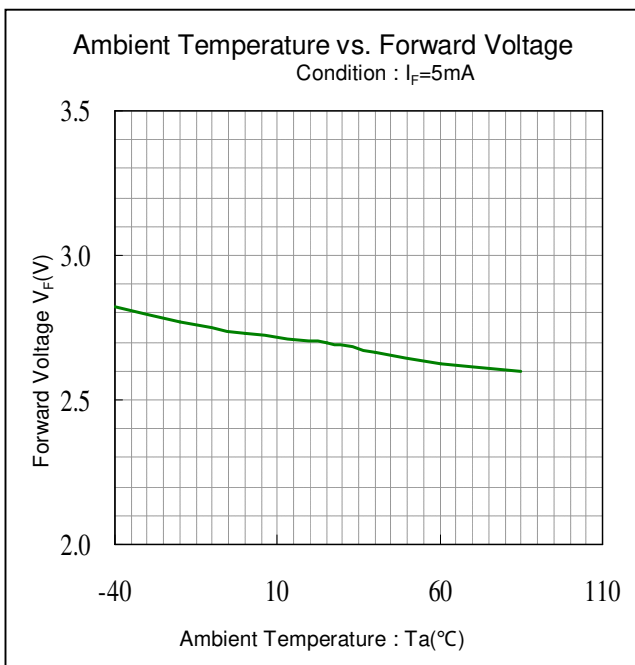
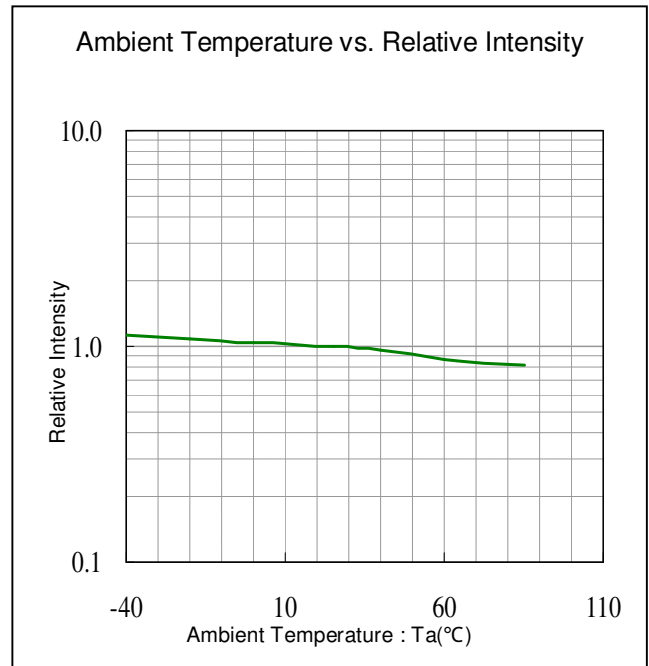
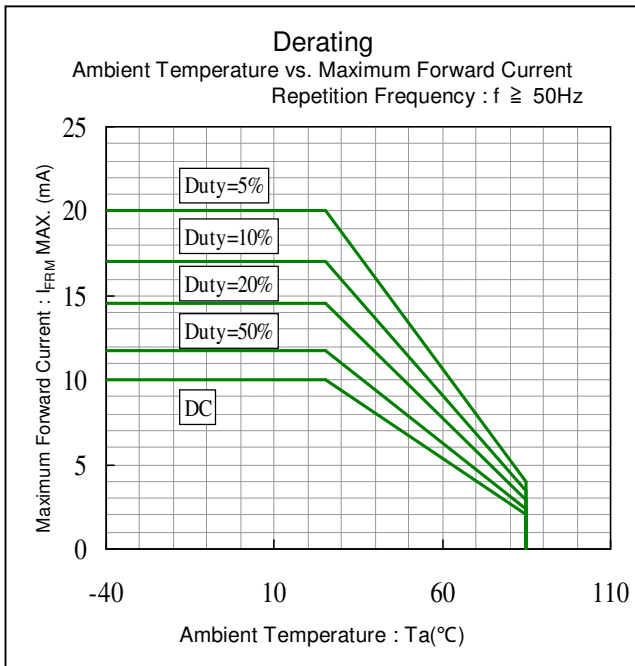
Chromaticity Coordinates Tolerance Each Rank : +/-0.02

※ Please contact our sales staff concerning rank designation.

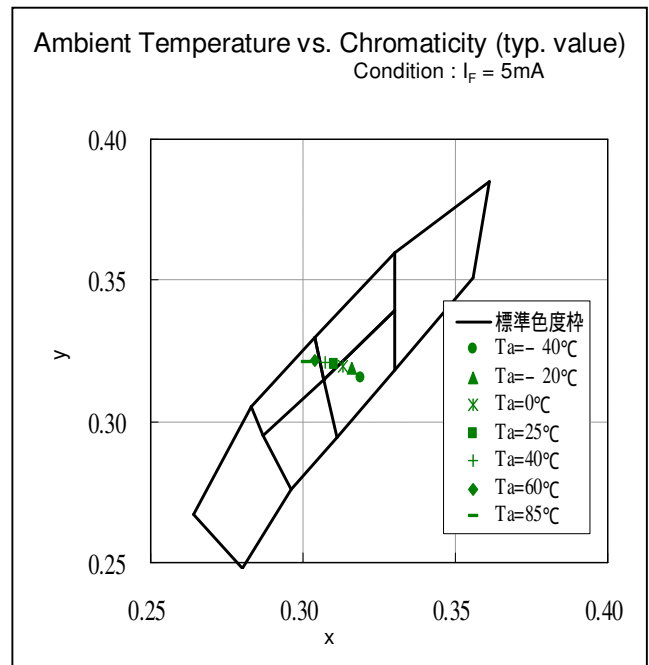
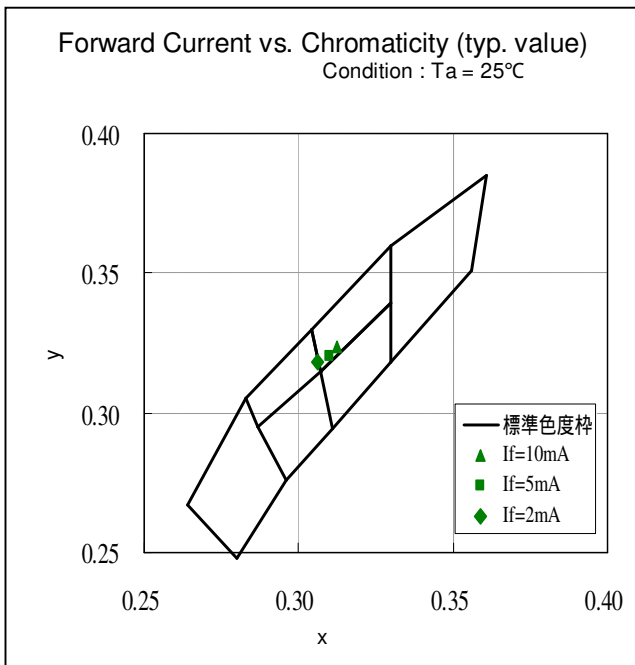
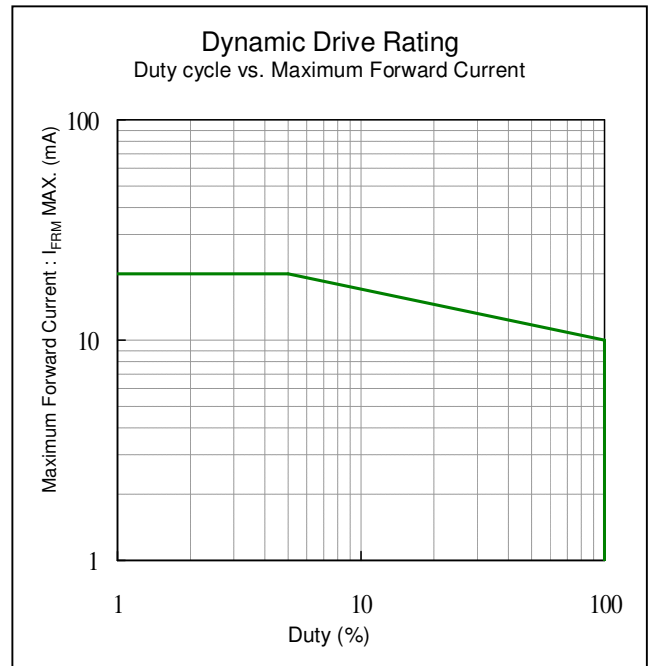
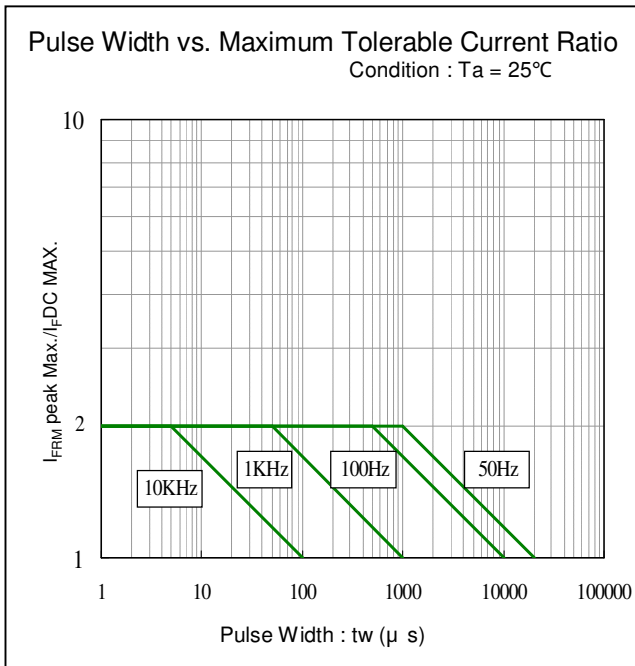
Technical Data



Technical Data



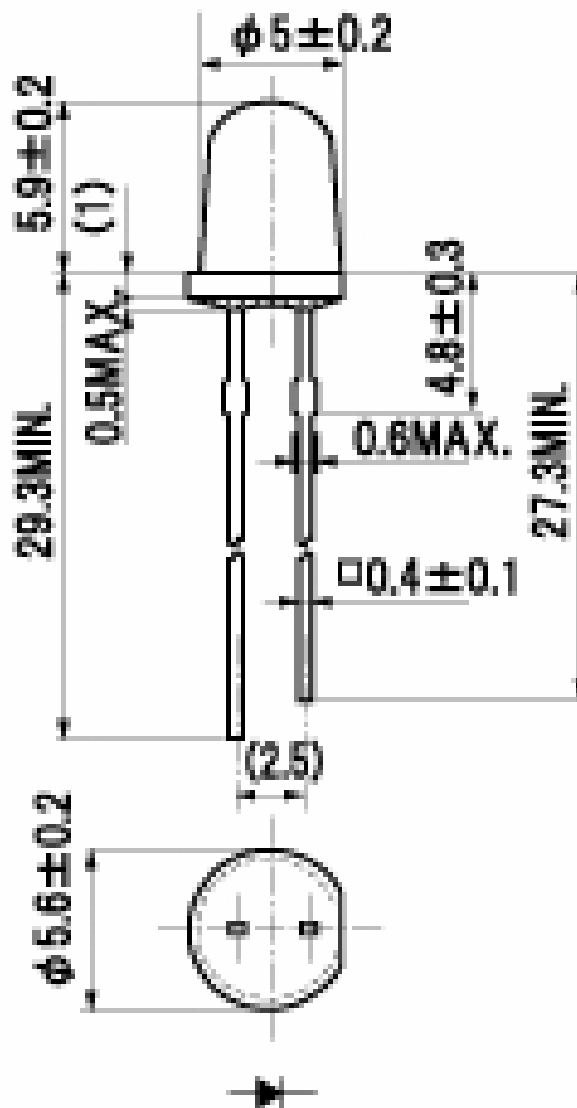
Technical Data



Package Dimensions

(Unit: mm)

Weight: (0.34)g



TTW (Through The Wave) soldering Conditions

Pre-heating	100 °C	(MAX.)
Solder Bath Temp.	265°C	(MAX.)
Dipping Time	5 s	(MAX.)

- 1) The dip soldering process shall be 2 times maximum.
- 2) The product shall be cooled to room temp. before the second dipping process.

※ The detail is described to LED and Photodetector handling precautions of home page:
 "Mounting through-hole Type Devices" and "Soldering", and use it after the confirmation,
 please.

Manual Soldering Conditions

Iron tip temp.	400°C	(MAX.)
Soldering time and frequency	3 s	(MAX.)
	2 times	(MAX.)

※ The detail is described to LED and Photodetector handling precautions of home page:
 "Mounting through-hole Type Devices" and "Soldering", and use it after the confirmation, please.

Reliability Testing Result

Reliability Testing Result	Applicable Standard	Testing Conditions	Duration	Failure
Room Temp. Operating Life	BAJED-4701/100(101)	Ta = 25°C, If = Maximum Rated Current	1,000 h	0/25
Resistance to Soldering Heat	BAJED-4701/300(302)	260± 5°C, 1.6mm from package base	10s	0/25
Temperature Cycling	BAJED-4701/100(105)	Minimum Rated Storage Temperature(30min) ~ Normal Temperature(15min) ~ Maximum Rated Storage Temperature(30min) ~ Normal Temperature(15min)	5 cycles	0/25
Wet High Temp. Storage Life	BAJED-4701/100(103)	Ta = 60± 2°C, RH = 90± 5%	1,000 h	0/25
High Temp. Storage Life	BAJED-4701/200(201)	Ta = Maximum Rated Storage Temperature	1,000 h	0/25
Low Temp. Storage Life	BAJED-4701/200(202)	Ta = Minimum Rated Storage Temperature	1,000 h	0/25
Lead Tension	BAJED-4701/400(401)	10N, 1time (□ 0.4 and Flat Package : 5N)	10s	0/10
Vibration, Variable Frequency	BAJED-4701/400(403)	98.1m/s ² (10G), 100 ~ 2KHz sweep for 20min., XYZ each direction	2 h	0/10

Failure Criteria

Items	Symbols	Conditions	Failure criteria
Luminous Intensity	Iv	If Value of each product Luminous Intensity	Testing Min. Value < Spec. Min. Value x 0.5
Forward Voltage	V _F	If Value of each product Forward Voltage	Testing Max. Value ≥ Spec. Max. Value x 1.2
Reverse Current	I _R	V _R = Maximum Rated Reverse Voltage V	Testing Max. Value ≥ Spec. Max. Value x 2.5
Cosmetic Appearance	-	-	Occurrence of notable decoloration, deformation and cracking

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