



Pb-free  
HEAT

**STANLEY**

# WR5006X

Single Color 5 Round Shape Type

## Features

Package	5 Round shape type, Water Clear epoxy
Product features	<ul style="list-style-type: none"><li>• Outer Dimension 5 Round shape type</li><li>• Operation temperature range. Storage Temperature :-40 ~ 100 Operating Temperature :-40 ~ 85</li><li>• Lead-free soldering compatible</li><li>• RoHS compliant</li></ul>
Dominant wavelength	637 nm
Half Intensity Angle	8 deg.
Die materials	GaAIAs
Rank grouping parameter	Sorted by luminous intensity per rank taping
Soldering methods	TTW (Through The Wave) soldering and manual soldering
ESD	More than 1kV(HBM)
Packing	Bulk : 200pcs(MIN.)

## Recommended Applications

Amusement Equipment, Electric Household Appliances, OA/FA, Other General Applications



## WR5006X

Single Color 5 Round Shape Type

### Color and Luminous Intensity

(Ta=25 )

Part No.	Material	Emitted Color	Lens Color		Dominant Wavelength		Luminous Intensity		
					d (nm)		Iv (mcd)		
					TYP.	I <sub>F</sub> (mA)	MIN.	TYP.	I <sub>F</sub> (mA)
WR5006X	GaAIAs	Red	Water Clear	Clear	637	20	1,400	2,800	20

### Absolute Maximum Ratings

(Ta=25 )

Item	Symbol	Absolute Maximum Ratings	Unit
Power Dissipation	P <sub>d</sub>	125	mW
Forward Current	I <sub>F</sub>	50	mA
Pulse Forward Current <sup>1</sup>	I <sub>FRM</sub>	200	mA
Derating (Ta=25 or higher)	I <sub>F</sub>	0.67	mA/
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	T <sub>opr</sub>	-40~+85	
Storage Temperature	T <sub>stg</sub>	-40~+100	

<sup>1</sup> I<sub>FRM</sub> Measurement condition : Pulse Width 1ms., Duty 1/20.

## Electro-Optical Characteristics

(Ta=25 )

Item	Conditions	Symbol	Characteristics		Unit
Forward Voltage	I <sub>F</sub> =20mA	V <sub>F</sub>	TYP.	1.9	V
			MAX.	2.4	
Reverse Current	V <sub>R</sub> =4V	I <sub>R</sub>	MAX.	100	μ A
Peak Wavelength	I <sub>F</sub> =20mA	λ <sub>p</sub>	TYP.	655	nm
Dominant Wavelength	I <sub>F</sub> =20mA	λ <sub>d</sub>	TYP.	637	nm
Spectral Line Half Width	I <sub>F</sub> =20mA		TYP.	25	nm
Half Intensity Angle	I <sub>F</sub> =20mA	2θ	TYP.	8	deg.

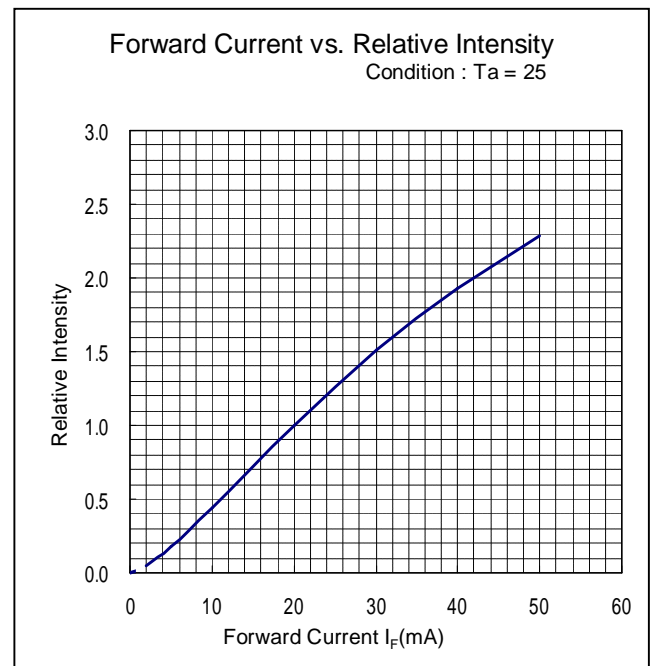
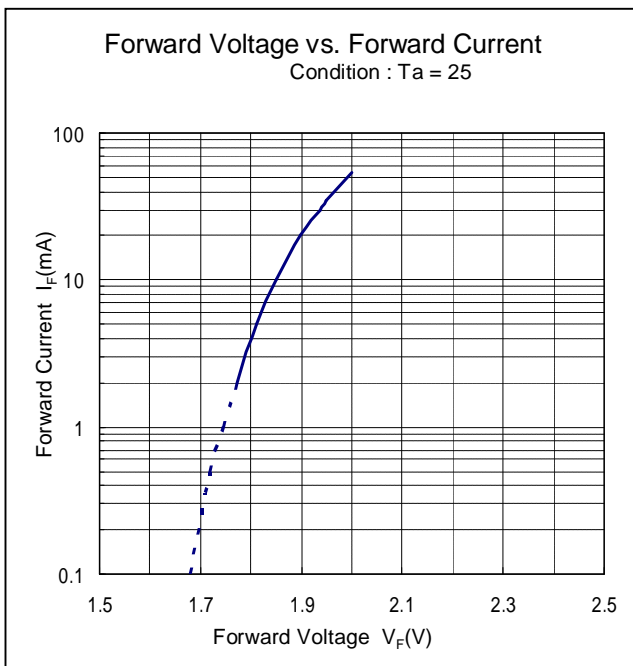
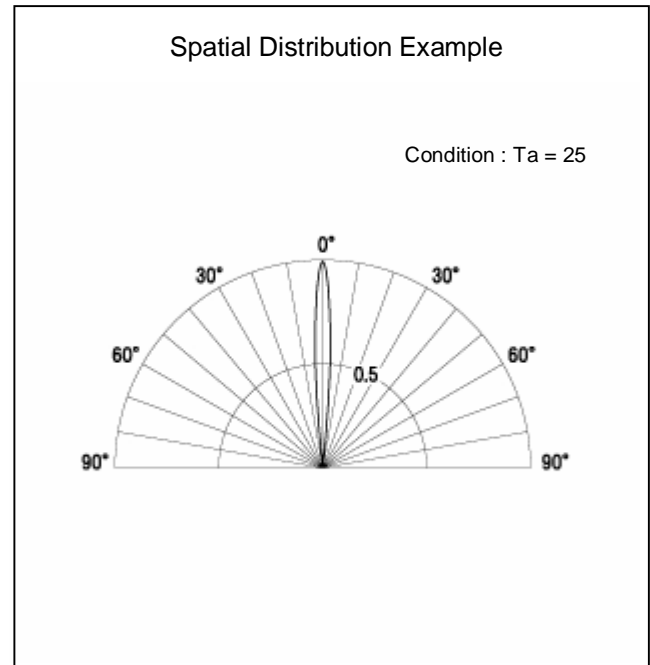
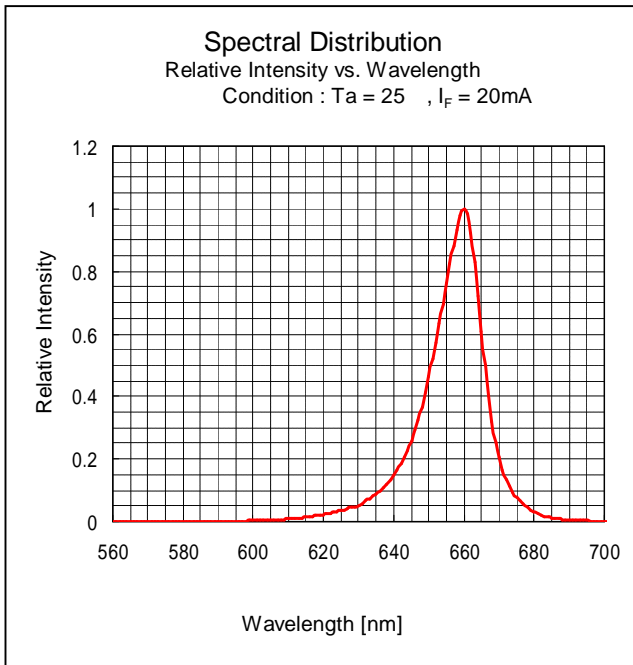
## Luminous Intensity Rank

(Ta=25 )

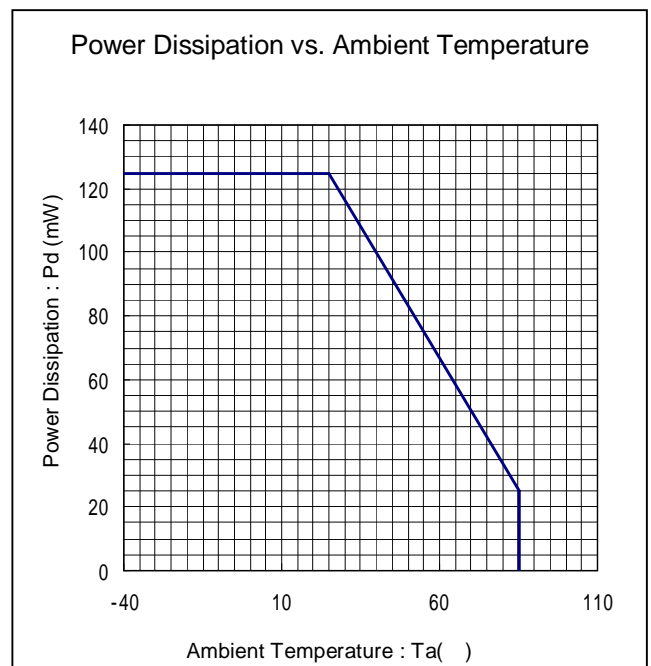
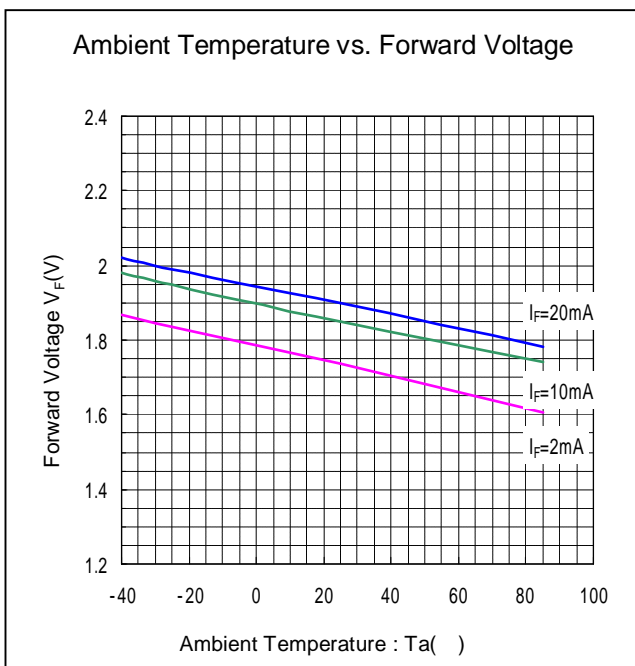
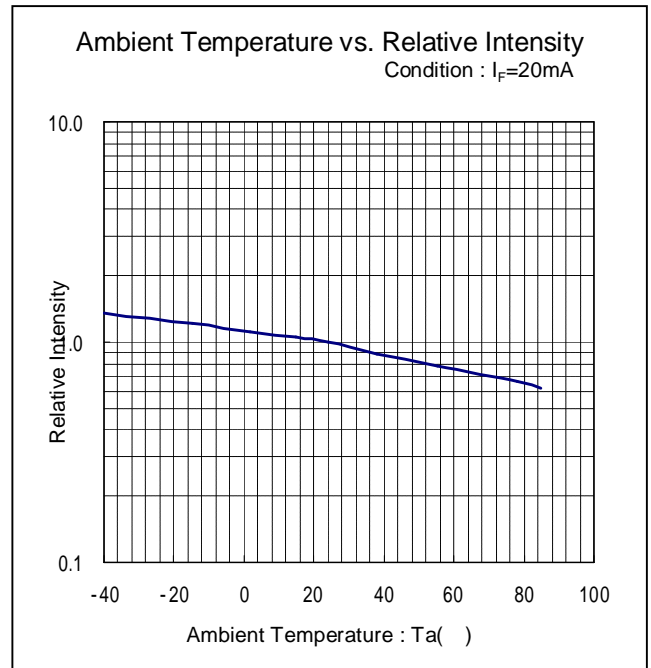
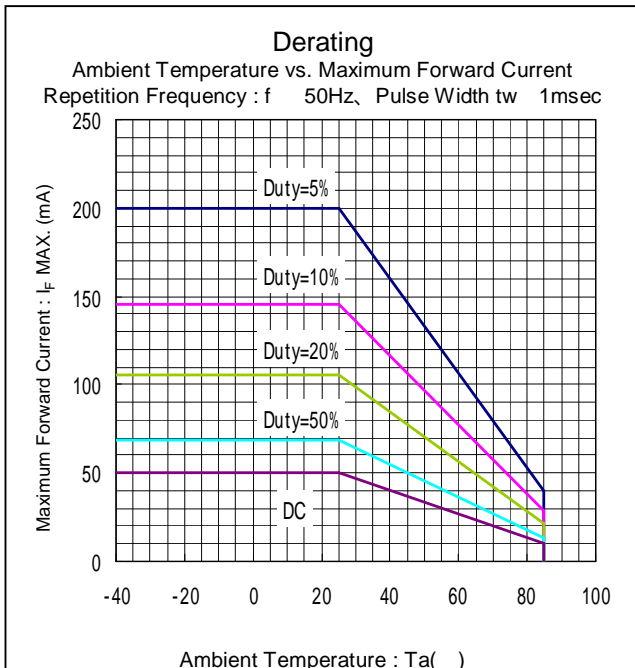
Rank	I <sub>v</sub> ( mcd)		Condition
	MIN.	MAX.	
A	1,400	2,800	I <sub>F</sub> = 20mA
B	2,000	4,000	
C	2,800	5,600	
D	4,000	8,000	
E	5,600	-	

Please contact our sales staff concerning rank designation.

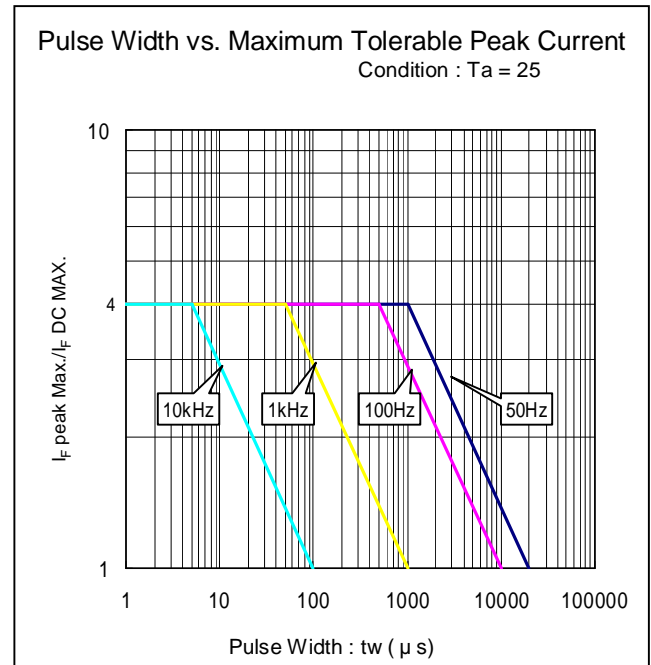
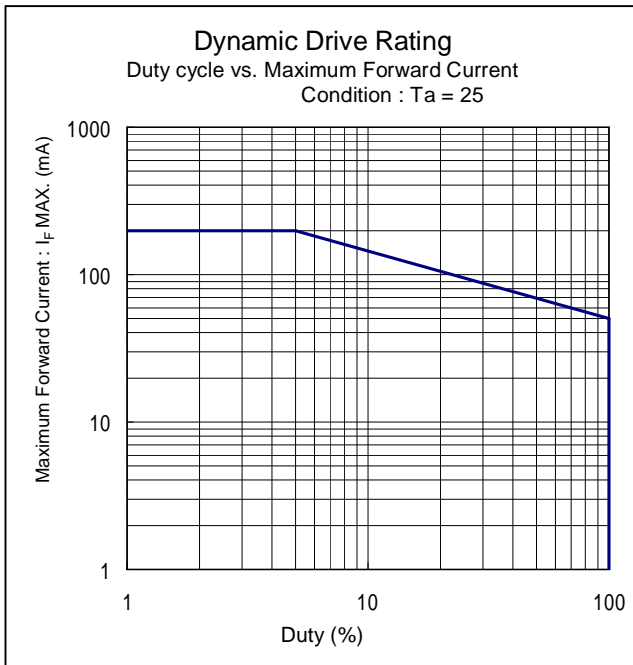
## Technical Data



## Technical Data



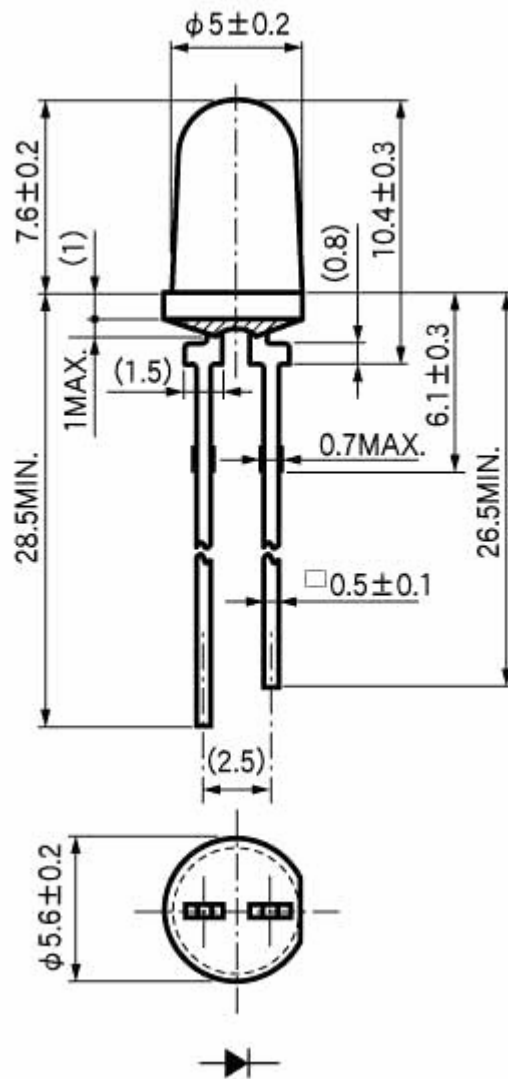
## Technical Data



## Package Dimensions

(Unit: mm)

Weight: (340)mg



## TTW (Through The Wave) soldering Conditions

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Pre-heating	100	(MAX.)
Solder Bath Temp.	265	(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

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Iron tip temp.	400	(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 , If = Maximum Rated Current	1,000 h	0/25
Resistance to Soldering Heat	BAJED-4701/300(302)	260 ± 5 , 3mm 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 , 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 <sup>2</sup> (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 <sub>F</sub>	If Value of each product Forward Voltage	Testing Max. Value > Spec. Max. Value x 1.2
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 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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