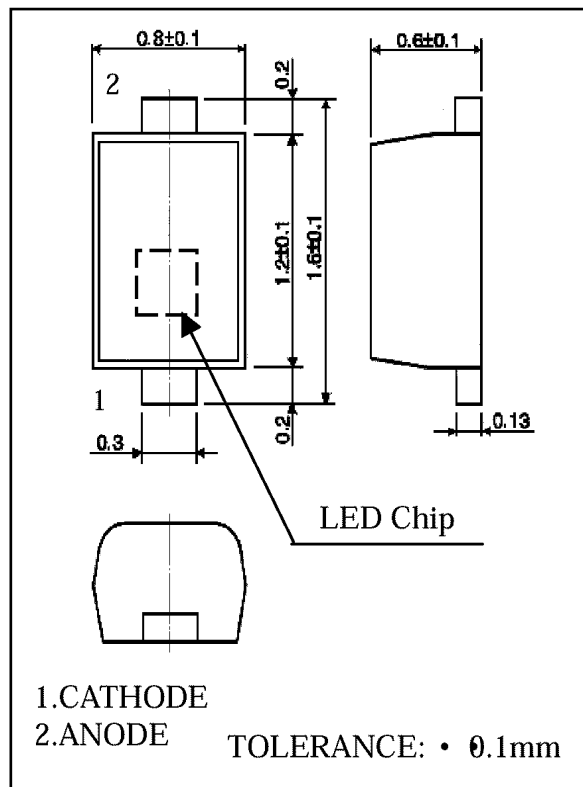


Features

1.6(L)x0.8(W)x0.6(H)mm Size
InGaAlP Technology
High Luminous Intensity
Low Power Consumption
Suitable for Backlighting

Applications

Backlighting



Series Line-Up

Part Number	Color	Material
TLGV1020	Ultra Bright Yellow Green	InGaAlP
TLOV1020	Ultra Bright Orange	InGaAlP
TLPGV1020	Ultra Pure Green	InGaAlP
TLRMV1020	Ultra Red	InGaAlP
TLSV1020	Ultra Bright High Efficiency Red	InGaAlP
TLYV1020	Ultra Bright Yellow	InGaAlP

Maximum Ratings (Ta=25°C)

Part Number	Forward Current I _F	Reverse Voltage V _R	Power Dissipation P _D	Operating Temperature T _{opr}	Storage Temperature T _{stg}
TLGV1020	15	4	34.50	-40 ~ +100	-40 ~ +100
TLOV1020	15	4	34.50	-40 ~ +100	-40 ~ +100
TLPGV1020	15	4	34.50	-40 ~ +100	-40 ~ +100
TLRMV1020	15	4	34.50	-40 ~ +100	-40 ~ +100
TLSV1020	15	4	34.50	-40 ~ +100	-40 ~ +100
TLYV1020	15	4	34.50	-40 ~ +100	-40 ~ +100
Unit	mA	V	mW	°C	°C

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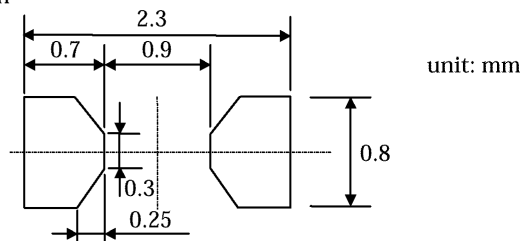
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Electrical and Optical Characteristics (Ta=25°C)

Part Number	PWL nm λ_P	Material	View Angle $2\theta_{1/2}$	Luminous Intensity I_v				Forward Voltage V_F				Rev Current I_R	
				min.	typ.	max.	IF@	min.	typ.	max.	IF@	max.	VR@
TLGV1020	574	InGaAlP	140° x 130°	4.76	14.00	–	5mA	–	2.00	2.30	5mA	10	4V
TLOV1020	612	InGaAlP	140° x 130°	8.50	38.00	–	5mA	–	2.00	2.30	5mA	10	4V
TLPGV1020	562	InGaAlP	140° x 130°	1.53	3.50	–	5mA	–	2.00	2.30	5mA	10	4V
TLRMV1020	636	InGaAlP	140° x 130°	4.76	15.00	–	5mA	–	2.00	2.30	5mA	10	4V
TLSV1020	623	InGaAlP	140° x 130°	8.50	30.00	–	5mA	–	2.00	2.30	5mA	10	4V
TLVY1020	590	InGaAlP	140° x 130°	8.50	25.00	–	5mA	–	2.00	2.30	5mA	10	4V
–	nm	–	deg	mcd				V				μA	–

Recommended soldering pattern



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- 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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PACKAGING

This LED device is packed in an aluminum envelope with silica-gel to avoid moisture absorption. The optical characteristics may be affected by exposure to moisture in the air before soldering and should be stored under the following conditions.

Temperature : 5~30°C
Relative humidity : 60% max.
Time : 168h

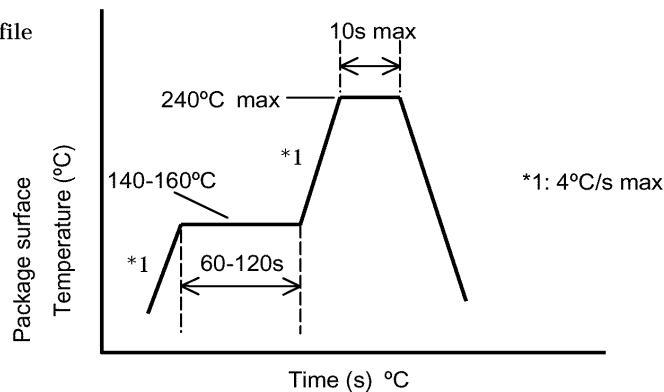
Baking is required if the device has been stored unopened for more than 6 months or if the aluminum envelope has been opened for more than 168h.

Recommended baking condition is 60°C for 12 hours minimum in a dry atmosphere.

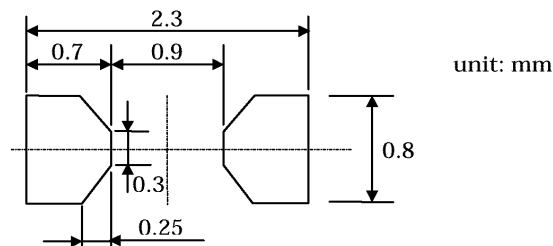
SOLDERING

Reflow soldering

Temperature profile



Recommended soldering pattern



Please perform the first reflow soldering within 168h after opening the package with reference to the above temperature profile.

Second time reflow soldering

In the case of a second time reflow soldering, it should be performed within 168h after first reflow under the above conditions.

Storage conditions before second reflow soldering : 30°C, 60%RH or lower

Do not perform flow soldering.

Recommended for manual soldering

Soldering iron : Less than 25W
Temperature : Lower than 30°C
Time : Within 3s(Up to 1 time per place)

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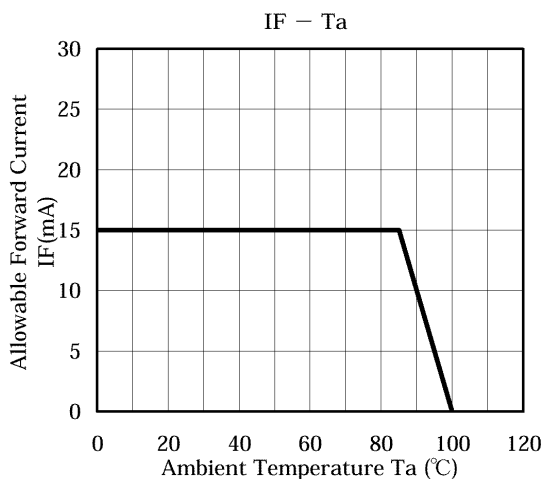
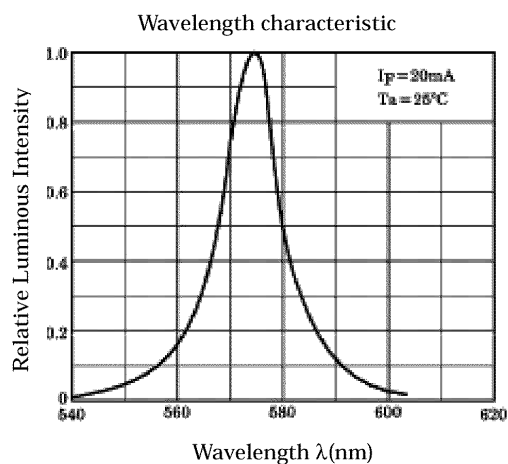
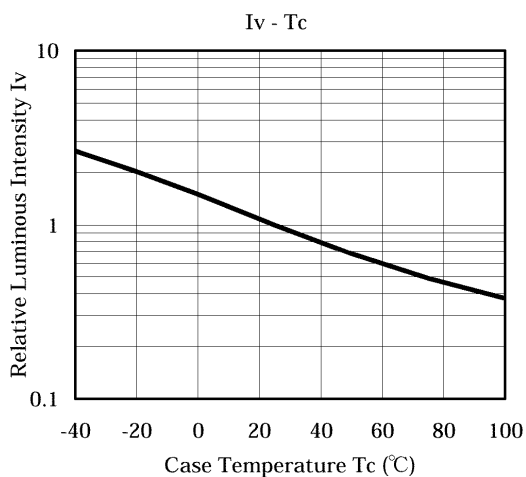
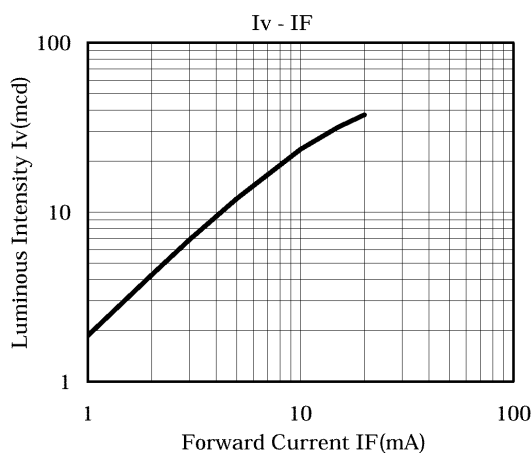
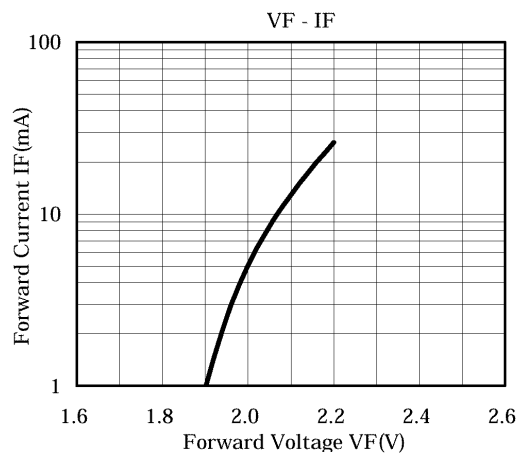


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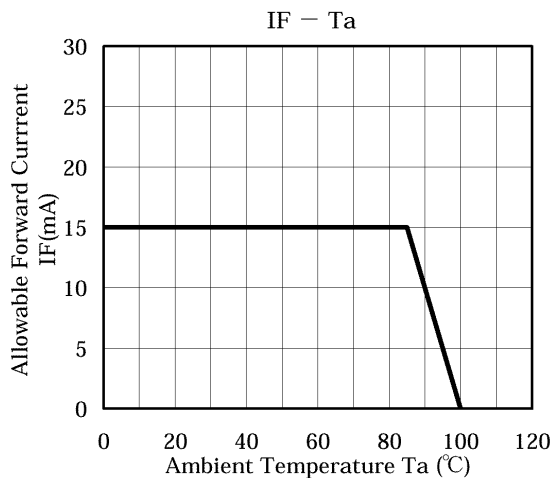
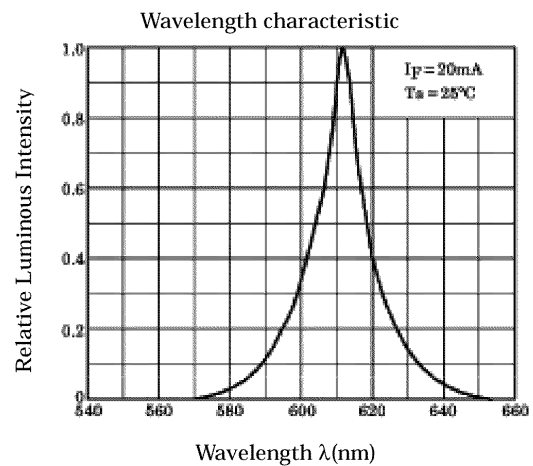
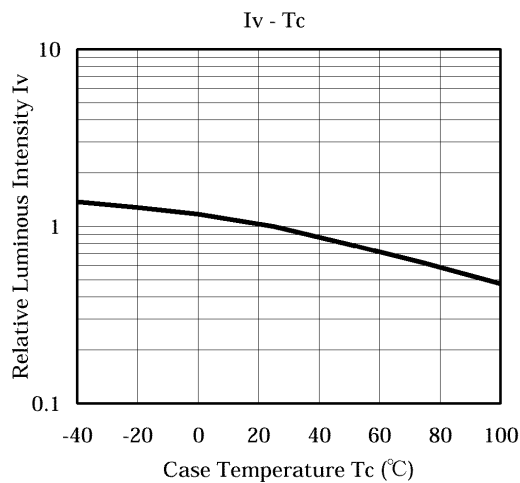
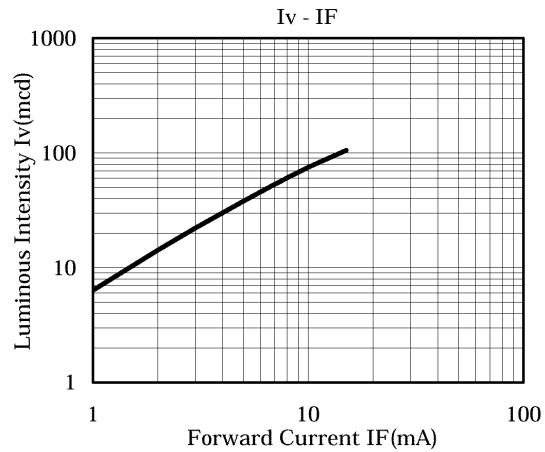
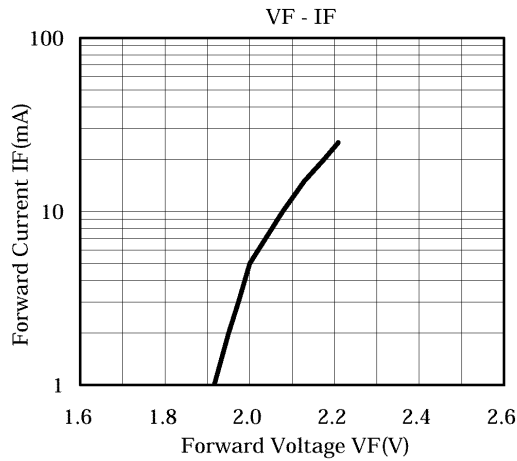
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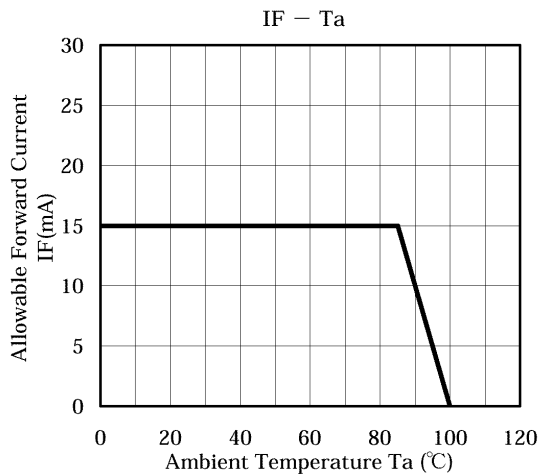
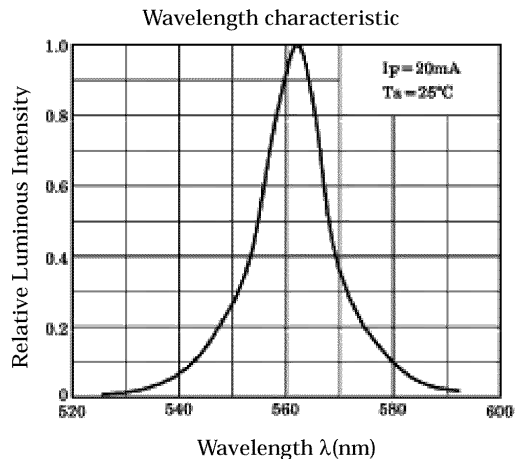
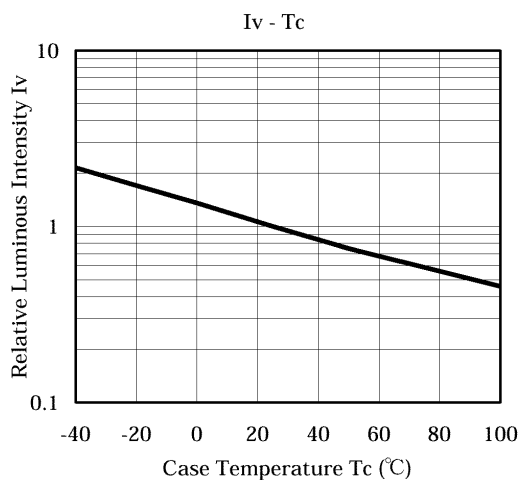
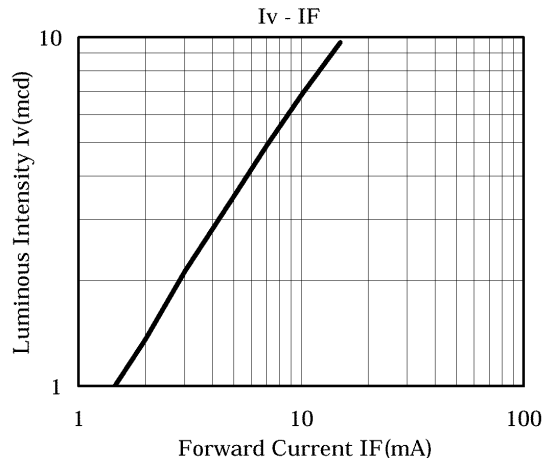
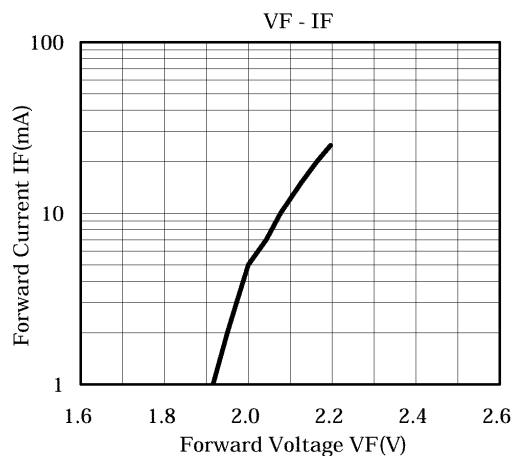
TLGV1020 Graphs



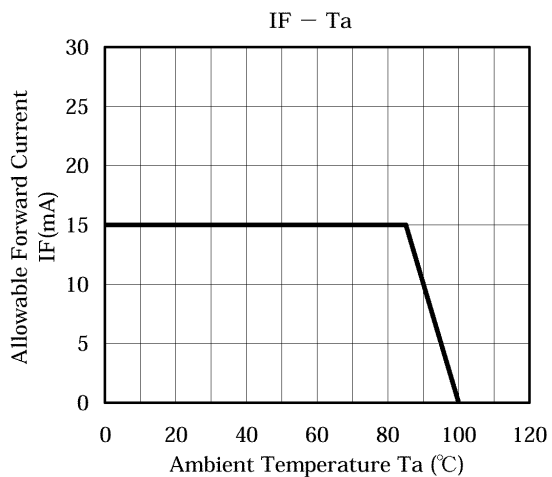
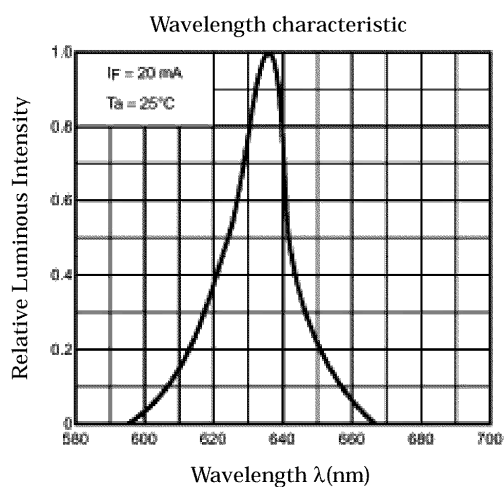
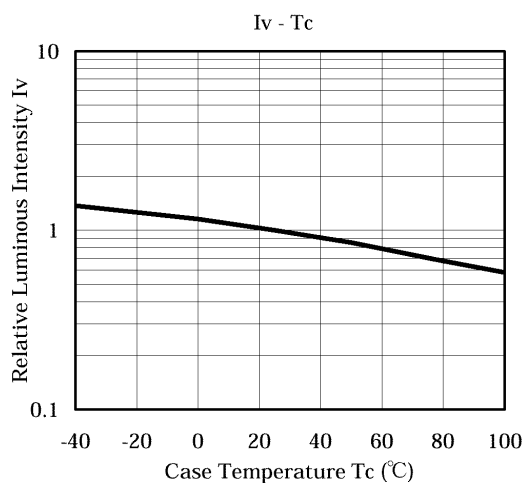
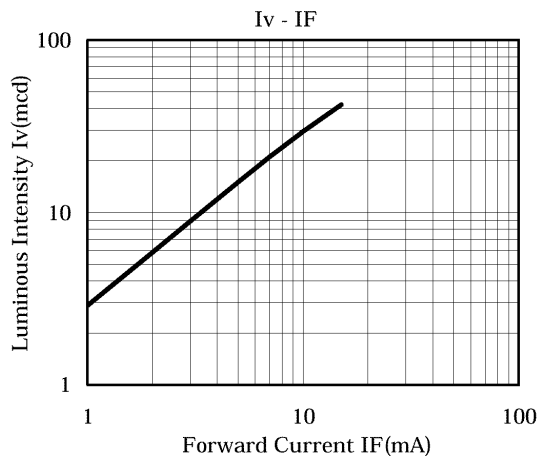
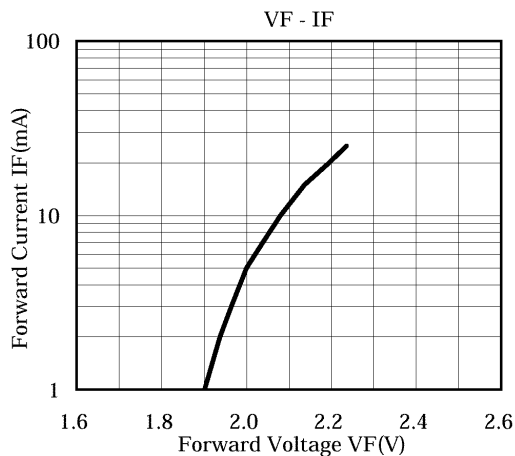
TLOV1020 Graphs



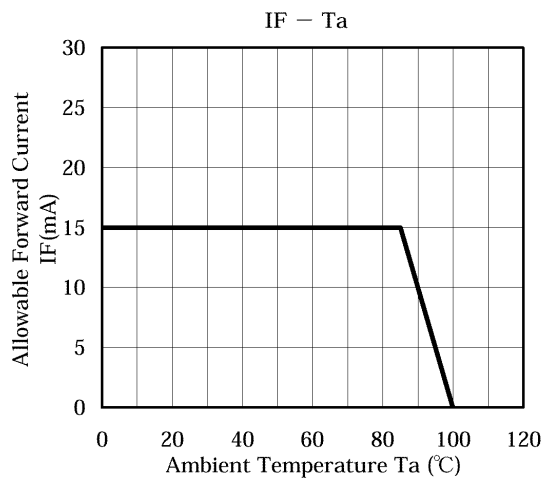
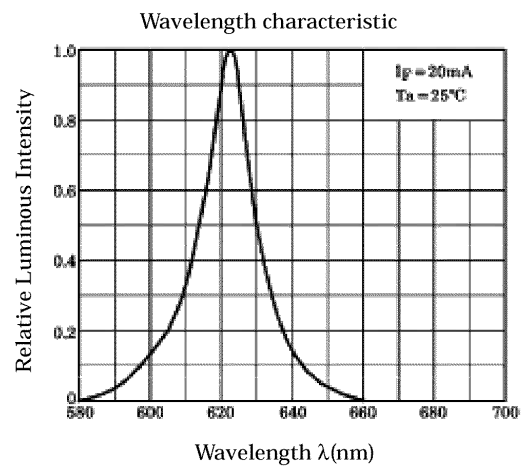
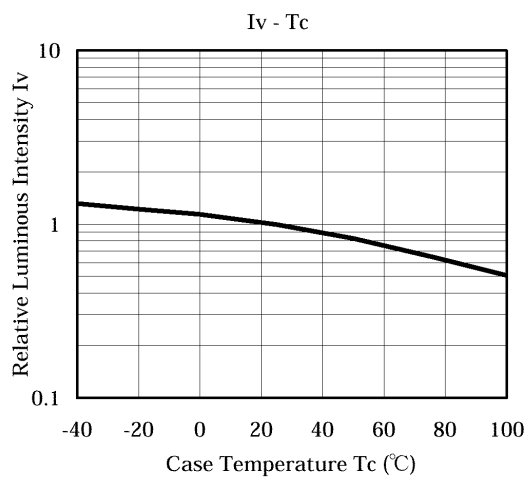
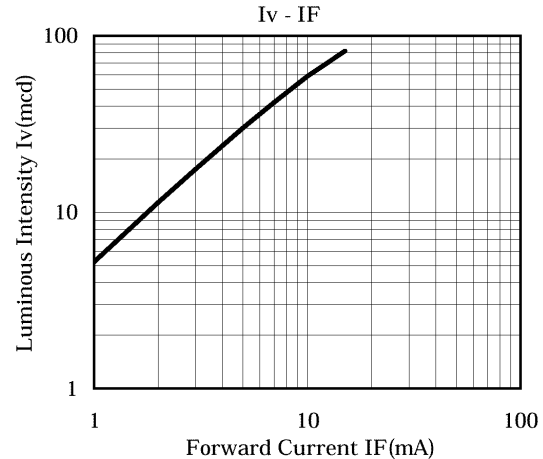
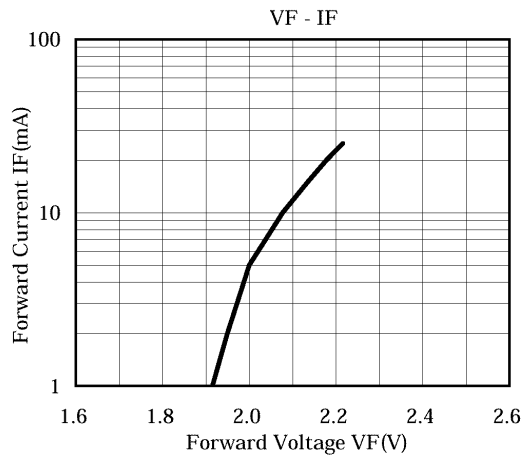
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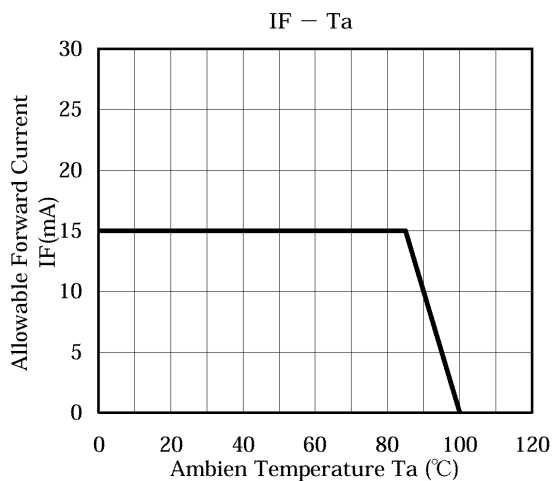
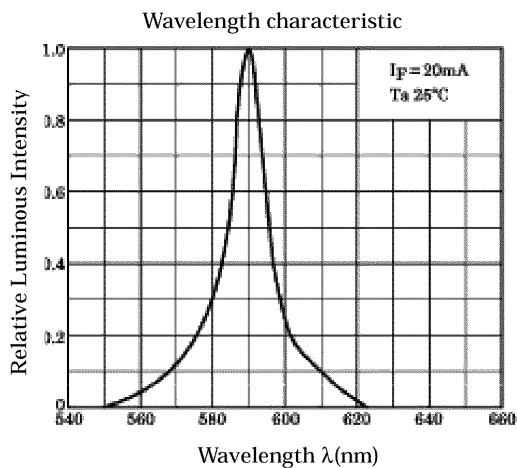
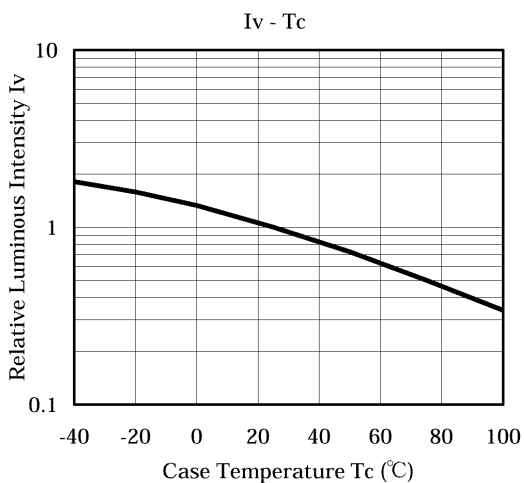
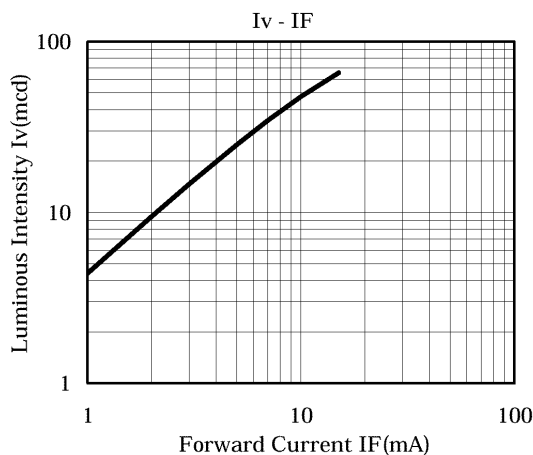
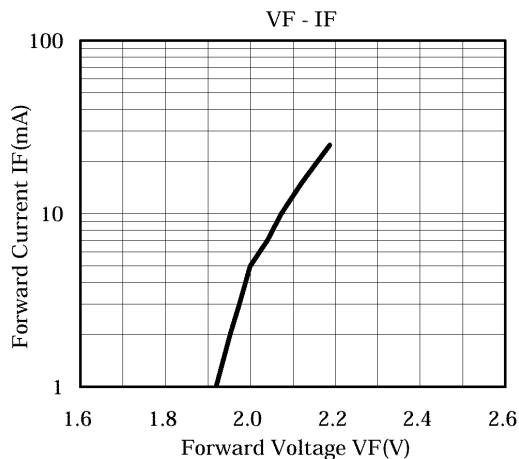
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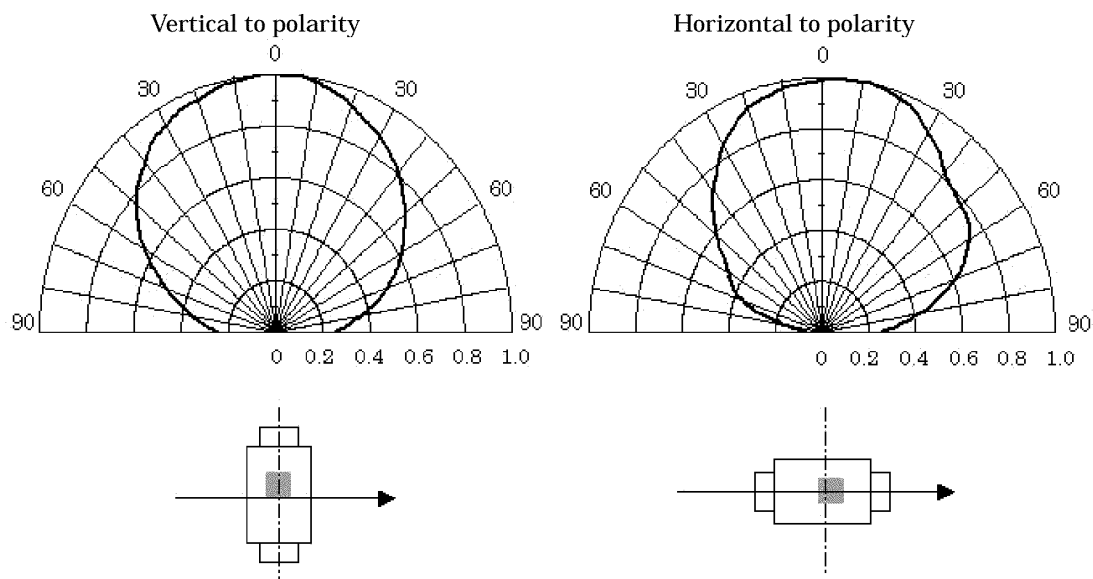
TLxV1020 Graphs



TLxV1020 Graphs



TLxV1020 Radiation Pattern



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