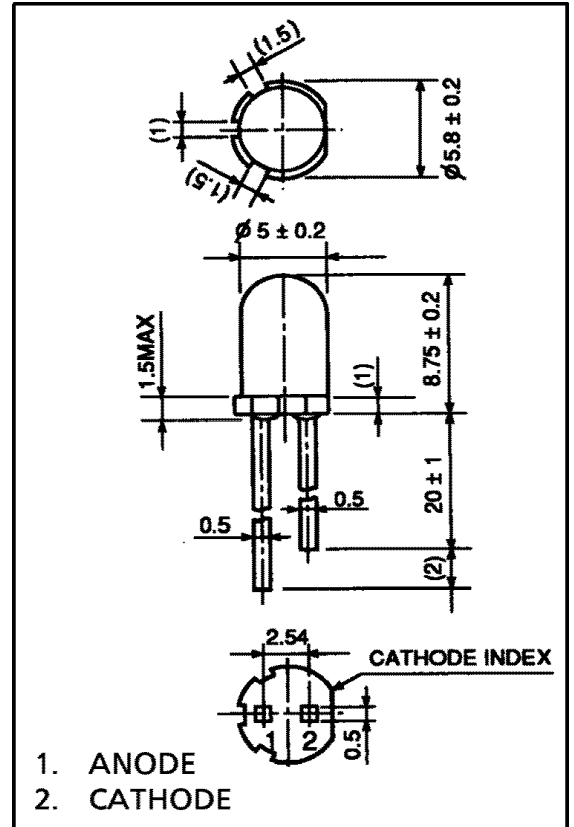


### Features

5 mm Package  
 InGaAIP Technology  
 All Plastic Mold Type  
 Fast Response Time, Capable of Pulse Operation  
 High Power Luminous Intensity

### Applications

Outdoor Message Signboard  
 Safety equipment  
 Automotive



### Series Line-Up

Part Number	Color	Material
TLOH156P	Ultra Bright Orange	InGaAIP
TLRH156P	Ultra Bright Red	InGaAIP
TLRMH156P	Ultra High Efficiency Red	InGaAIP
TLSH156P	Ultra Bright High Efficiency Red	InGaAIP
TLYH156P	Ultra Bright Yellow	InGaAIP

### Maximum Ratings (Ta=25°C)

Part Number	Forward Current I <sub>F</sub>	Reverse Voltage V <sub>R</sub>	Power Dissipation P <sub>D</sub>	Operating Temperature T <sub>opr</sub>	Storage Temperature T <sub>stg</sub>
TLOH156P	50	4	125.00	-30 ~ 85	-40 ~ 120
TLRH156P	50	4	125.00	-30 ~ 85	-40 ~ 120
TLRMH156P	50	4	125.00	-40 ~ 100	-40 ~ 120
TLSH156P	50	4	125.00	-30 ~ 85	-40 ~ 120
TLYH156P	50	4	125.00	-30 ~ 85	-40 ~ 120
Unit	mA	V	mW	°C	°C

**Company Headquarters**  
 120 Broadway  
 Menands, New York 12204  
 Toll Free: 800.984.5337  
 Fax: 518.432.7454



Web: [www.marktechopto.com](http://www.marktechopto.com) | Email: [info@marktechopto.com](mailto:info@marktechopto.com)

**West Coast Sales Office**  
 950 South Coast Drive, Suite 265  
 Costa Mesa, California 92626  
 Toll Free: 800.984.5337  
 Fax: 714.850.9314

### Electrical and Optical Characteristics (Ta=25°C)

Part Number	PWL nm λP	Material	View Angle 2θ <sub>1/2</sub>	Luminous Intensity I <sub>v</sub>				Forward Voltage V <sub>F</sub>				Rev Current I <sub>R</sub>	
				min.	typ.	max.	IF@	min.	typ.	max.	IF@	max.	VR@
TLOH156P	612	InGaAIP	30°	476.00	1500.00	-	20mA	-	2.10	2.50	20mA	50	4V
TLRH156P	644	InGaAIP	30°	272.00	800.00	-	20mA	-	1.90	2.50	20mA	50	4V
TLRMH156P	636	InGaAIP	25°	476.00	900.00	-	20mA	-	2.05	2.50	20mA	50	4V
TLSH156P	623	InGaAIP	30°	476.00	1400.00	-	20mA	-	2.10	2.50	20mA	50	4V
TLYH156P	590	InGaAIP	30°	476.00	1400.00	-	20mA	-	2.10	2.50	20mA	50	4V
-	nm	-	deg	mcd				-	V		-	μA	-

### Precautions

- Soldering temperature: 260°C max, soldering time: 3 s max (soldering portion of lead: up to 2 mm from the body of the device).
- If the lead is formed, the lead should be formed up to 5 mm from the body of the device without forming stress to the resin. Soldering should be performed after lead forming.
- This visible LED lamp also emits some IR light. If a photodetector is located near the LED lamp, please ensure that it will not be affected by this IR light.

### 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.
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- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
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120 Broadway  
Menands, New York 12204  
Toll Free: 800.984.5337  
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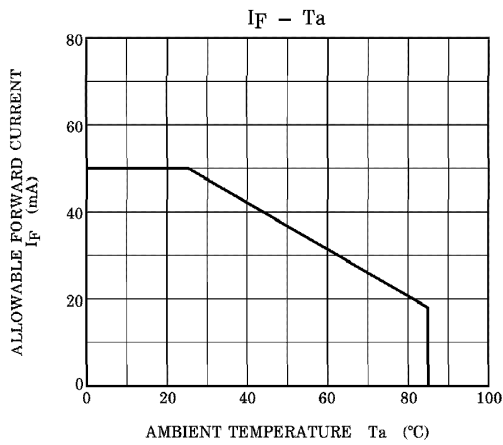
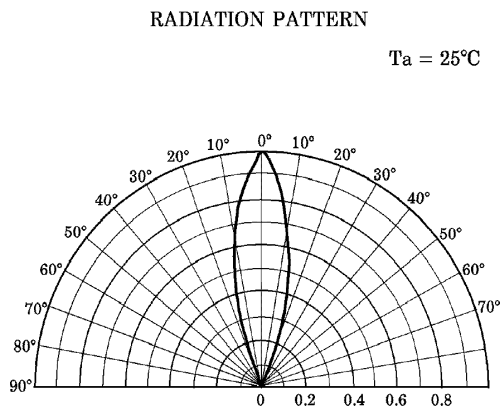
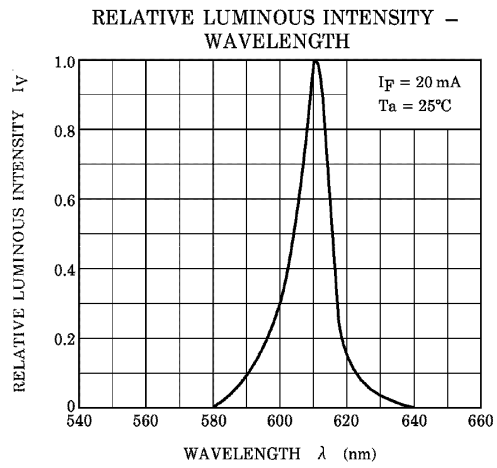
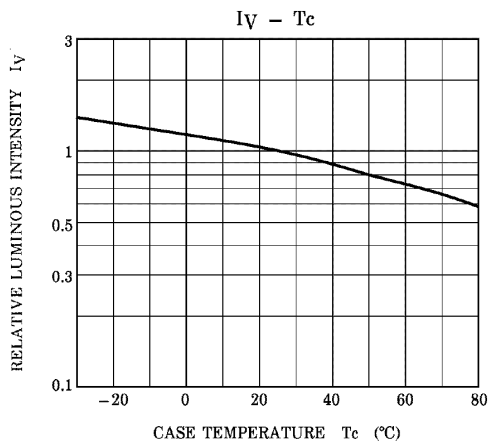
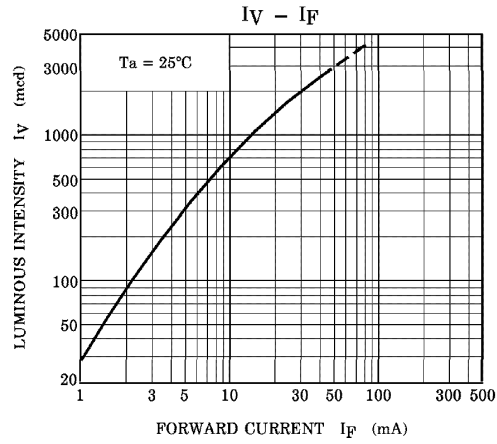
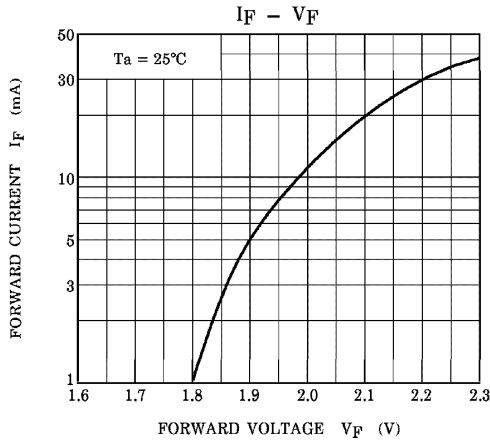


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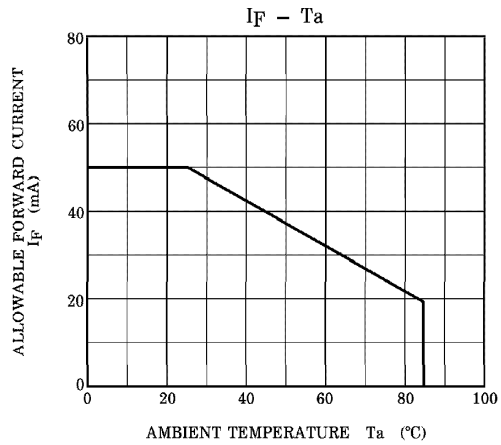
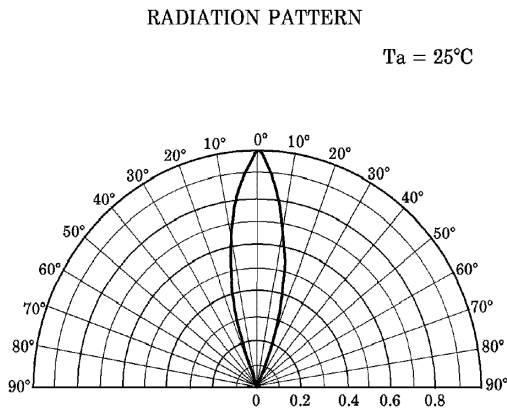
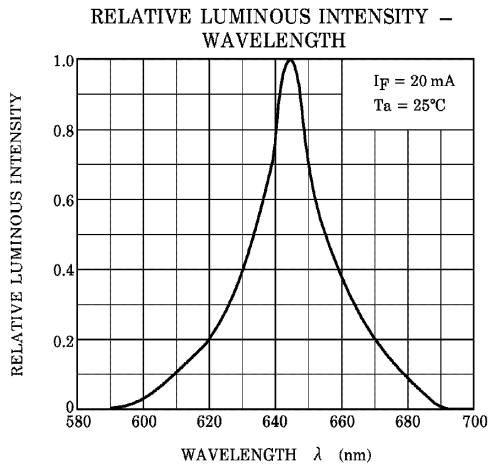
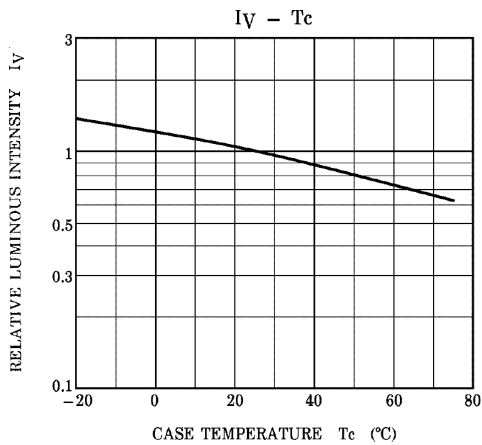
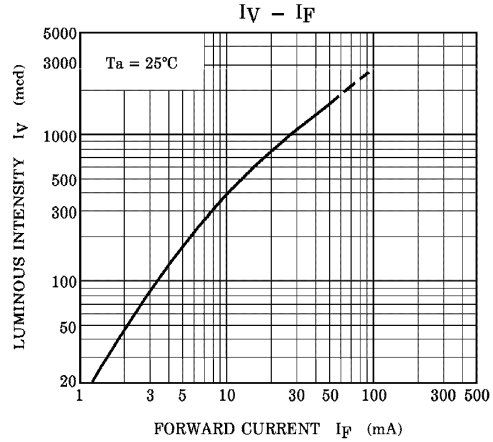
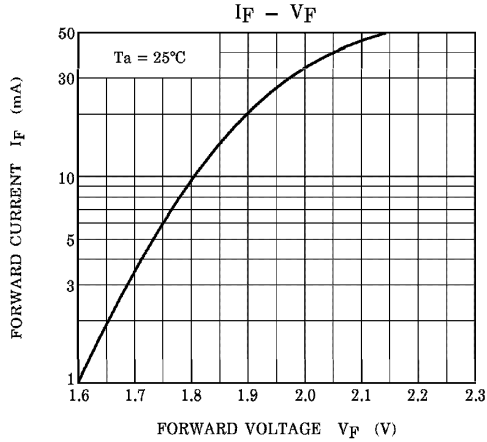
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950 South Coast Drive, Suite 265  
Costa Mesa, California 92626  
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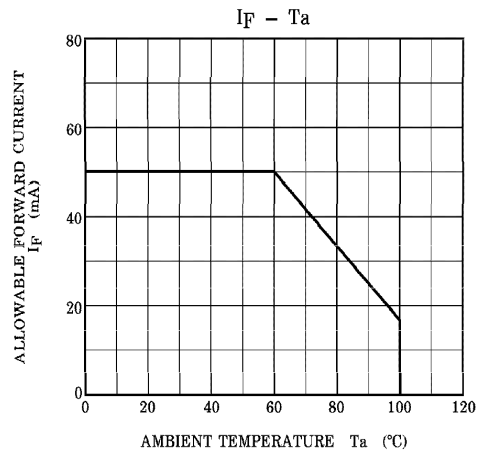
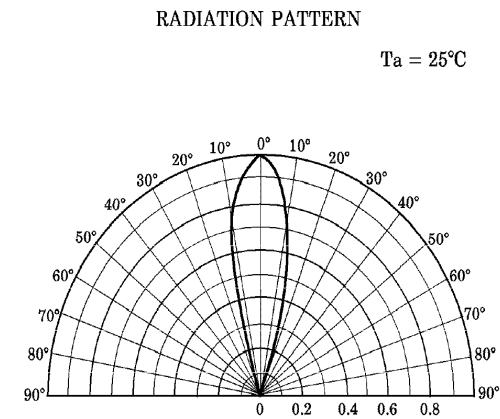
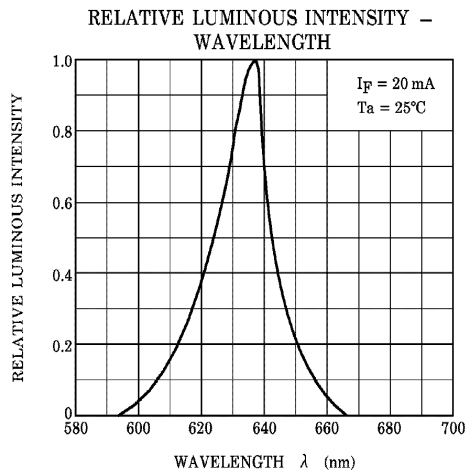
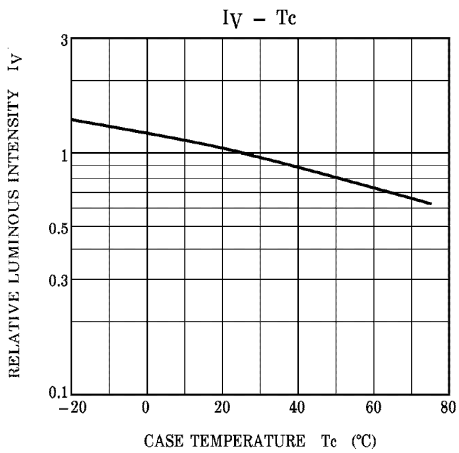
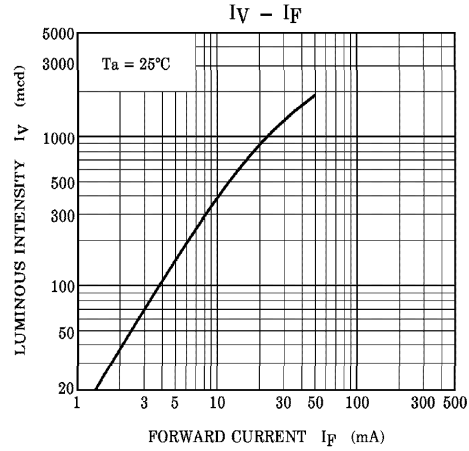
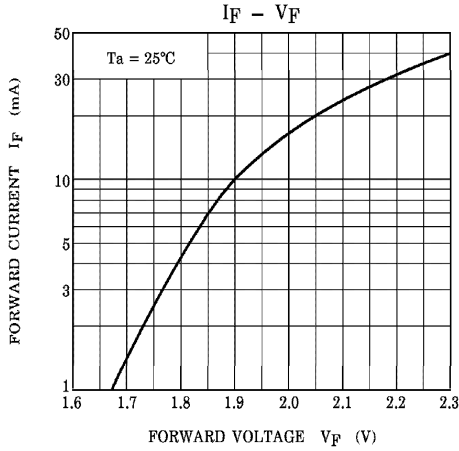
### TLOH156P Graphs



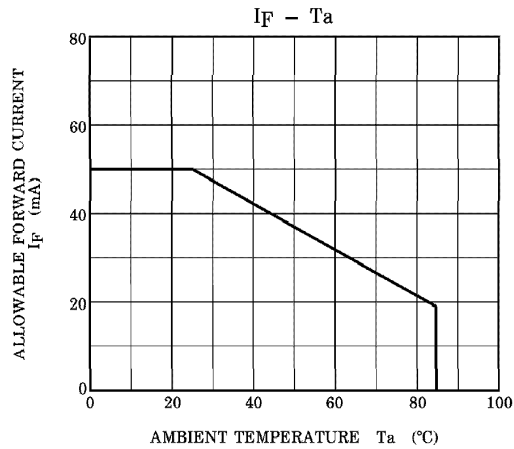
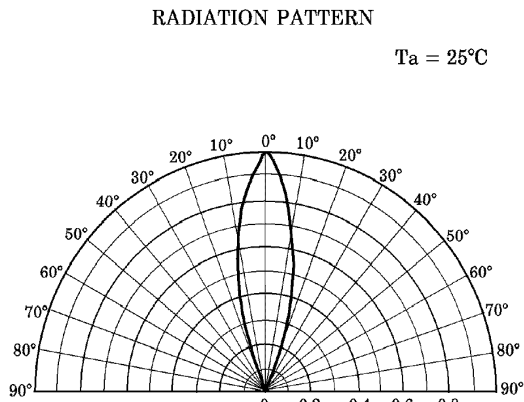
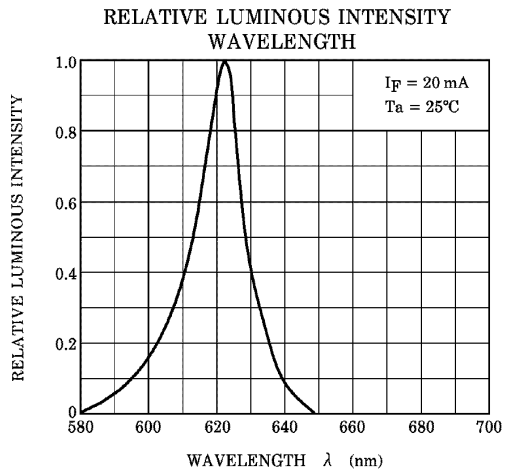
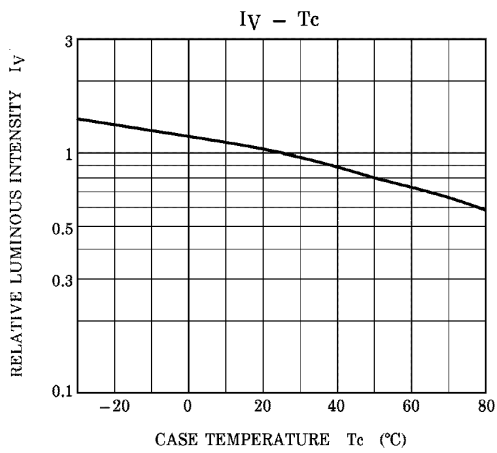
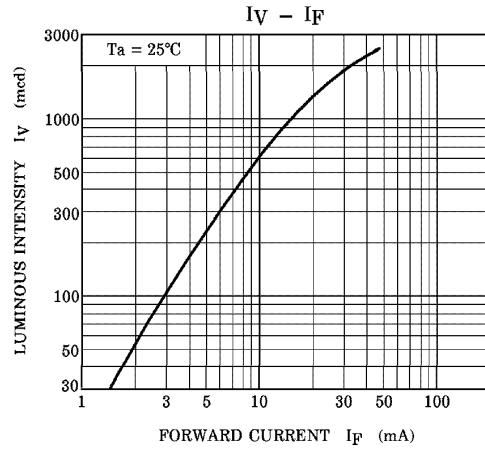
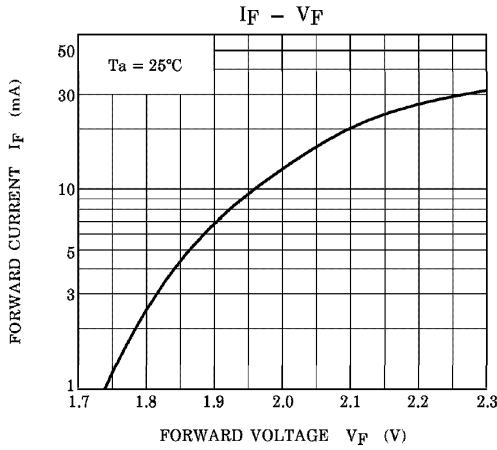
### TLRH156P Graphs



### TLRMH156P Graphs



### TLSH156P Graphs



### TLYH156P Graphs

