# **TOSHIBA**

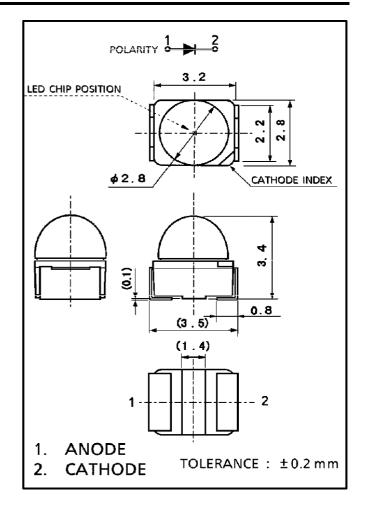
## Toshiba S4F43x1 SMT LEDs

#### **Features**

3.2 (L) x 2.8 (W) x 3.4 (H) mm Size 2.8 mm Diameter Lens-top Type InGaAIP Technology (High-Bright type) Low Drive Current, High Intensity Light Emission High Operating Temperature Standard Embossed Taping 8 mm Pitch: T10 (500 pcs/reel)

### **Applications**

Automotive Use Message Signboard Backlight



Series Line-Up

| Part Number | Color                     | Material |  |  |
|-------------|---------------------------|----------|--|--|
| S4F43Q1     | Ultra Bright Yellow Green | InGaAIP  |  |  |
| S4F43Z1     | Ultra Pure Green          | InGaAIP  |  |  |

Maximum Ratings (Ta=25°C)

| Part Number | Forward Current | Reverse Voltage<br>V <sub>R</sub> | Power Dissipation PD | Operating Temperature<br>Topr | Storage Temperature T <sub>stg</sub> |  |  |
|-------------|-----------------|-----------------------------------|----------------------|-------------------------------|--------------------------------------|--|--|
| S4F43Q1     | 50              | 4                                 | 140.00               | -40 ~ 100                     | <b>−40 ~ 100</b>                     |  |  |
| S4F43Z1     | 50              | 4                                 | 140.00               | -40 ~ 100                     | <b>−</b> 40 ~ 100                    |  |  |
| Unit        | mA              | V                                 | mW                   | °C                            | °C                                   |  |  |

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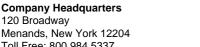
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Electrical and Optical Characteristics (Ta=25°C)

| Part<br>Number | <b>PWL nm</b><br>λP | Material | View<br>Angle | Luminous Intensity |        |      | Forward Voltage<br>V <sub>F</sub> |      |      |      | Rev Current<br>IR |            |     |
|----------------|---------------------|----------|---------------|--------------------|--------|------|-----------------------------------|------|------|------|-------------------|------------|-----|
|                |                     |          | <b>2</b> θ1/2 | min.               | typ.   | max. | IF@                               | min. | typ. | max. | IF@               | max.       | VR@ |
| S4F43Q1        | 574                 | InGaAIP  | 56°           | 85.00              | 250.00 | -    | 20mA                              | -    | 2.27 | 2.80 | 20mA              | 50         | 4V  |
| S4F43Z1        | 562                 | InGaAIP  | 56°           | 27.20              | 60.00  | -    | 20mA                              | _    | 2.27 | 2.80 | 20mA              | 50         | 4V  |
| _              | nm                  | -        | deg           |                    | mcd    |      | -                                 |      | ٧    |      | -                 | μ <b>A</b> | -   |

#### NOTICE:

- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
- In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.
- Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
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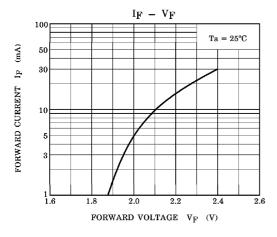
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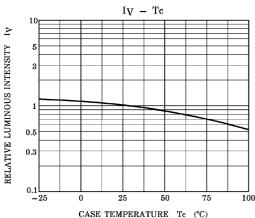


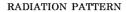
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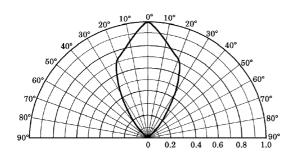
## S4F43Q1 Graphs

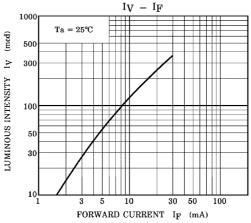




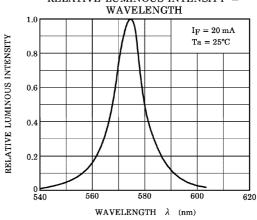


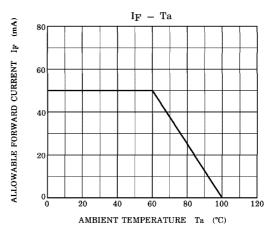






 $\begin{array}{c} \text{RELATIVE LUMINOUS INTENSITY} \ - \\ \text{WAVELENGTH} \end{array}$ 





**Company Headquarters** 120 Broadway

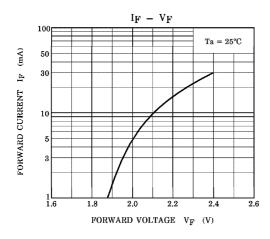
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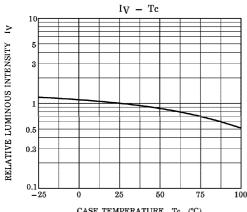


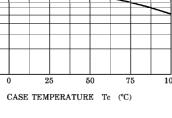
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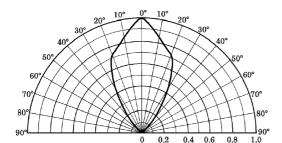
## S4F43Z1 Graphs



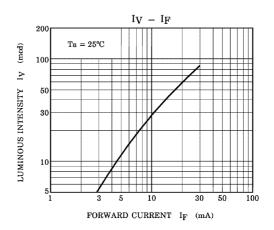


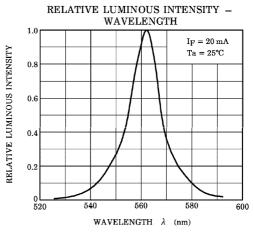


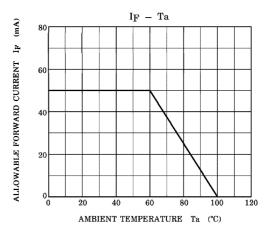
 $Ta = 25^{\circ}C$ 



RADIATION PATTERN







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