



Pb-free
HEAT



WR5006X

Single Color 5 Round Shape Type

Features

| | |
|-------------------------|--|
| Package | 5 Round shape type, Water Clear epoxy |
| Product features | <ul style="list-style-type: none">• Outer Dimension 5 Round shape type• Operation temperature range. Storage Temperature :-40 ~ 100 Operating Temperature :-40 ~ 85• Lead-free soldering compatible• RoHS compliant |
| 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 _F (mA) | MIN. | TYP. | I _F (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 _d | 125 | mW |
| Forward Current | I _F | 50 | mA |
| Pulse Forward Current ¹ | I _{FRM} | 200 | mA |
| Derating (Ta=25 or higher) | I _F | 0.67 | mA/ |
| Reverse Voltage | V _R | 5 | V |
| Operating Temperature | T _{opr} | -40~+85 | |
| Storage Temperature | T _{stg} | -40~+100 | |

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

Electro-Optical Characteristics

(Ta=25)

| Item | Conditions | Symbol | Characteristics | | Unit |
|--------------------------|----------------------|-------------------|-----------------|-----|------|
| | | | | | |
| Forward Voltage | I _F =20mA | V _F | TYP. | 1.9 | V |
| | | | MAX. | 2.4 | |
| Reverse Current | V _R =4V | I _R | MAX. | 100 | μ A |
| Peak Wavelength | I _F =20mA | λ _p | TYP. | 655 | nm |
| Dominant Wavelength | I _F =20mA | λ _d | TYP. | 637 | nm |
| Spectral Line Half Width | I _F =20mA | | TYP. | 25 | nm |
| Half Intensity Angle | I _F =20mA | 2θ _{1/2} | TYP. | 8 | deg. |

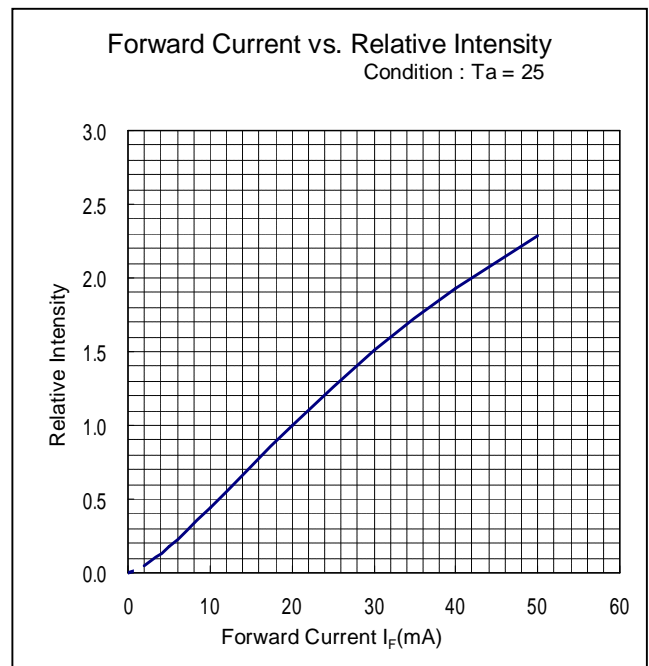
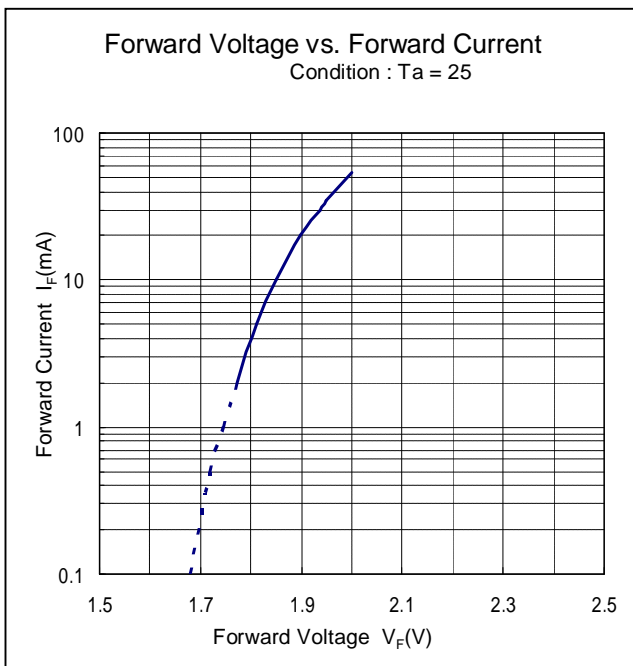
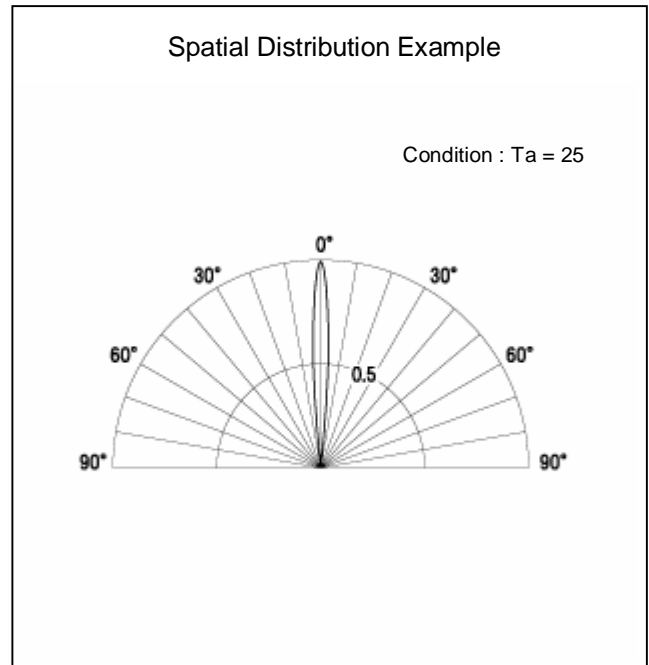
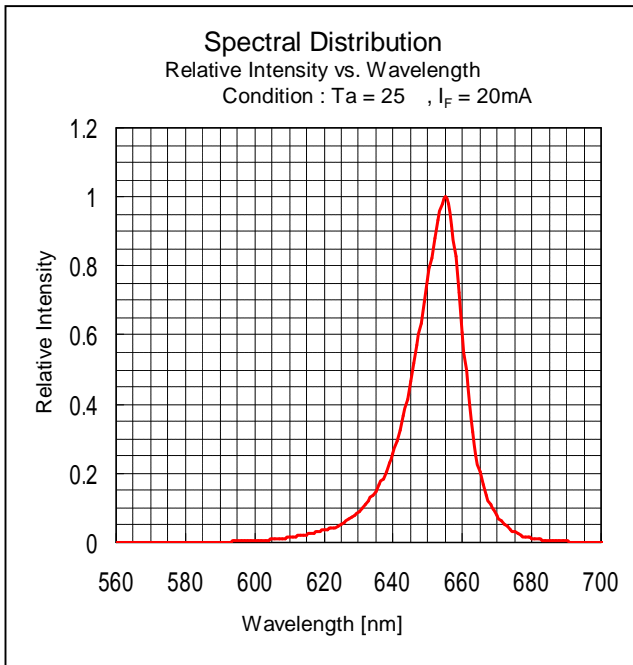
Luminous Intensity Rank

(Ta=25)

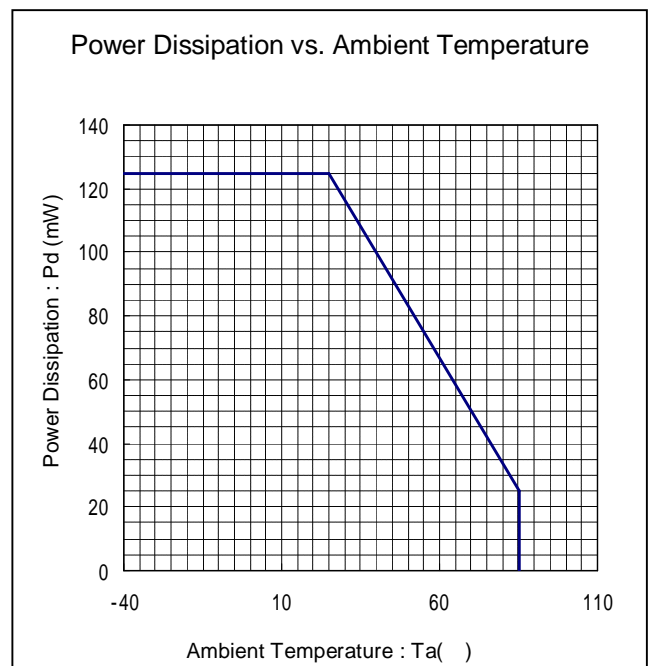
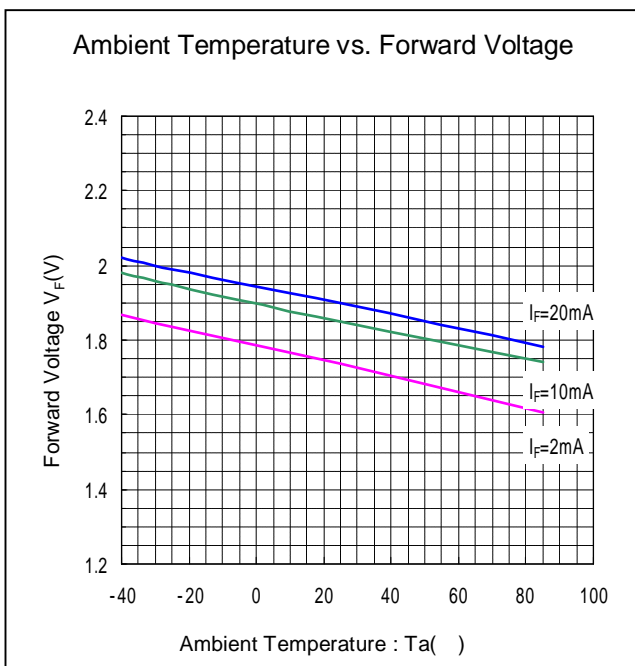
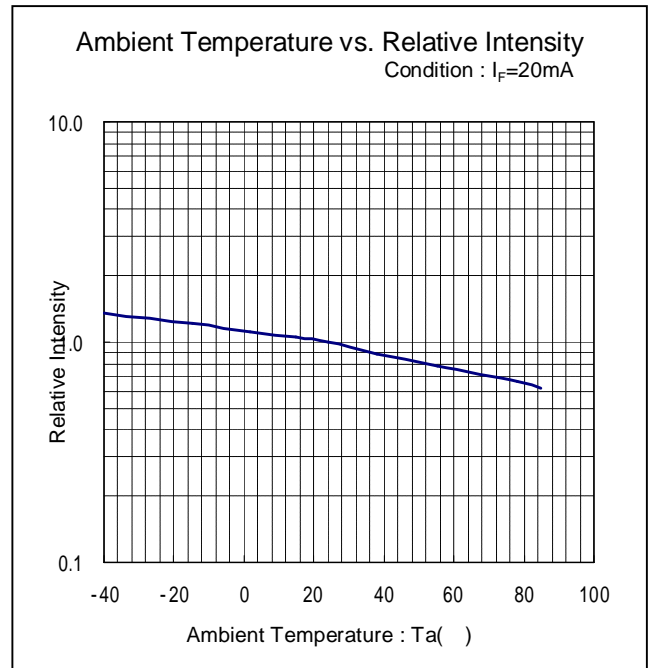
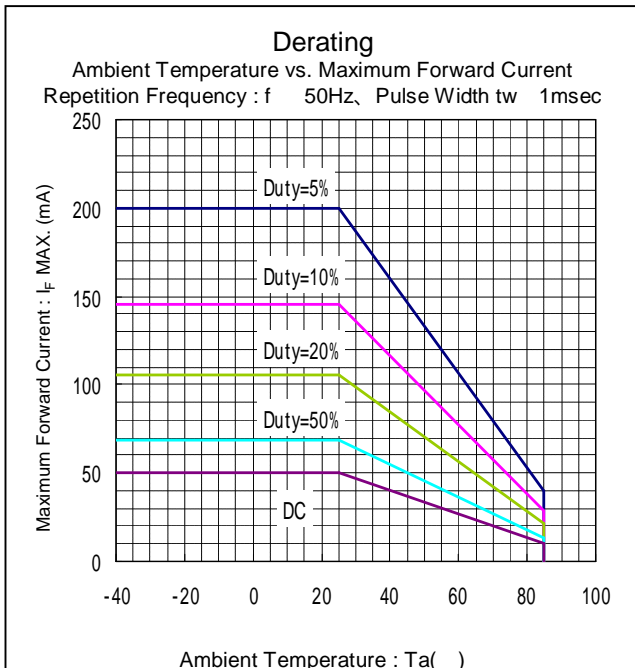
| Rank | I _v (mcd) | | Condition |
|------|-----------------------|-------|-----------------------|
| | MIN. | MAX. | |
| A | 1,400 | 2,800 | I _F = 20mA |
| B | 2,000 | 4,000 | |
| C | 2,800 | 5,600 | |
| D | 4,000 | 8,000 | |
| E | 5,600 | - | |

Please contact our sales staff concerning rank designation.

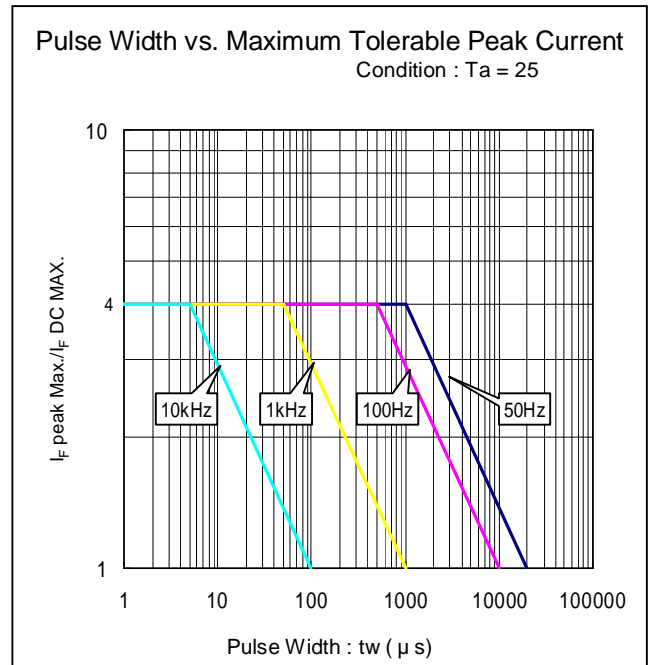
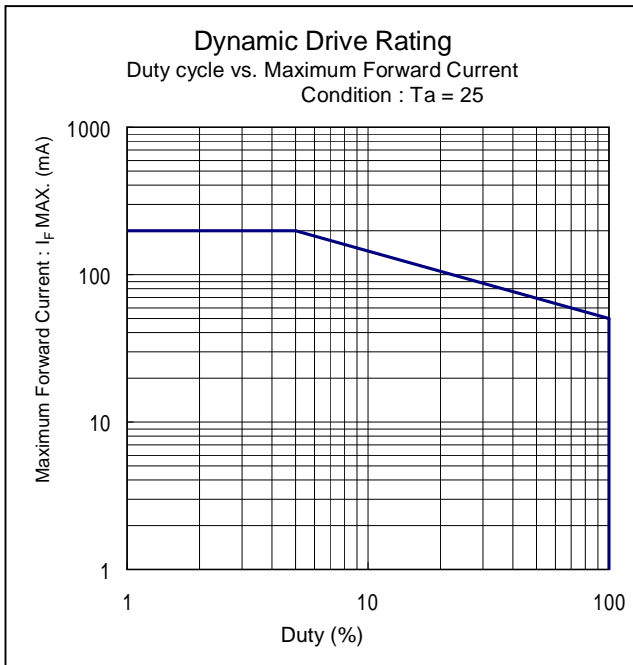
Technical Data



Technical Data



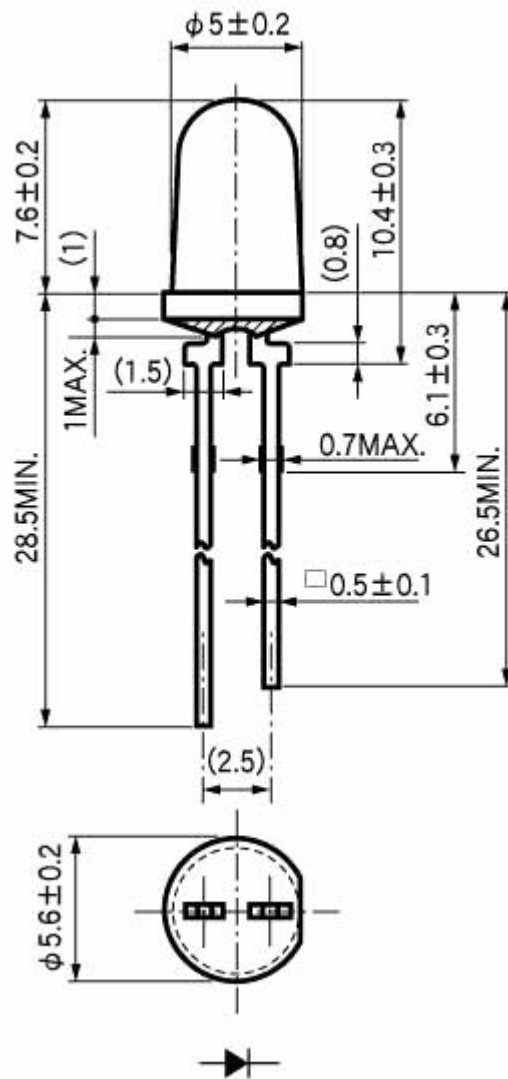
Technical Data



Package Dimensions

(Unit: mm)

Weight: (340)mg



TTW (Through The Wave) soldering Conditions

| | | |
|-------------------|-----|--------|
| 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

| | | |
|------------------------------|---------|--------|
| 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 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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