



**Pb-free  
HEAT**

**STANLEY**

# 5362X Series

Single Color  $\phi$  5 Flush Mount Round Shape Type

## Features

Package	$\phi$ 5 Round shape type, BG,PG : Pale Green Clear epoxy PY,AY : Pale Yellow Clear epoxy AA : Pale Orange Clear epoxy VR,BR,PR : Pale Red Clear epoxy
Product features	<ul style="list-style-type: none"> <li>Outer Dimension <math>\phi</math> 5 Round shape type</li> <li>Operation temperature range.                Storage Temperature : <math>-30^{\circ}\text{C} \sim 100^{\circ}\text{C}</math>                Operating Temperature : <math>-30^{\circ}\text{C} \sim 85^{\circ}\text{C}</math> </li> <li>No lead package and lead-free soldering compatible</li> <li>RoHS compliant</li> </ul>
Dominant wavelength	Green : 558nm (BG) : 567nm (PG) Yellow Green : 572nm (PY) Yellow : 590nm (AY) Orange : 606nm (AA) Red : 624nm (VR) : 647nm (BR) : 630nm (PR)
Half Intensity Angle	BG,PY : 100 deg. PG,AY,VR AA,PR : 101 deg. BR : 110 deg.
Die materials	BG,PG,PY,PR : GaP AY,AA,VR : GaAsP BR : GaAlAs
Rank grouping parameter	Sorted by luminous intensity per rank taping
Soldering methods	TTW (Through The Wave) soldering and manual soldering
ESD	More than 2kV(HBM)
Packing	Bulk : 200pcs(MIN.)

## Recommended Applications

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

## Color and Luminous Intensity

(Ta=25°C)

Part No.	Material	Emitted Color	Lens Color		Dominant Wavelength		Luminous Intensity		
					$\lambda$ d (nm)		$I_v$ (mcd)		
					TYP.	$I_F$	MIN.	TYP.	$I_F$
BG5362X	GaP	Green	Pale Green	Clear	558	20	0.6	1.2	20
PG5362X	GaP				567	20	2.0	4.0	20
PY5362X	GaP	Yellow Green	Pale Yellow		572	20	0.3	6.0	20
AY5362X	GaAsP	Yellow			590	20	2.0	4.0	20
AA5362X	GaAsP	Orange	Pale Orange		606	20	2.0	4.0	20
VR5362X	GaAsP	Red	pale Red		624	20	2.0	4.0	20
BR5362X	GaAlAs				647	20	2.0	4.0	20
PR5362X	GaP				630	10	0.4	0.6	10

# Absolute Maximum Ratings

(Ta=25°C)

Item	Symbol	Absolute Maximum Ratings								Unit
		BG	PG	PY	AY	AA	VR	BR	PR	
Power Dissipation	$P_d$	125	125	125	125	125	75	100	75	mW
Forward Current	$I_F$	50	50	50	50	50	30	50	30	mA
Pulse Forward Current ※1	$I_{FRM}$	100	100	100	100	100	100	300	100	mA
Derating (Ta=25°C or higher)	$\Delta I_F$	0.67	0.67	0.67	0.67	0.67	0.33	0.67	0.33	mA/°C
Reverse Voltage	$V_R$	4	4	4	4	4	4	4	4	V
Operating Temperature	$T_{opr}$	-30~+85								°C
Storage Temperature	$T_{stg}$	-30~+100								°C

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

# Electro-Optical Characteristics(BG,PG,PY,AY,AA,VR,BR)

(Ta=25°C)

Item	Conditions	Symbol	Characteristics								Unit
				BG	PG	PY	AY	AA	VR	BR	
Forward Voltage	I <sub>F</sub> =20mA	V <sub>F</sub>	TYP.	2.1	2.1	2.1	2.2	2.2	2.0	1.7	V
			MAX.	2.5	2.5	2.5	2.5	2.5	2.5	2.0	
Reverse Current	V <sub>R</sub> =4V	I <sub>R</sub>	MAX.	100	100	100	100	100	100	100	μ A
Peak Wavelength	I <sub>F</sub> =20mA	λ <sub>p</sub>	TYP.	555	560	570	580	605	630	660	nm
Dominant Wavelength	I <sub>F</sub> =20mA	λ <sub>d</sub>	TYP.	558	567	572	590	606	624	647	nm
Spectral Line Half Width	I <sub>F</sub> =20mA	Δλ	TYP.	30	30	30	30	30	30	30	nm
Half Intensity Angle	I <sub>F</sub> =20mA	2θ 1/2	TYP.	100	104	100	104	101	104	120	deg.

# Electro-Optical Characteristics(PR)

(Ta=25°C)

Item	Conditions	Symbol	Characteristics		Unit
				PR	
Forward Voltage	I <sub>F</sub> =10mA	V <sub>F</sub>	TYP.	2.1	V
			MAX.	2.8	
Reverse Current	V <sub>R</sub> =4V	I <sub>R</sub>	MAX.	100	μ A
Peak Wavelength	I <sub>F</sub> =10mA	λ <sub>p</sub>	TYP.	700	nm
Dominant Wavelength	I <sub>F</sub> =10mA	λ <sub>d</sub>	TYP.	630	nm
Spectral Line Half Width	I <sub>F</sub> =10mA	Δλ	TYP.	100	nm
Half Intensity Angle	I <sub>F</sub> =10mA	2θ 1/2	TYP.	101	deg.

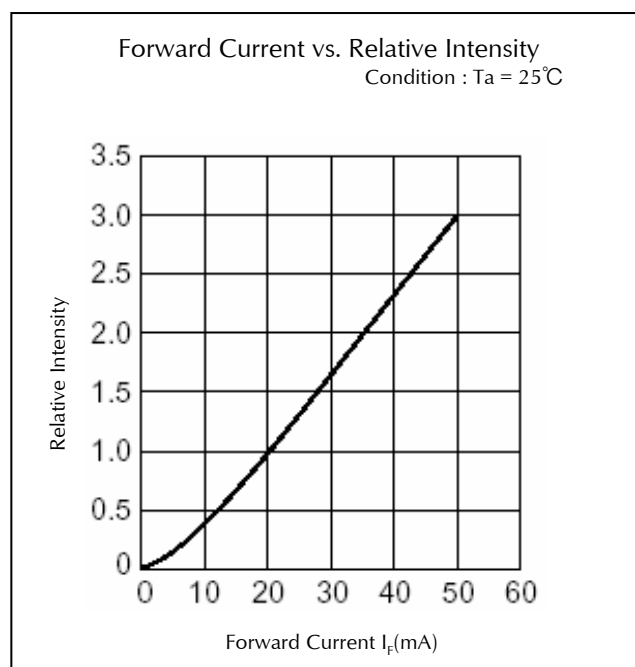
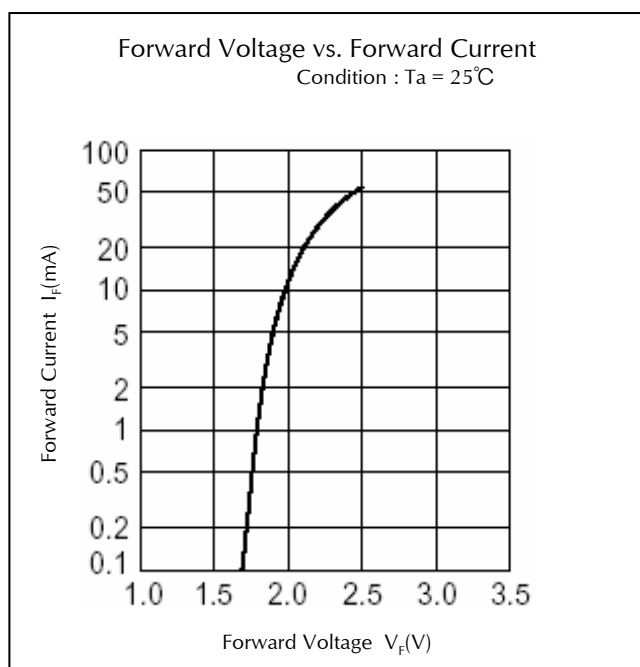
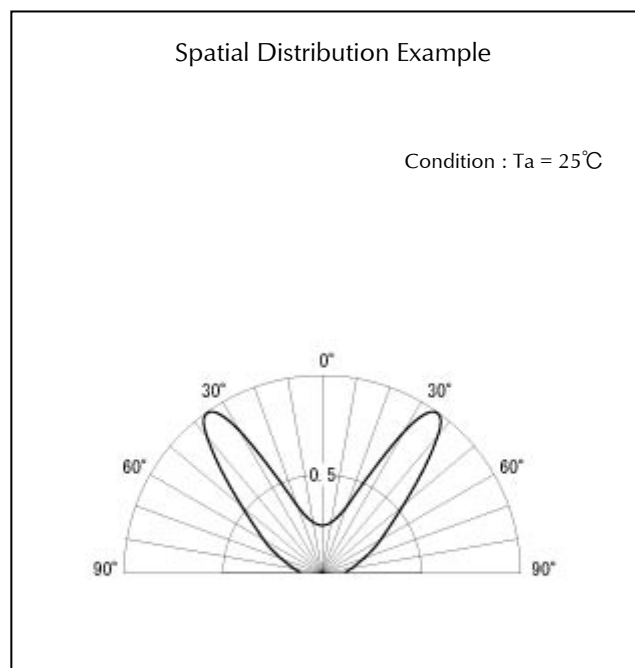
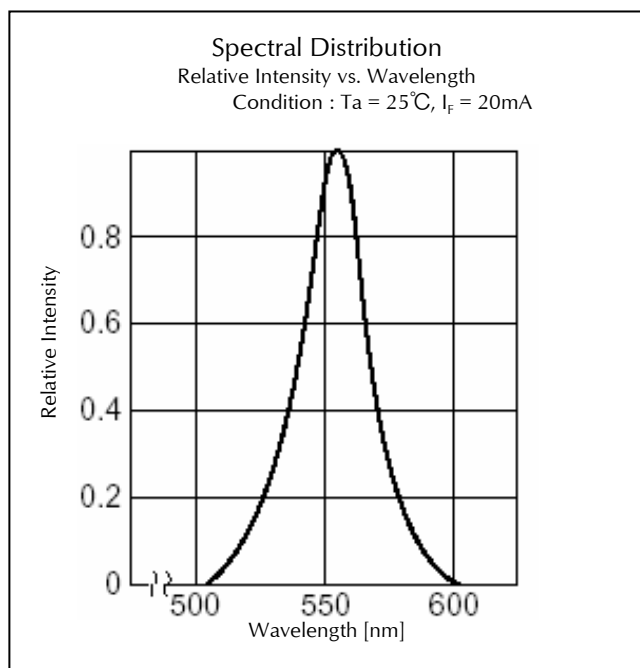
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(Ta=25°C)

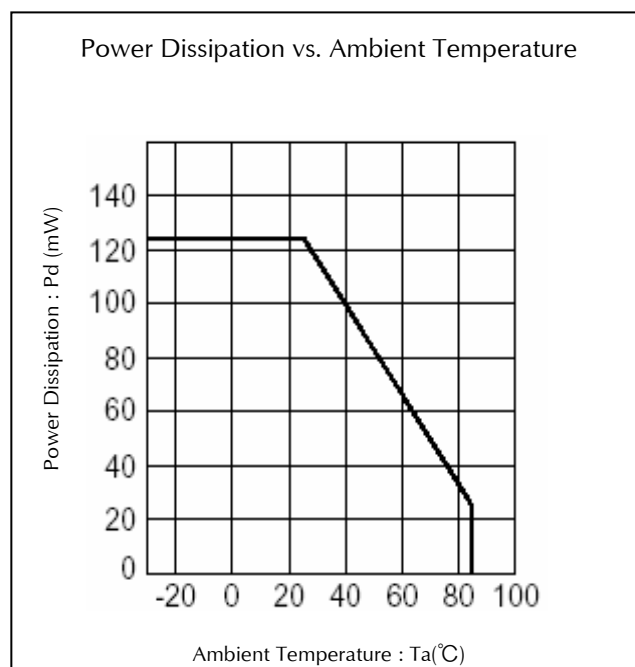
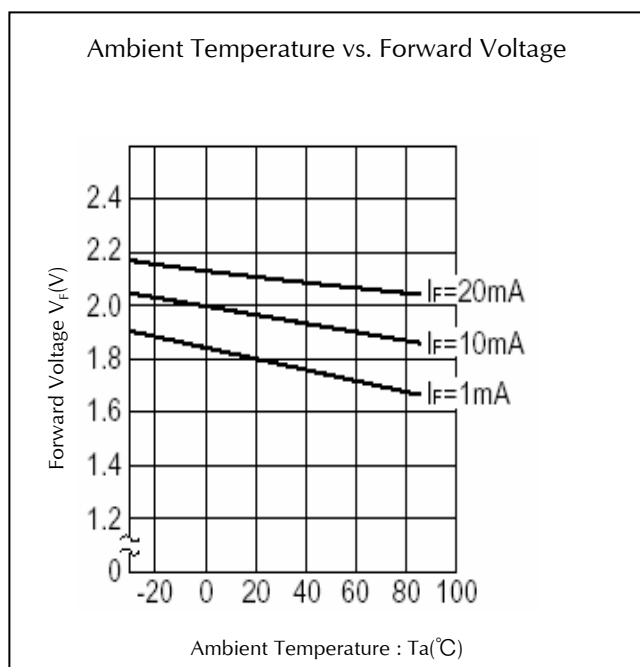
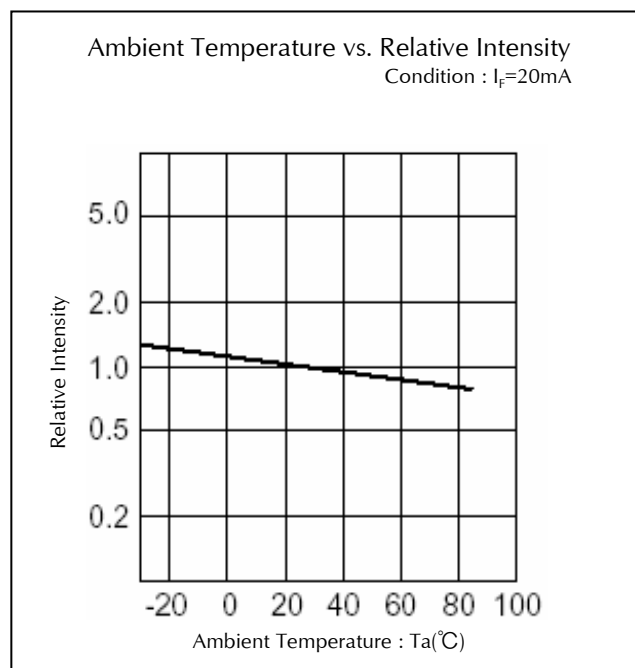
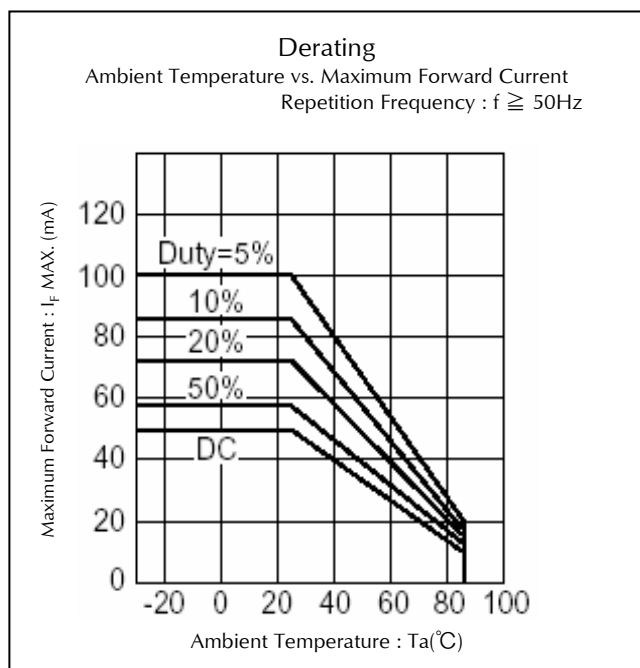
Rank	$I_v$ (mcd)															
	BG		PG		PY		AY		AA		VR		BR		PR	
	$I_F=20mA$		$I_F=20mA$		$I_F=20mA$		$I_F=20mA$		$I_F=20mA$		$I_F=20mA$		$I_F=20mA$		$I_F=10mA$	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
<b>A</b>	0.60	1.20	2.0	4.0	3.0	6.0	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0	0.40	0.80
<b>B</b>	0.84	1.68	2.8	5.6	4.2	8.4	2.8	5.6	2.8	5.6	2.8	5.6	2.8	5.6	0.56	1.12
<b>C</b>	1.20	2.40	4.0	8.0	6.0	12.0	4.0	8.0	4.0	8.0	4.0	8.0	4.0	8.0	0.80	1.60
<b>D</b>	1.68	3.36	5.6	11.2	8.4	16.8	5.6	11.2	5.6	11.2	5.6	11.2	5.6	11.2	1.12	2.24
<b>E</b>	2.40	-	8.0	-	12.0	-	8.0	-	8.0	-	8.0	-	8.0	-	1.60	-

Please contact our sales staff concerning rank designation.

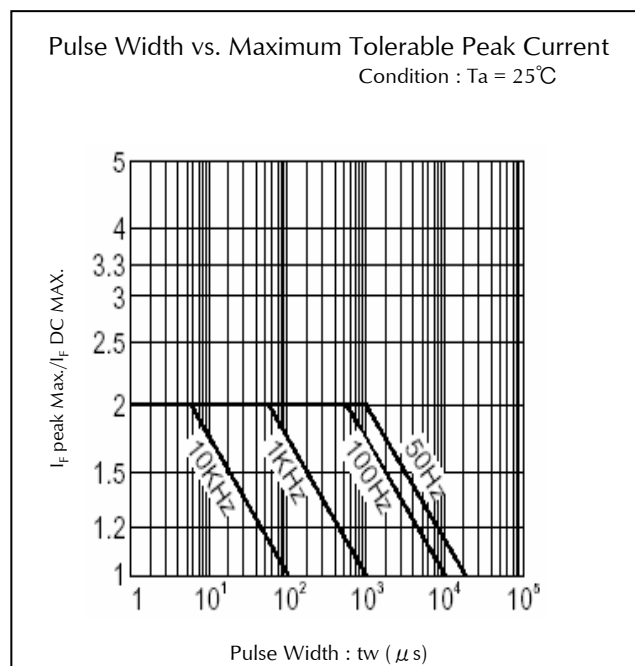
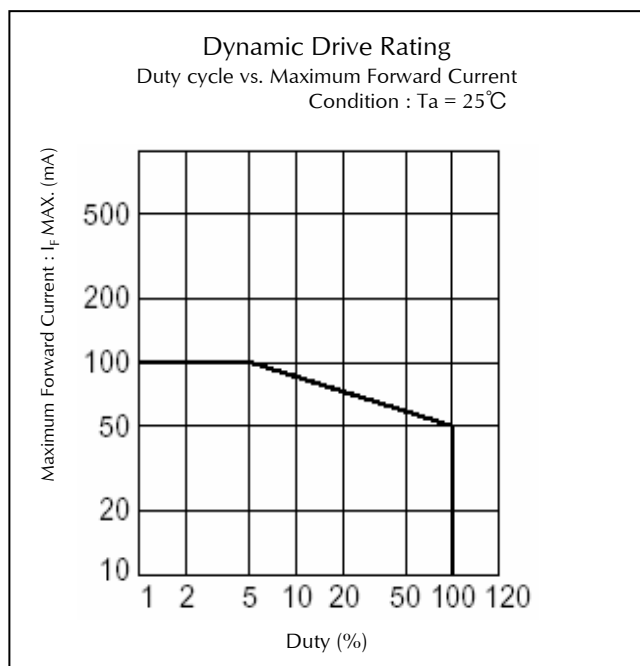
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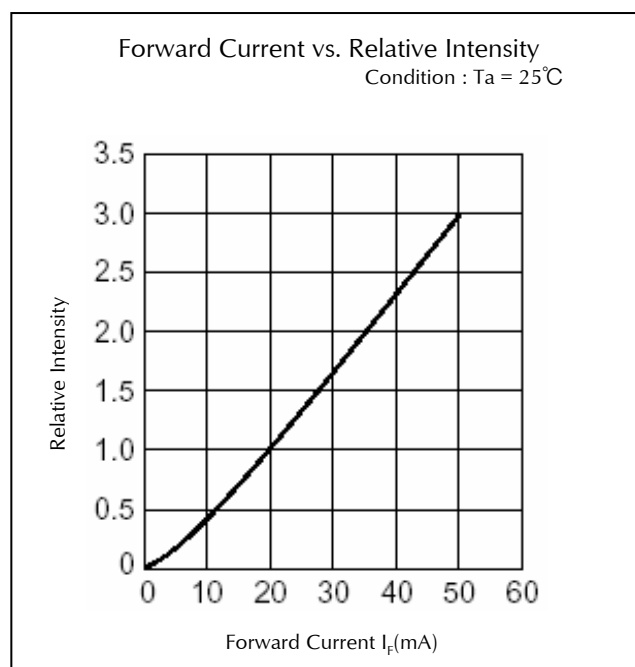
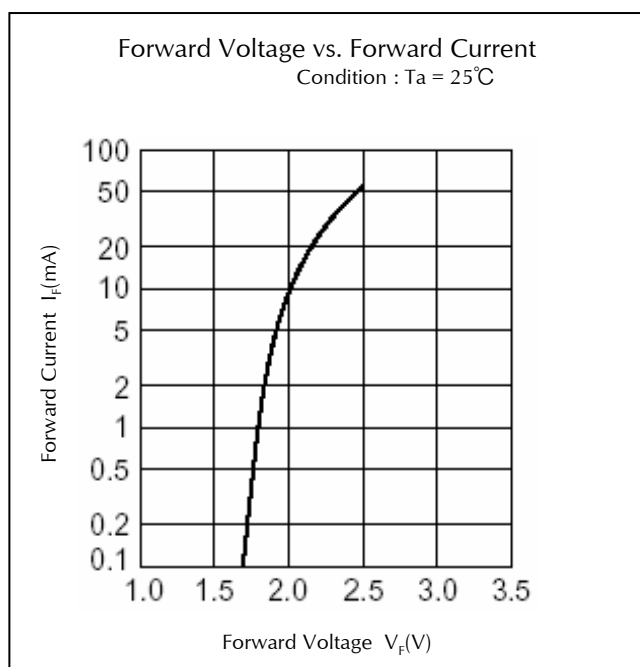
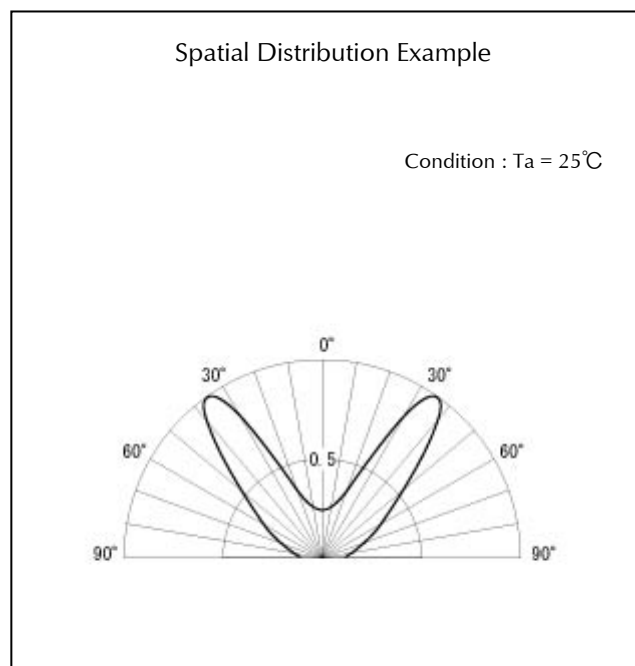
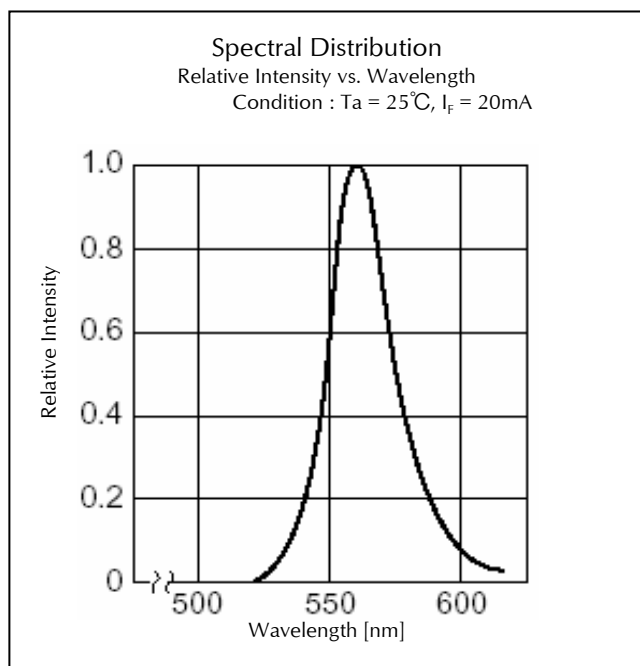


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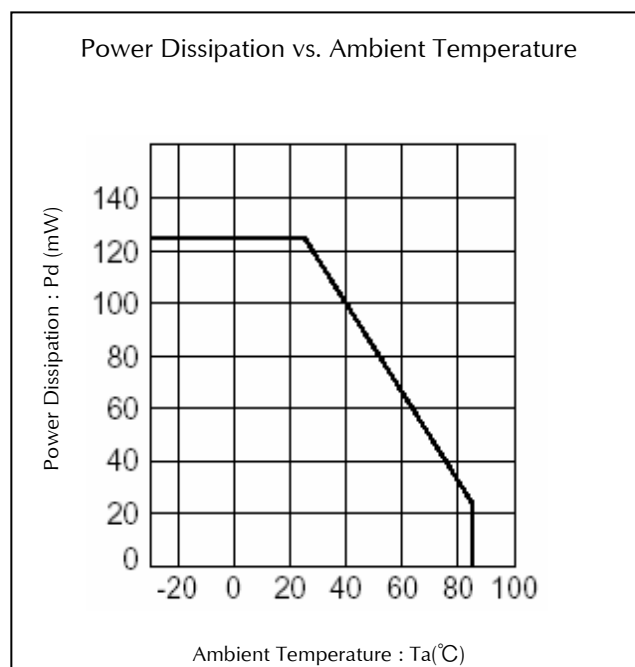
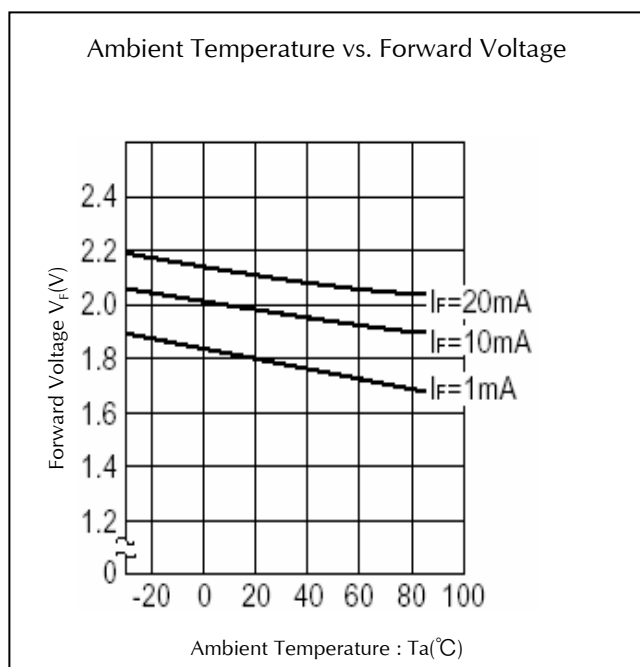
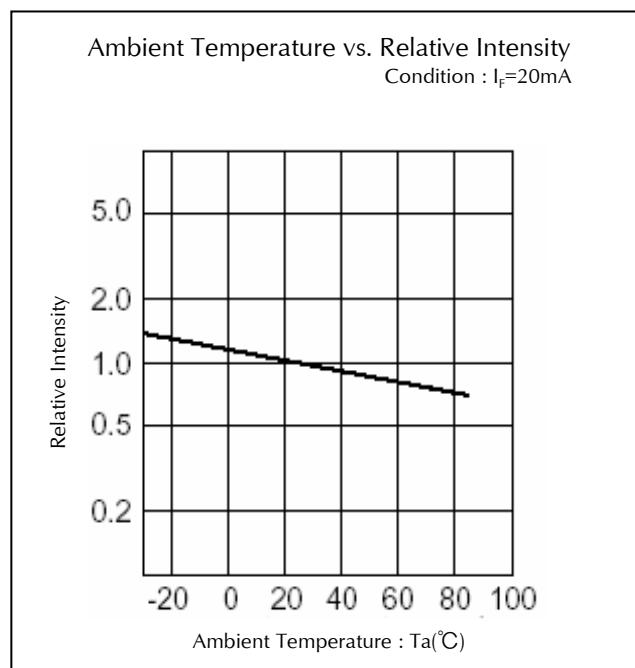
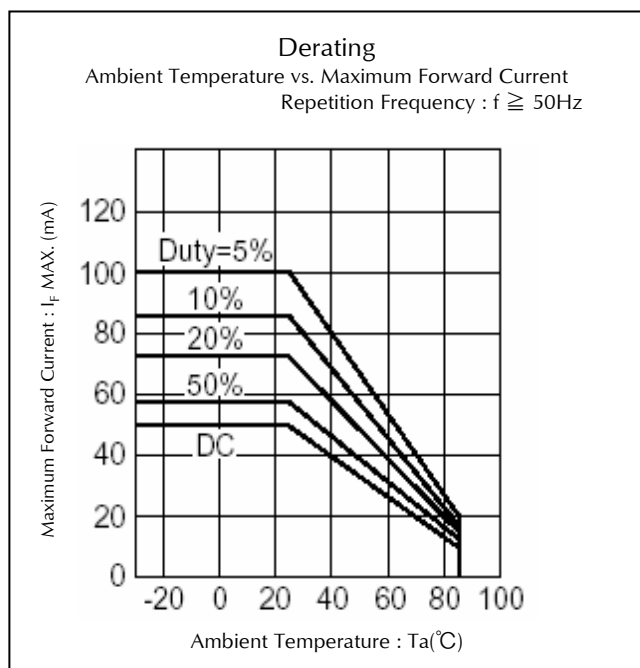




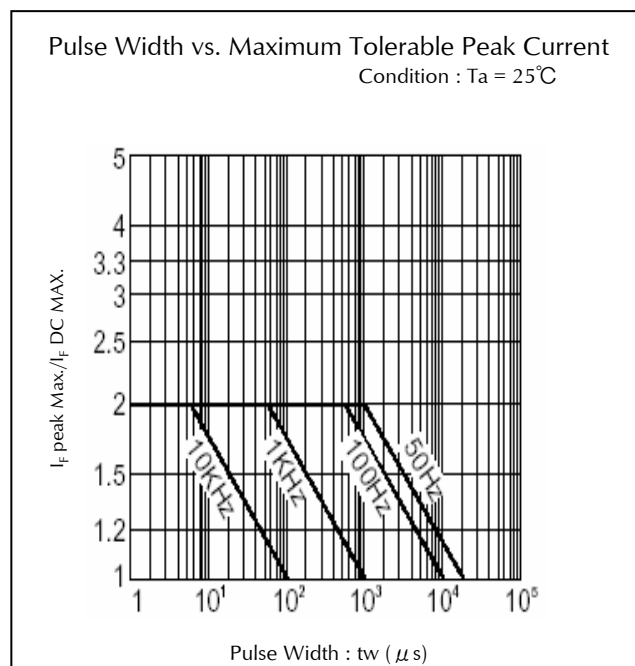
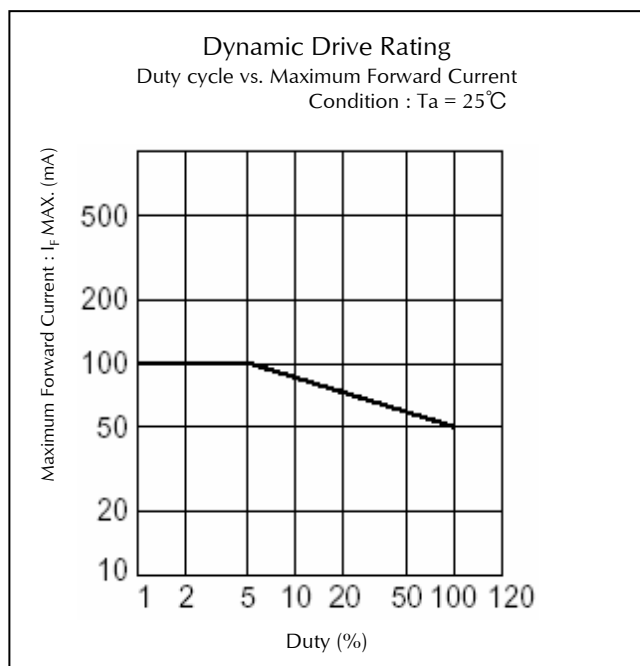
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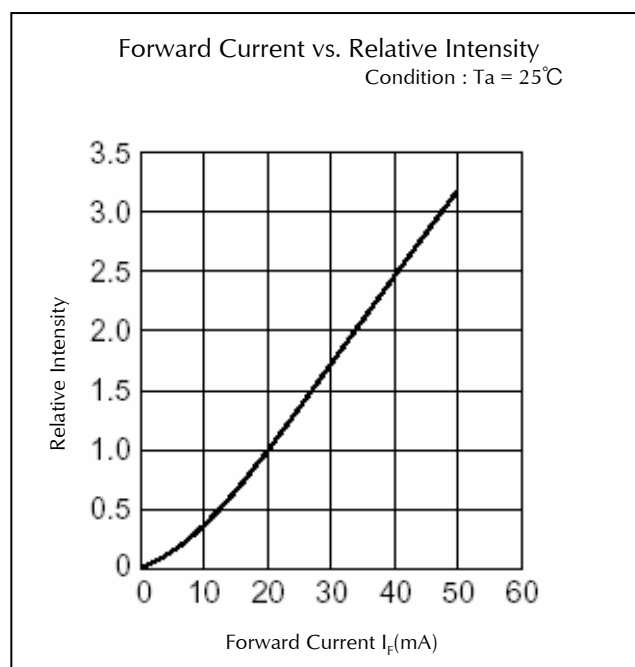
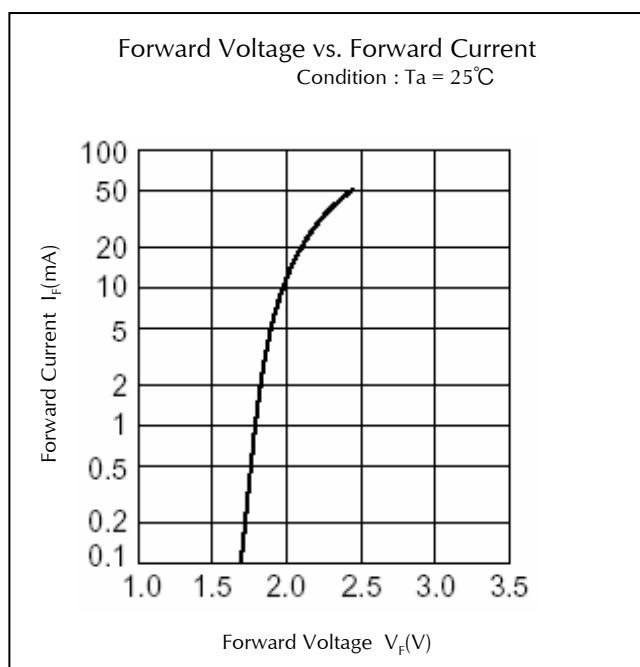
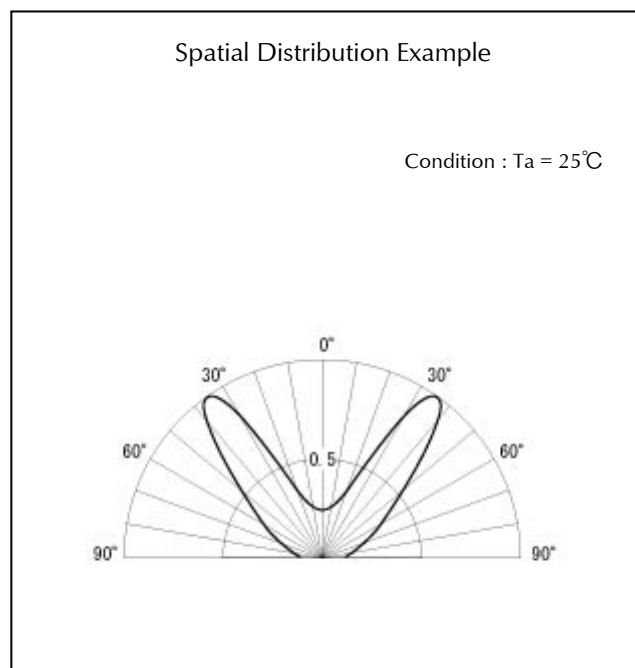
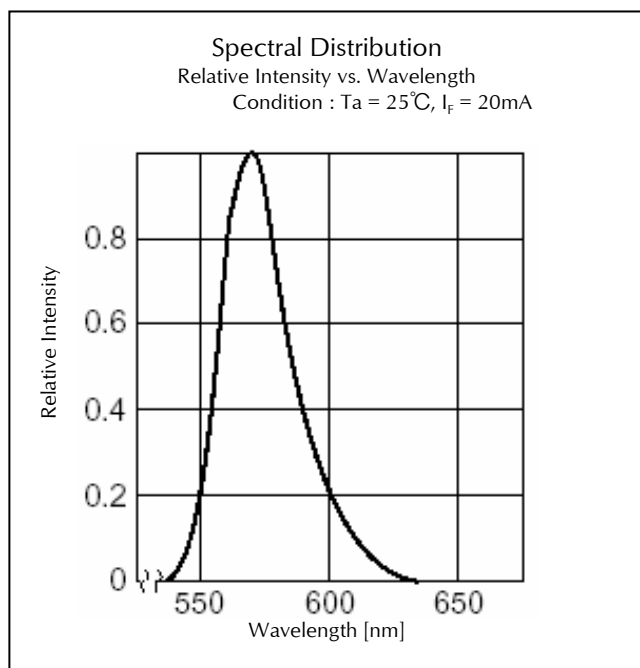
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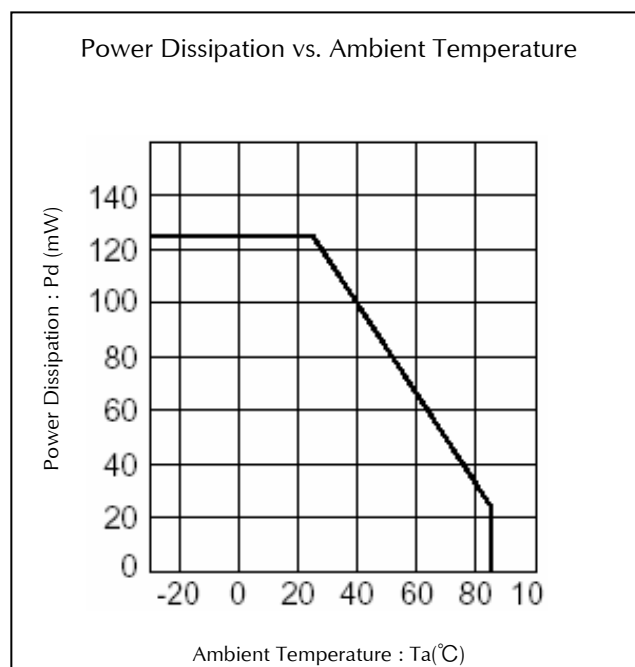
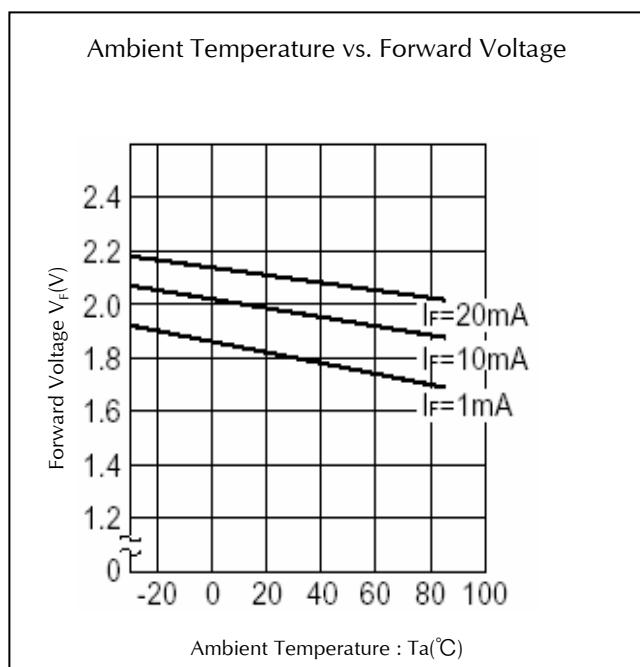
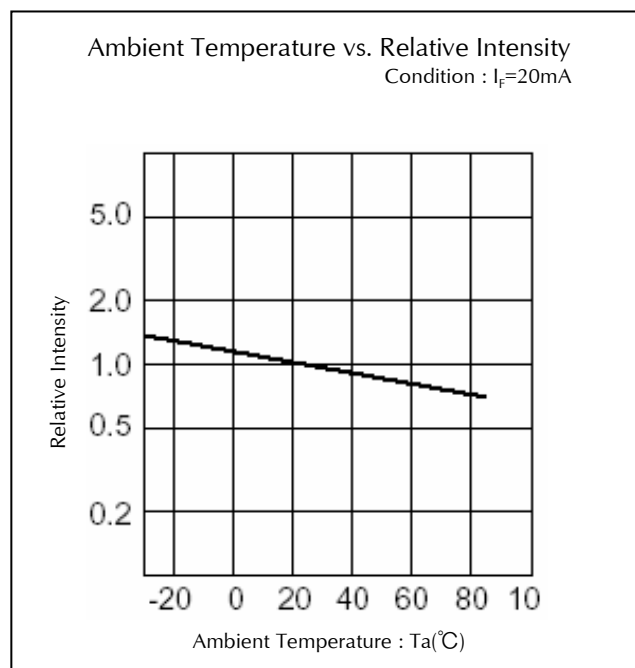
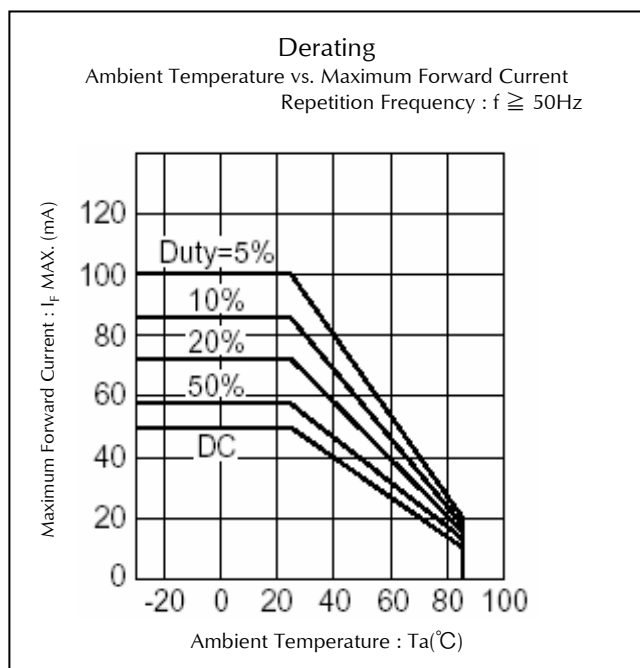
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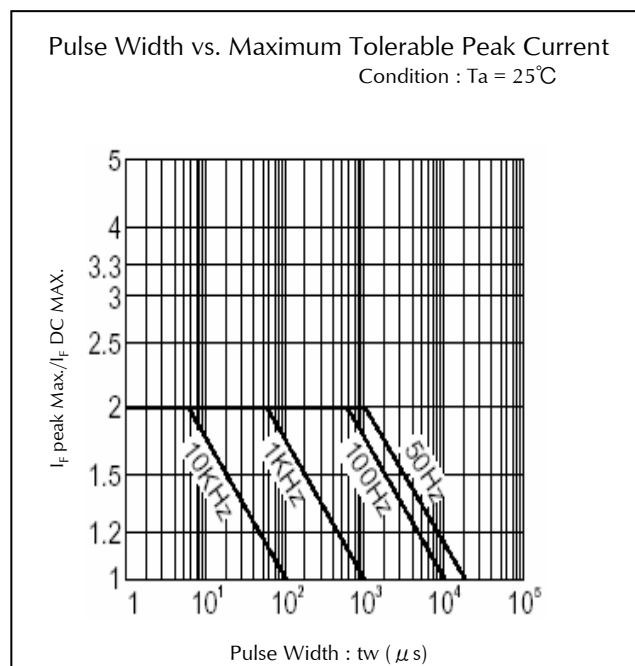
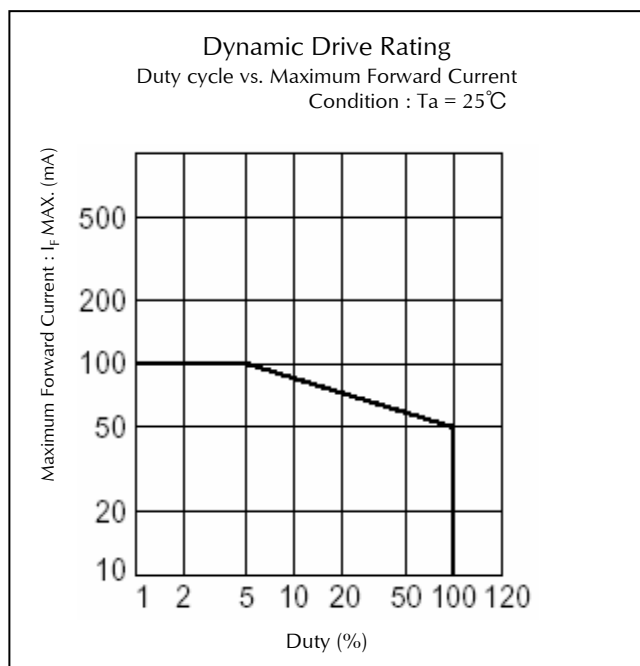
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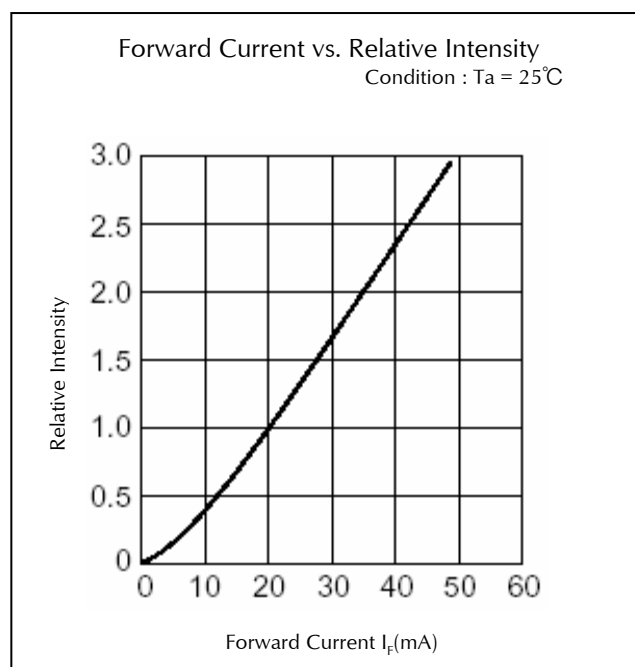
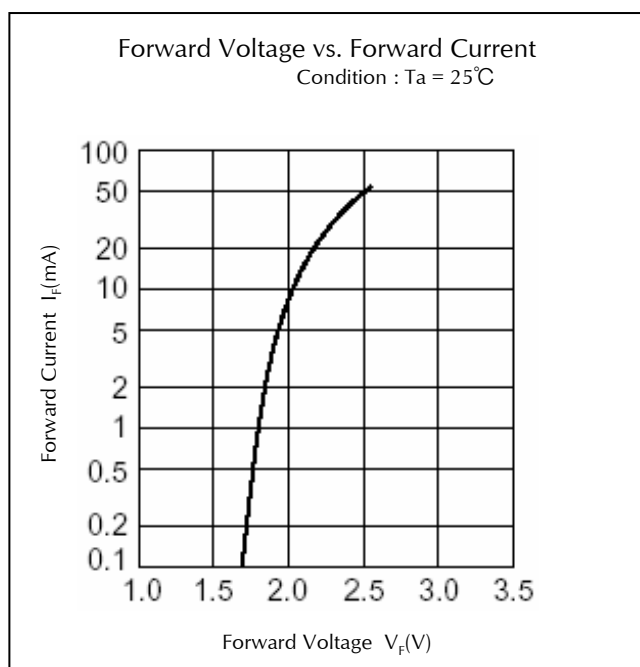
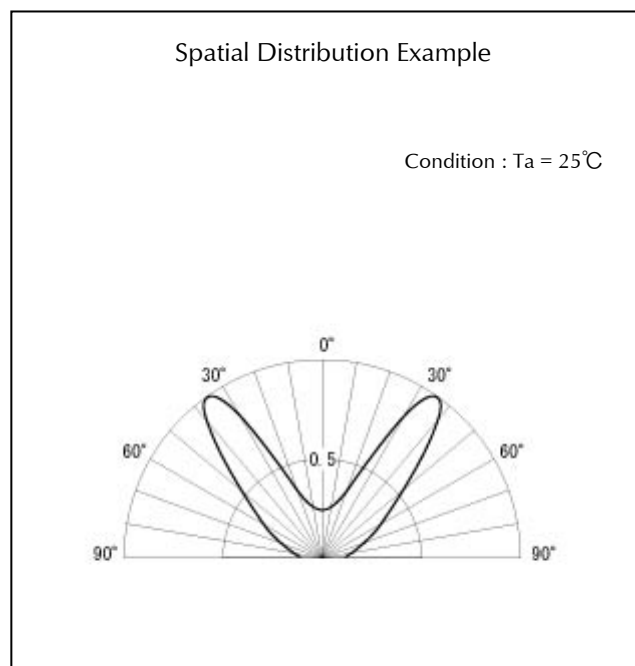
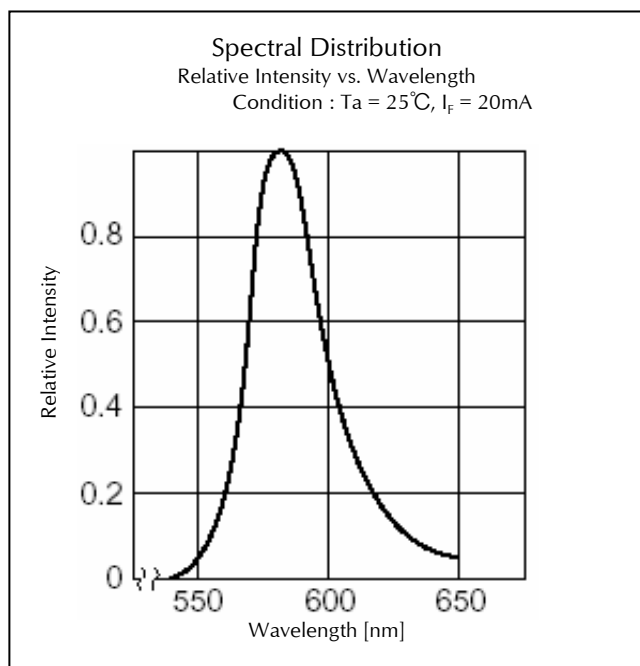
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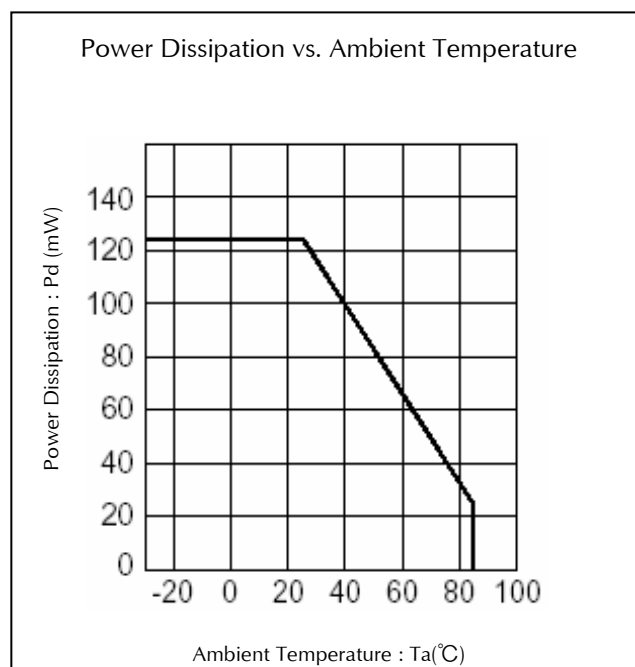
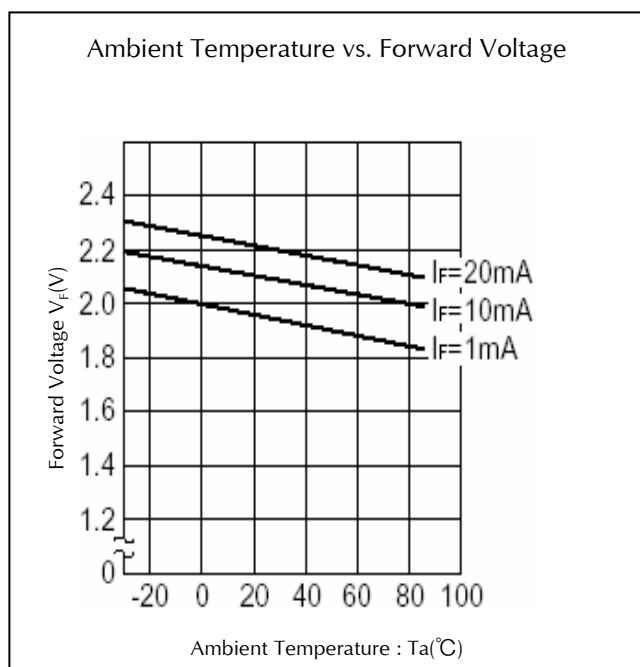
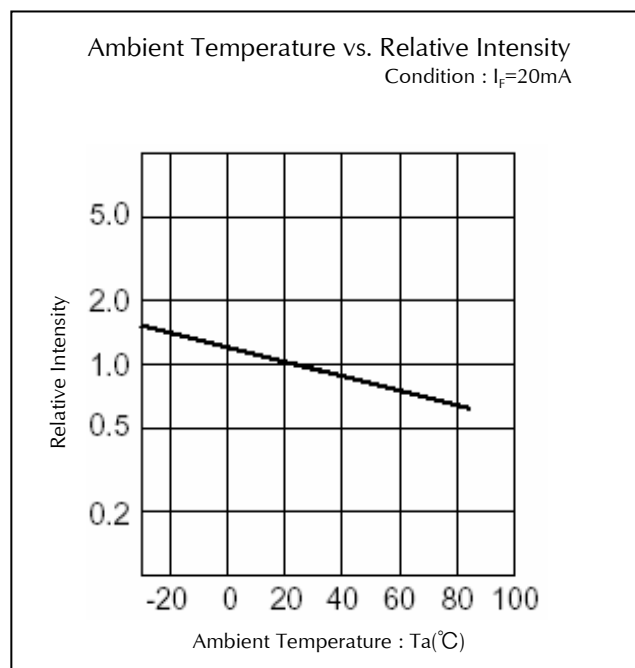
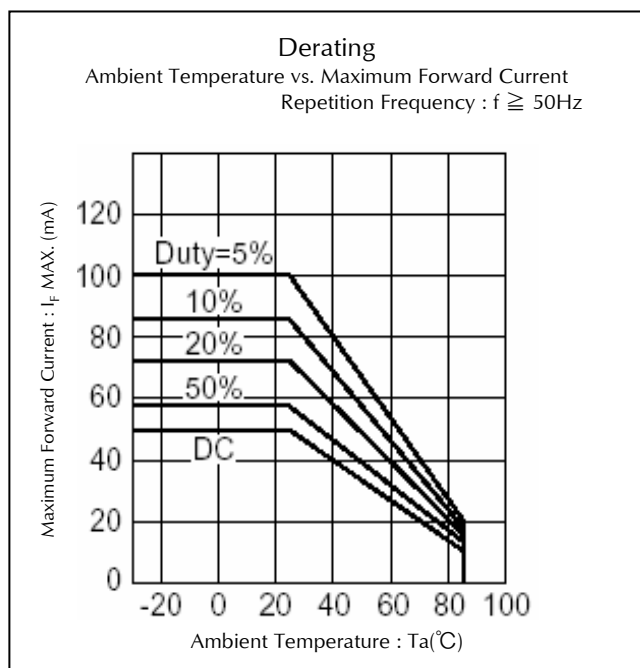
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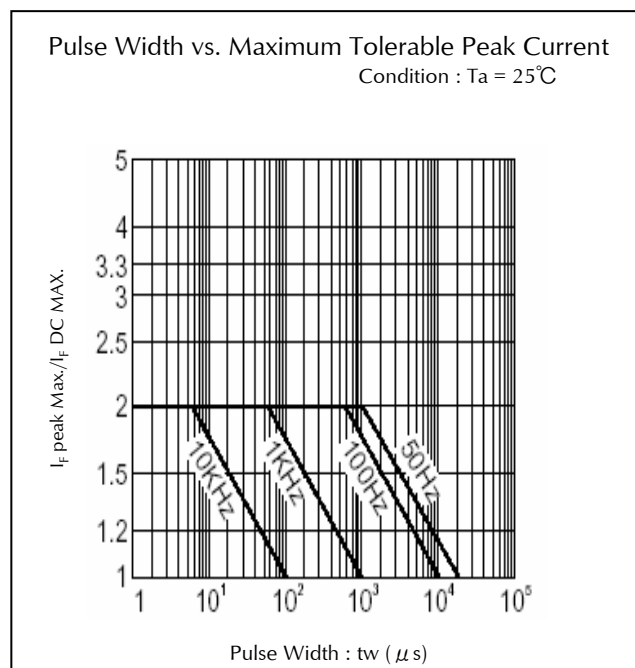
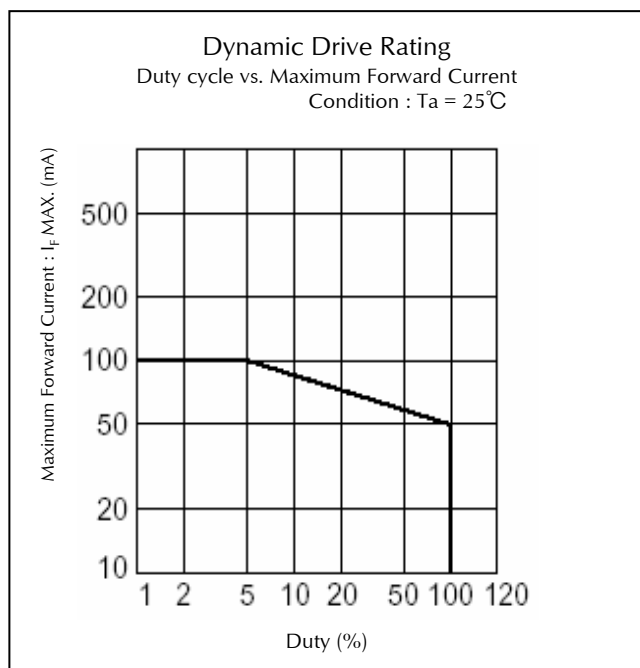


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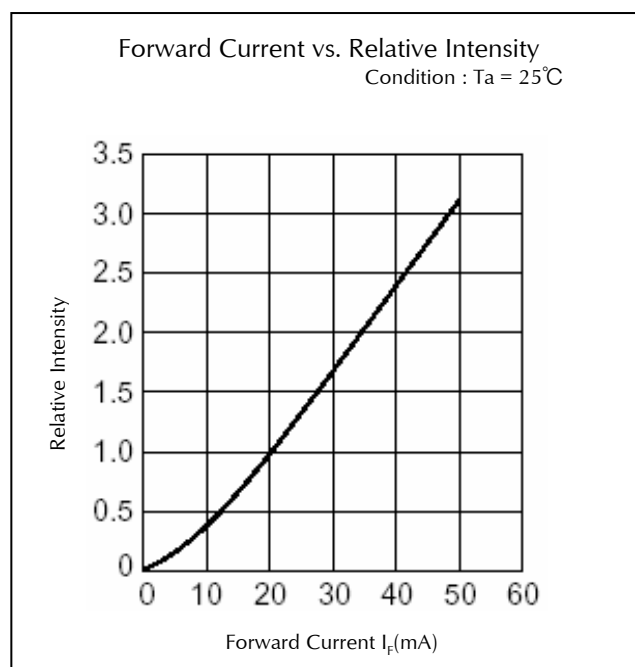
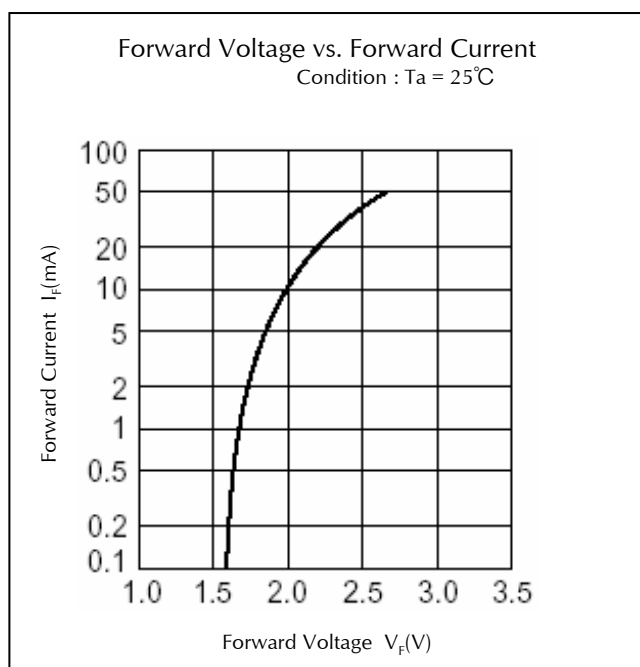
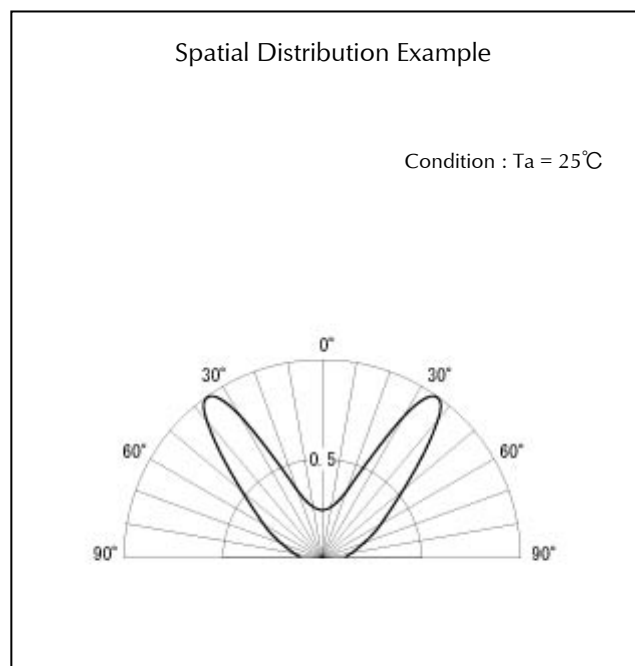
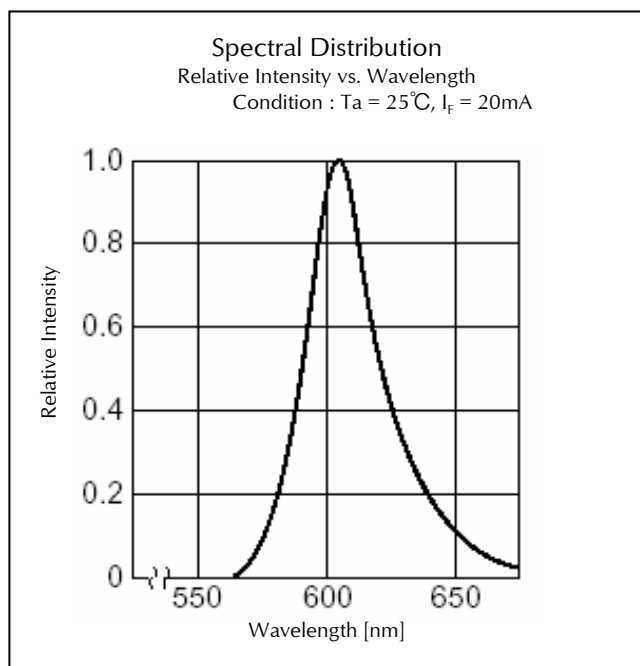




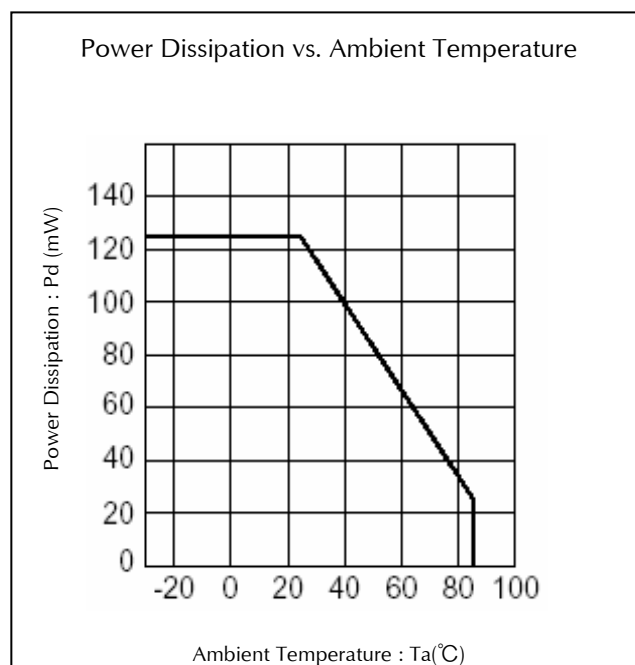
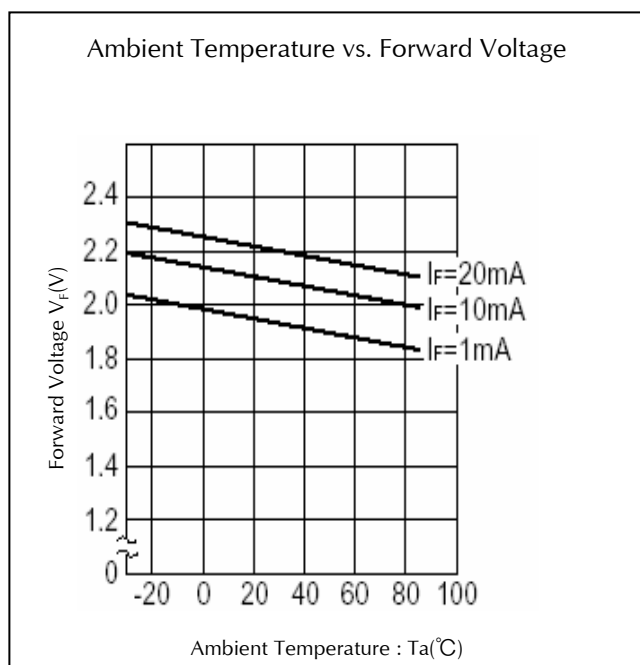
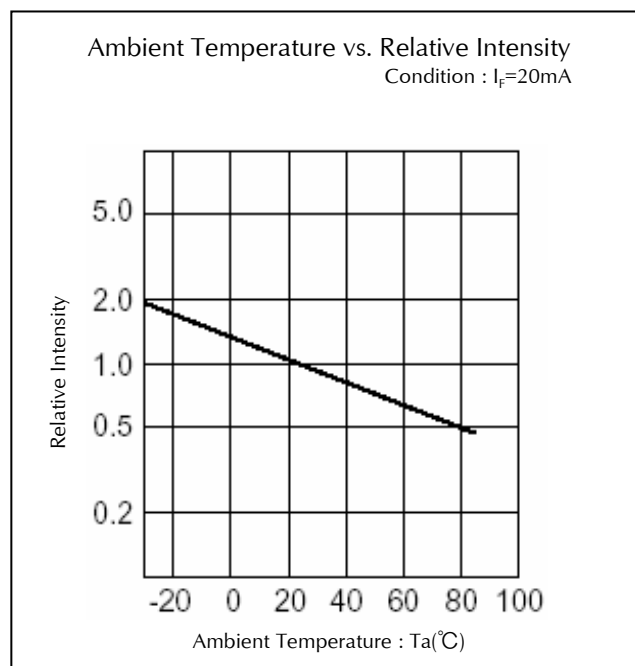
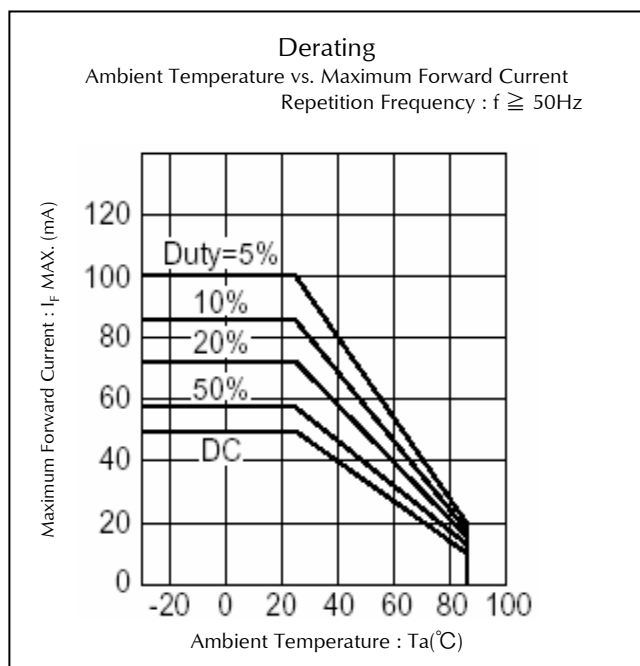
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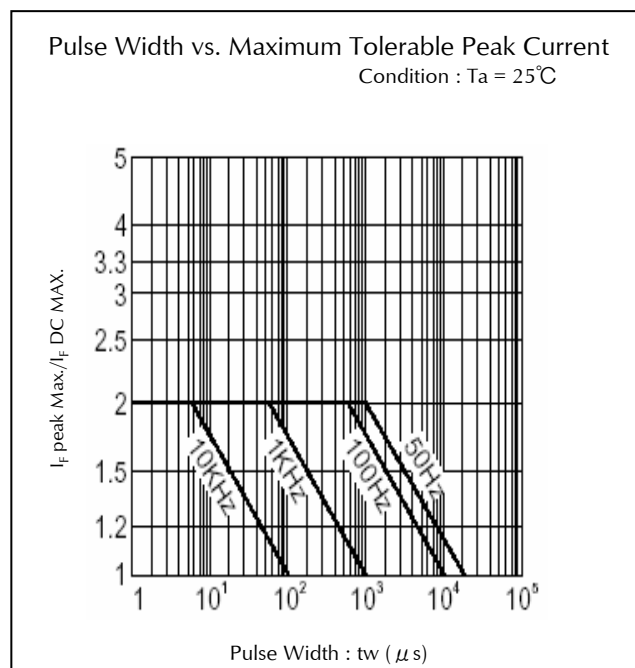
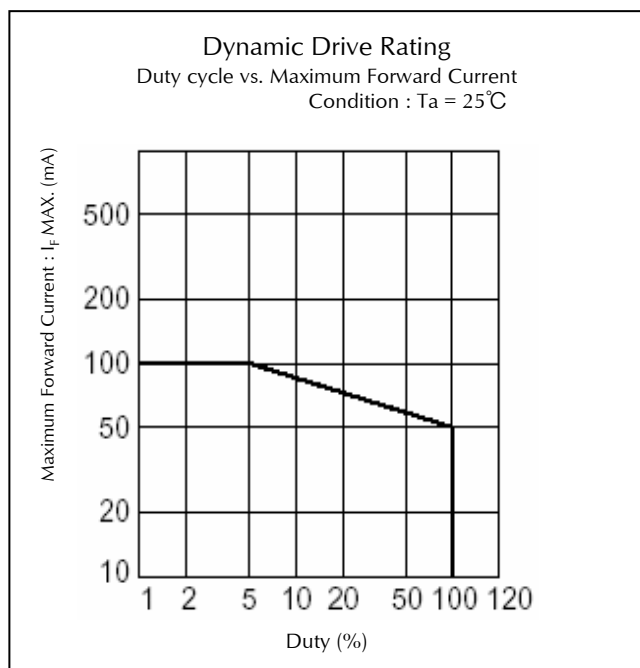
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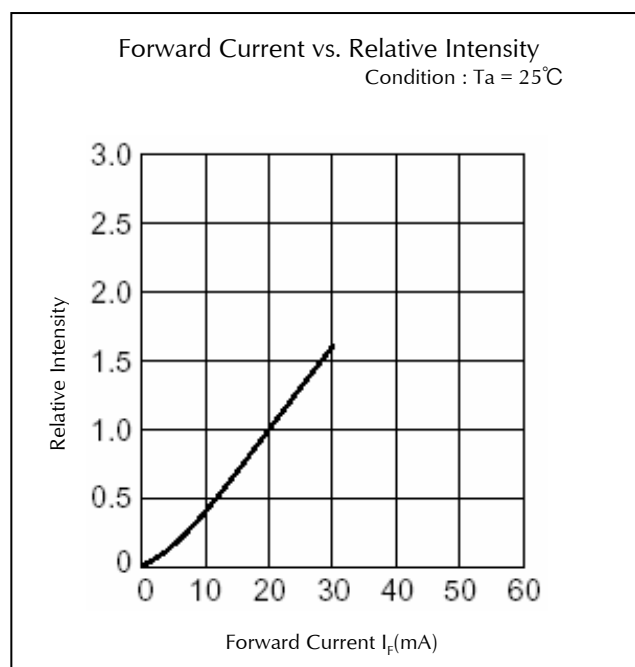
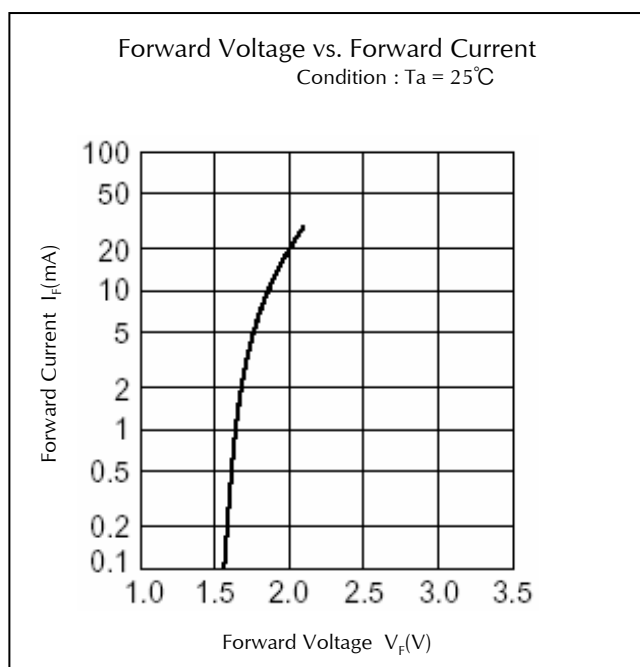
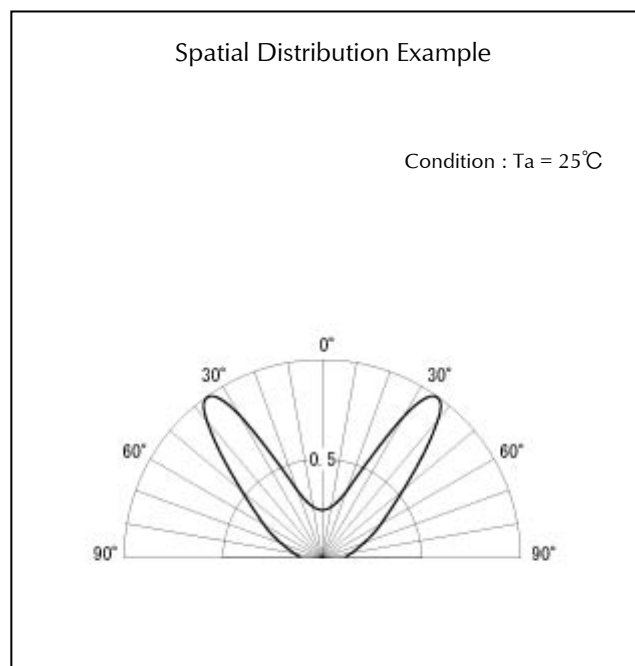
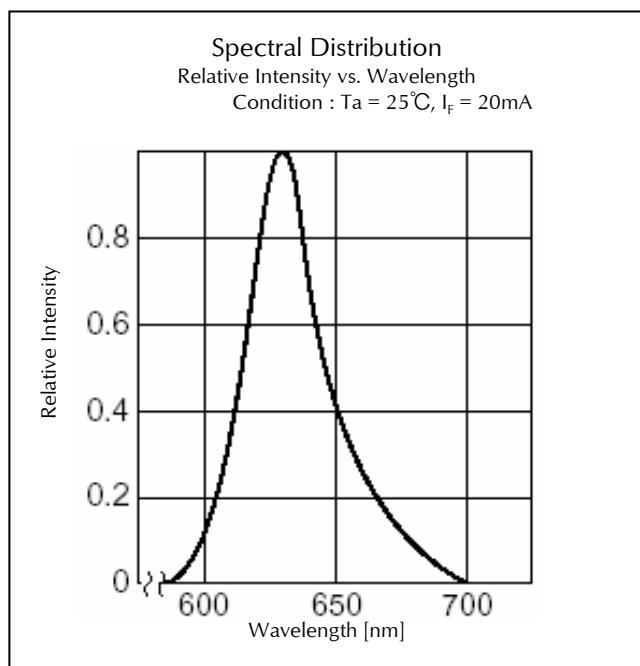
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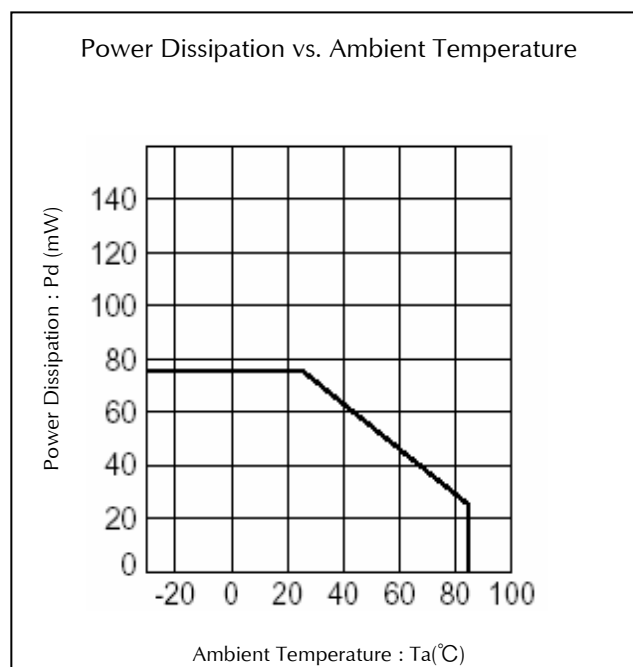
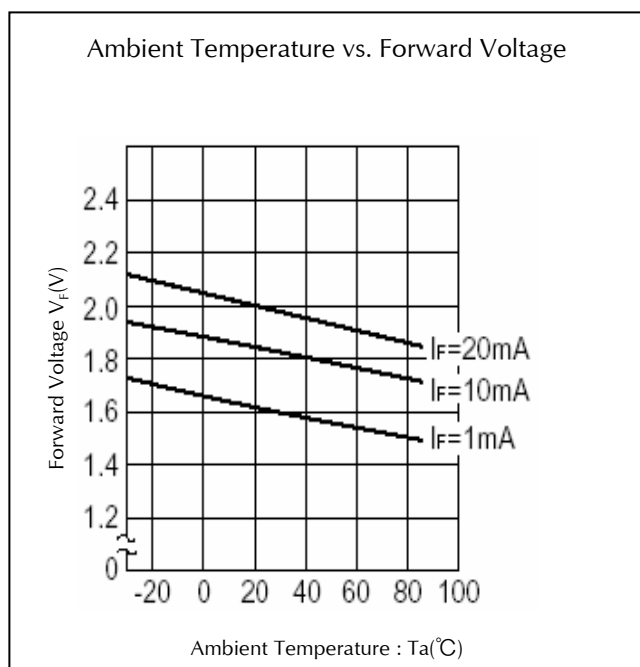
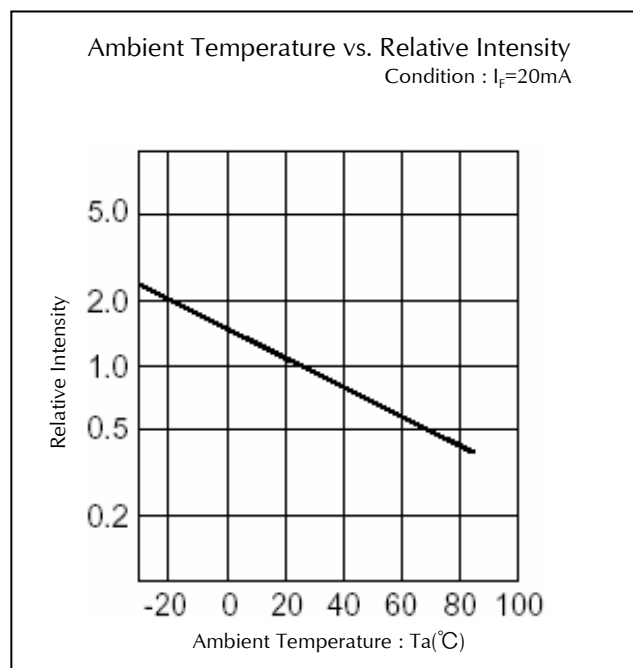
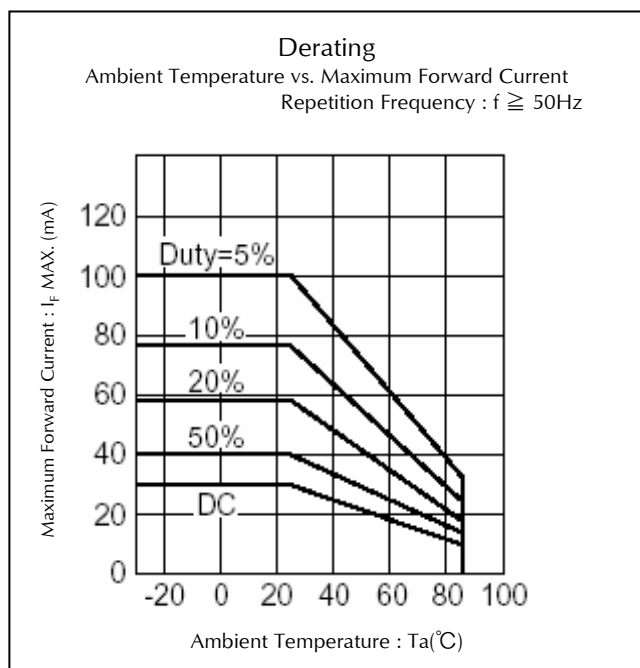
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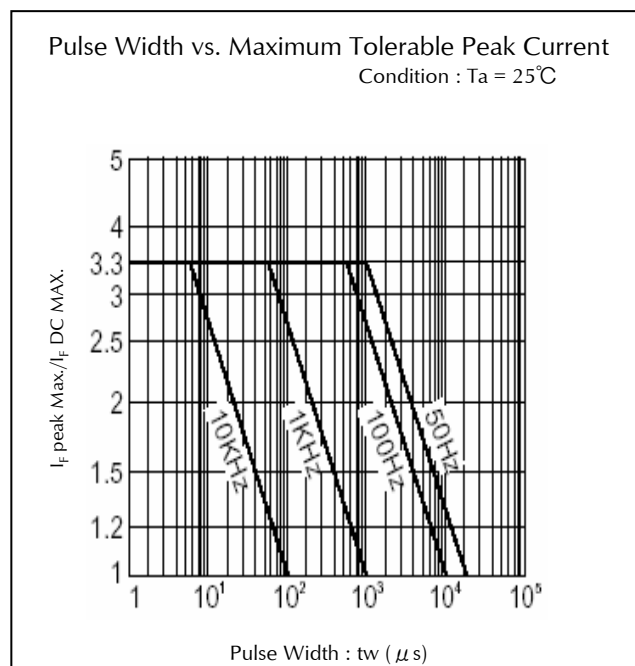
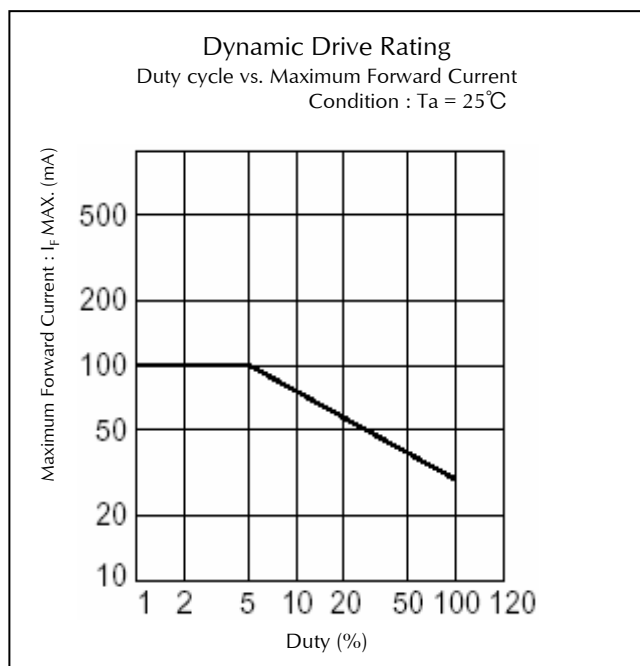
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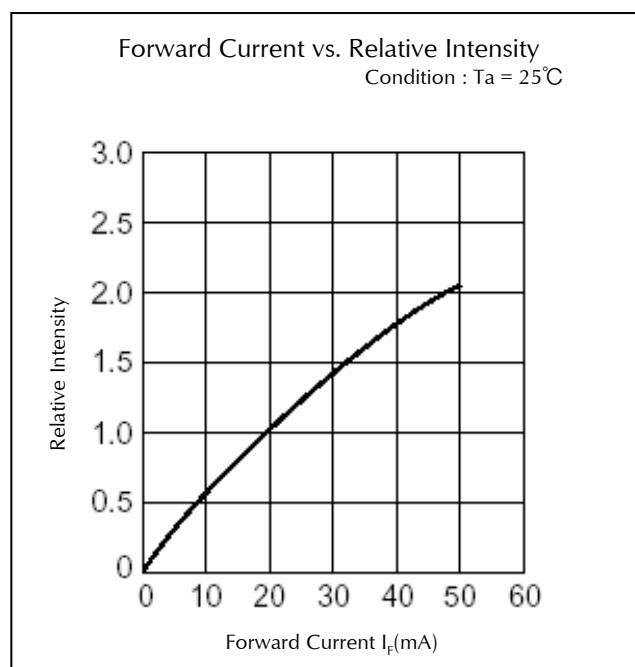
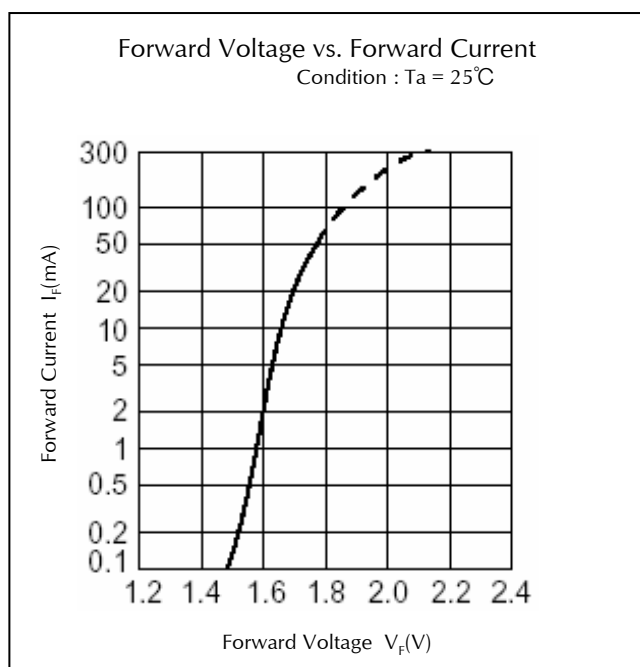
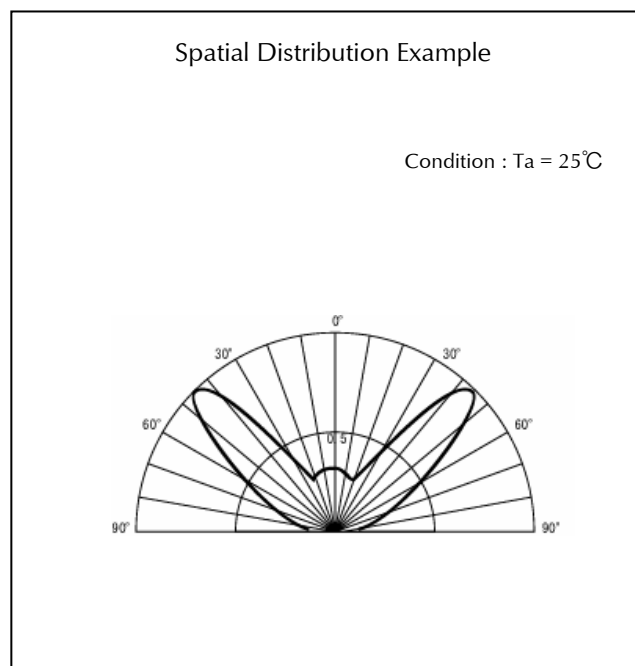
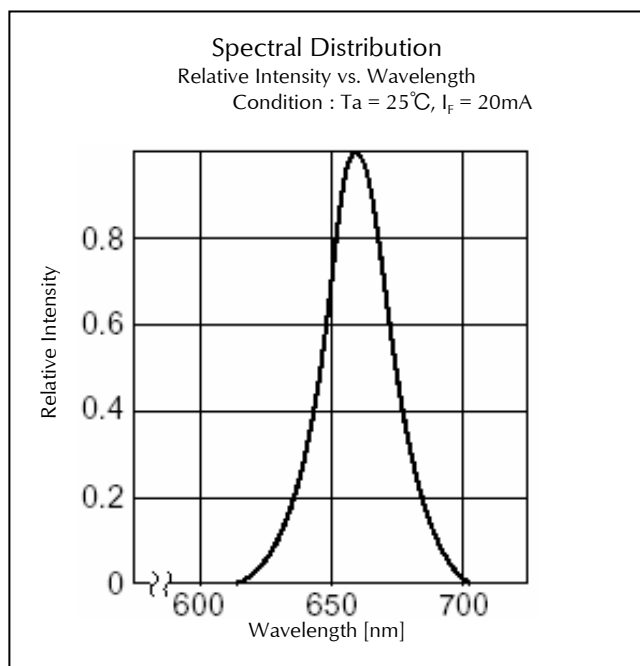
## Technical Data(VR)



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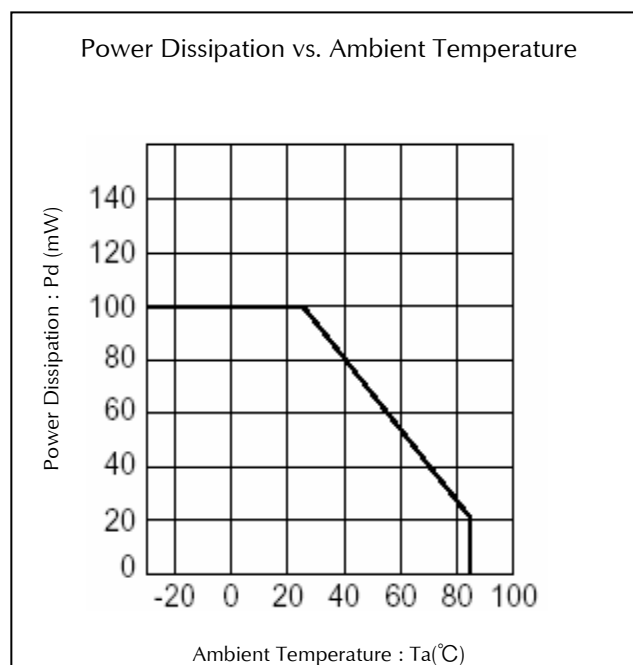
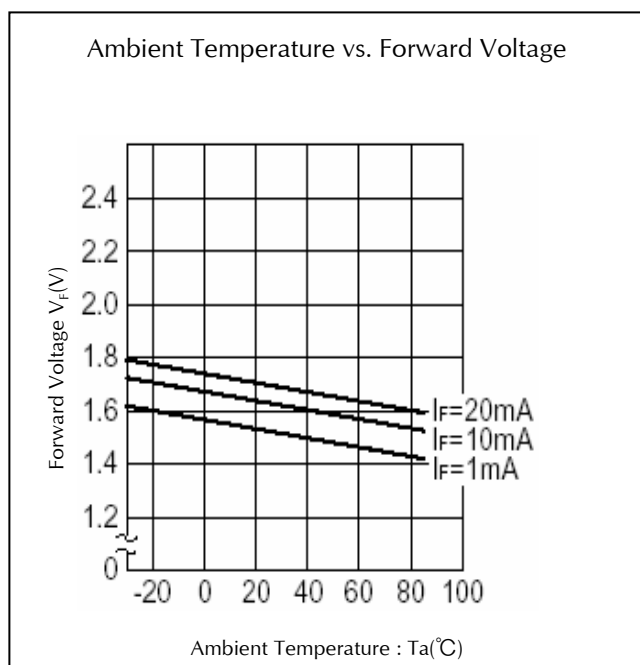
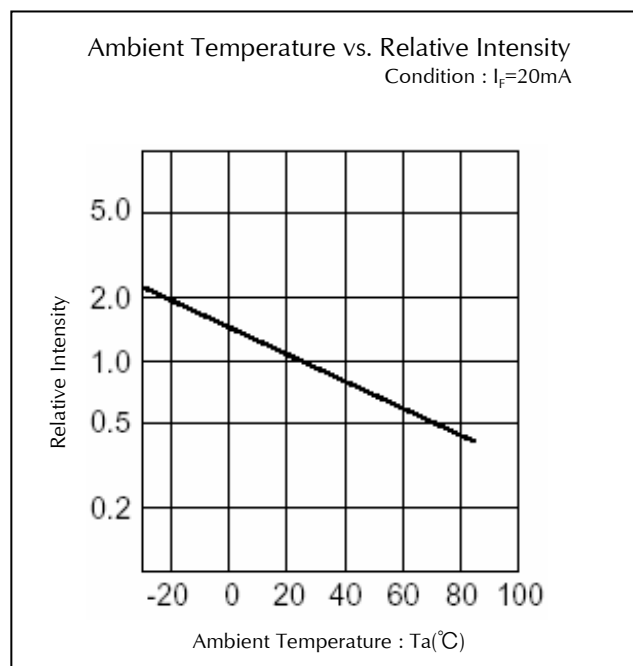
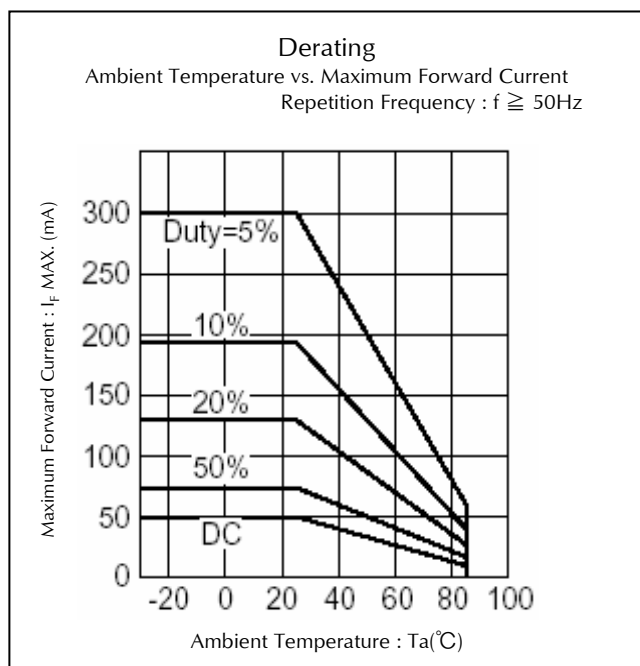


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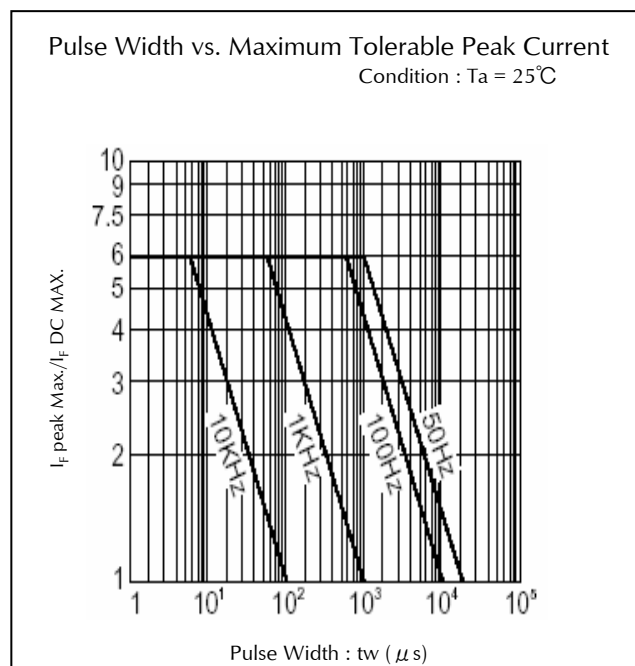
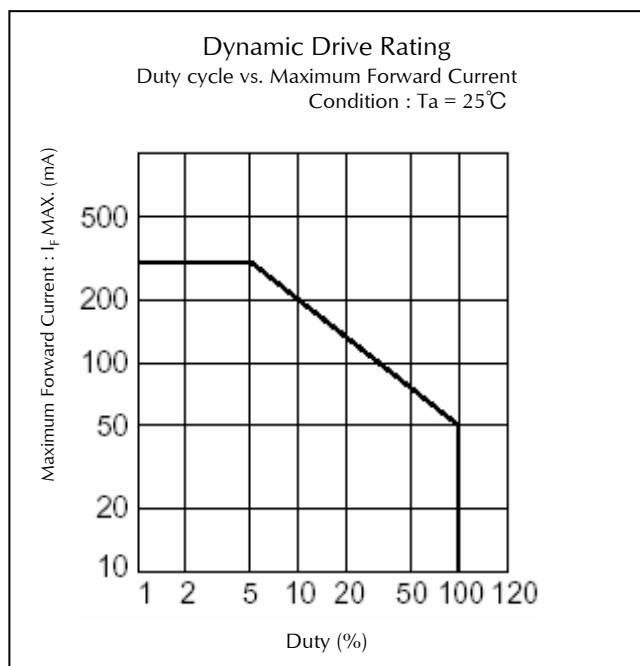




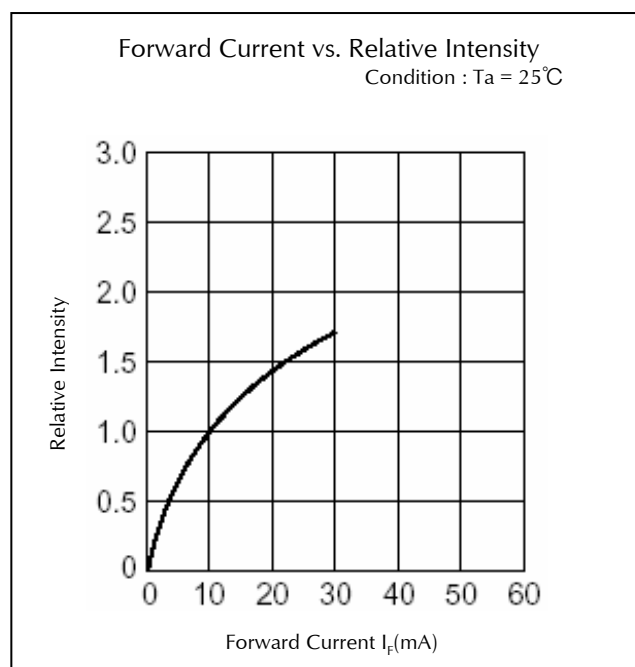
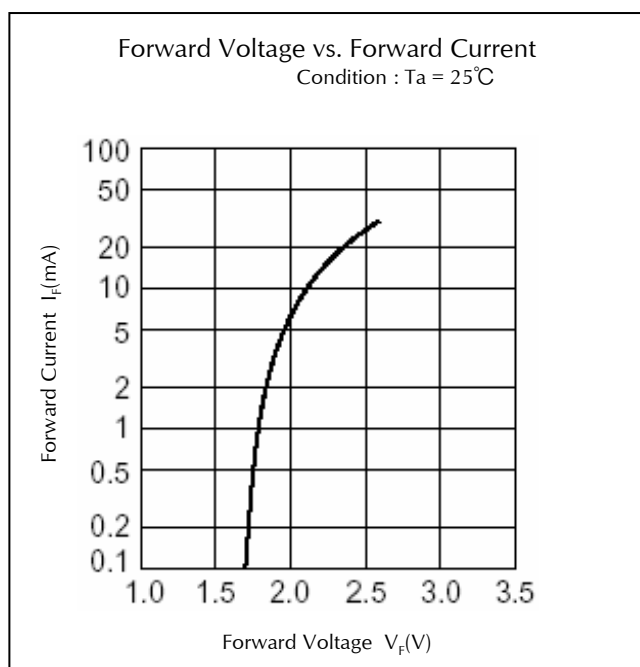
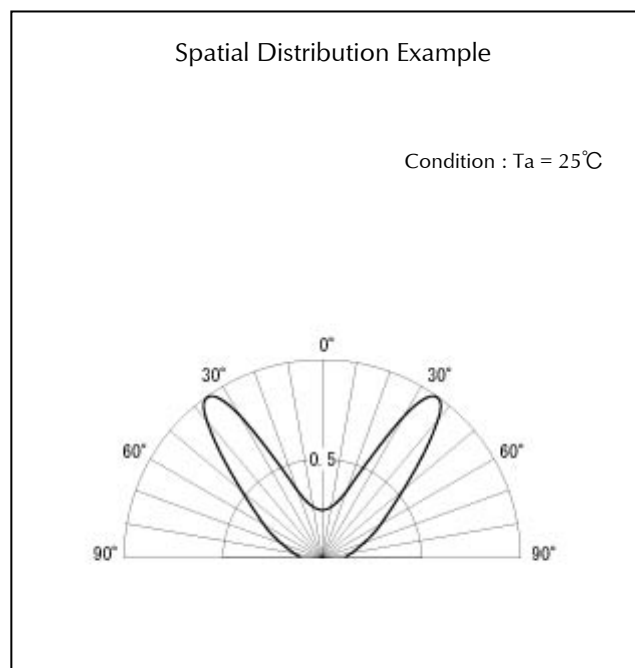
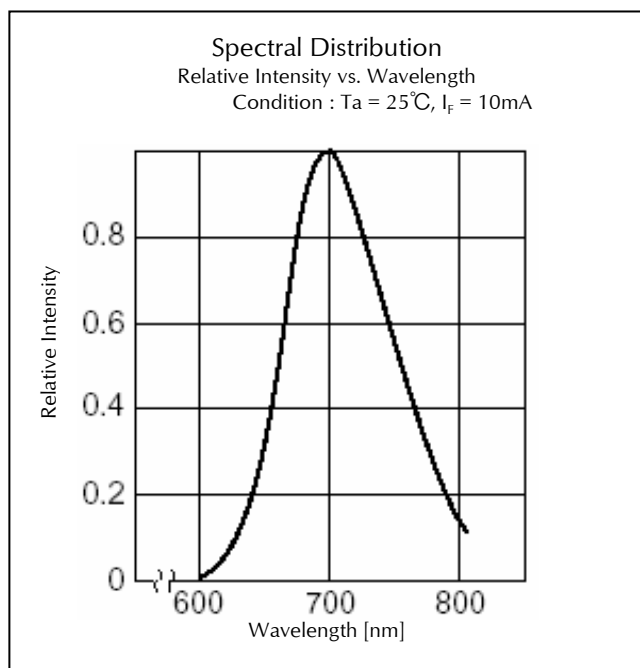
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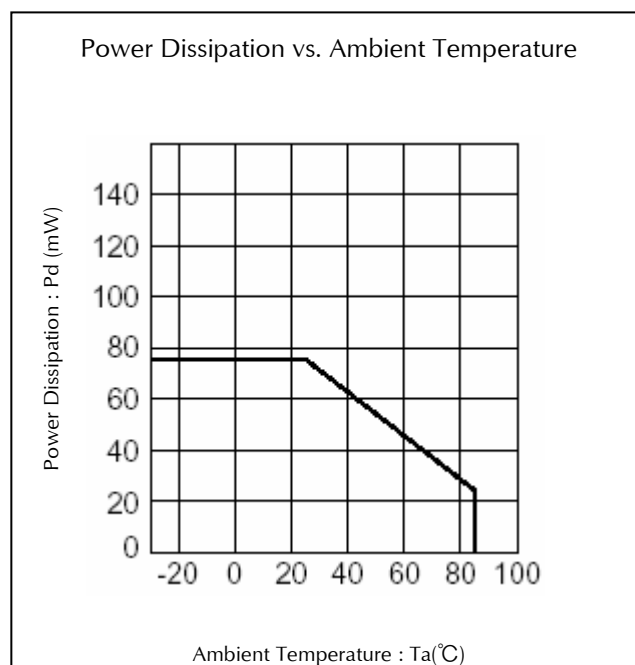
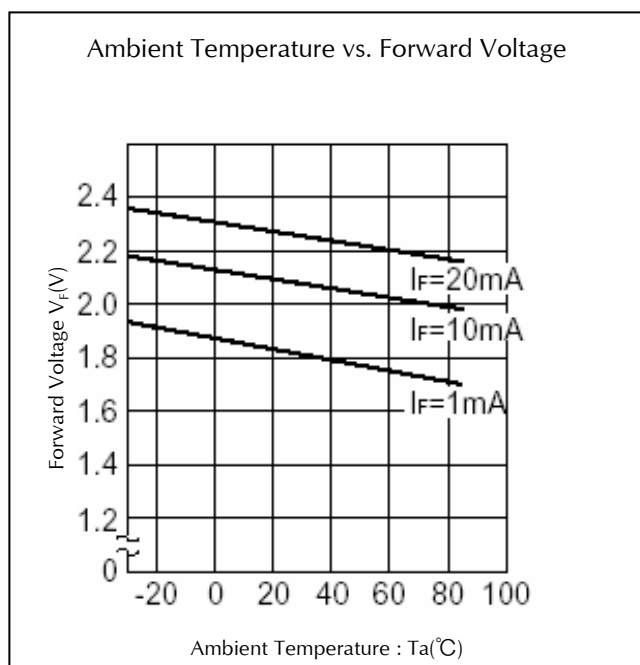
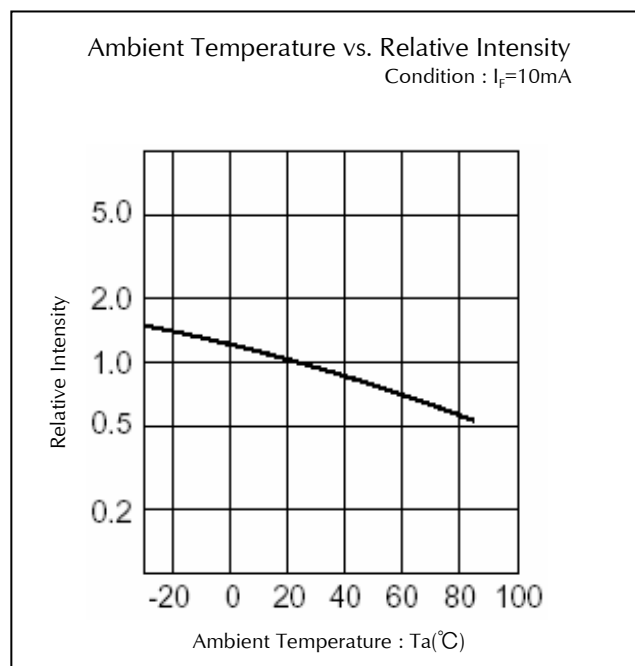
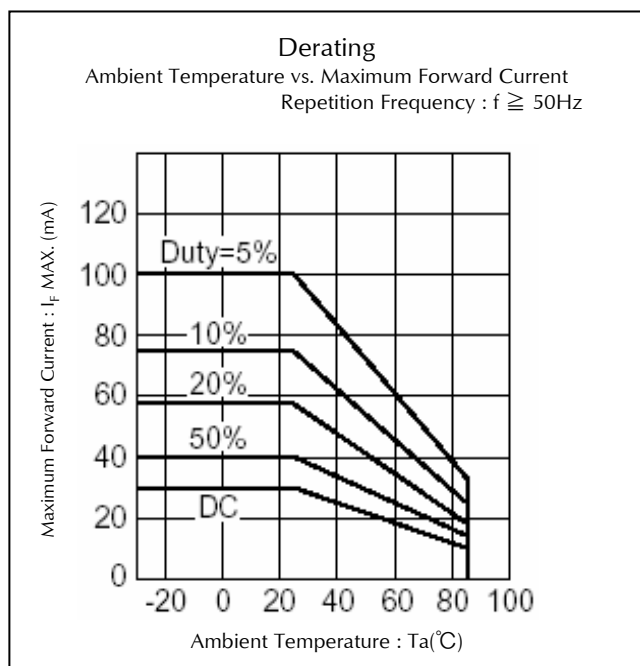
## Technical Data(BR)



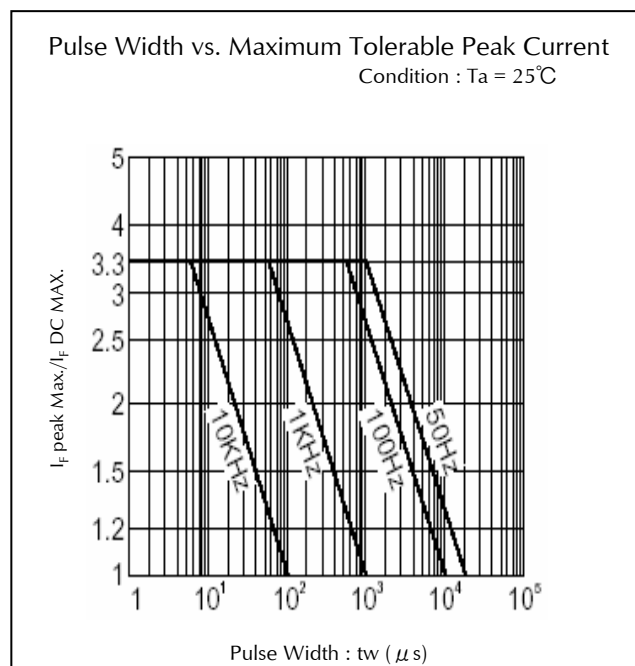
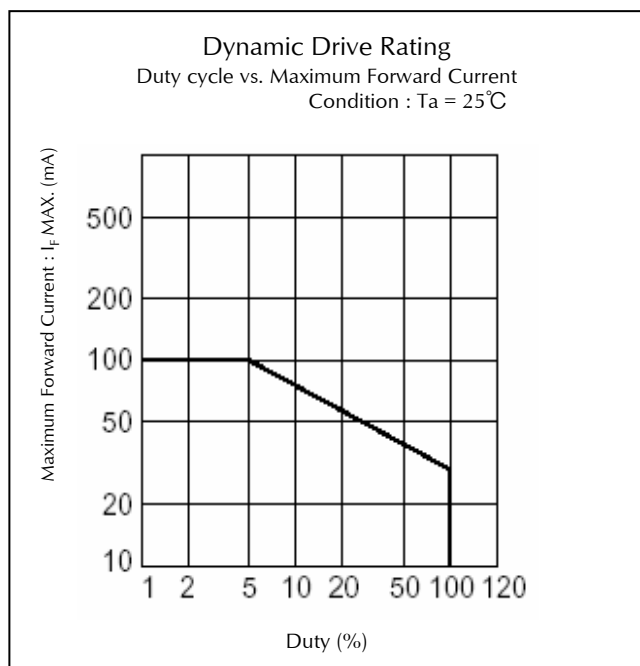
## Technical Data(PR)



## Technical Data(PR)

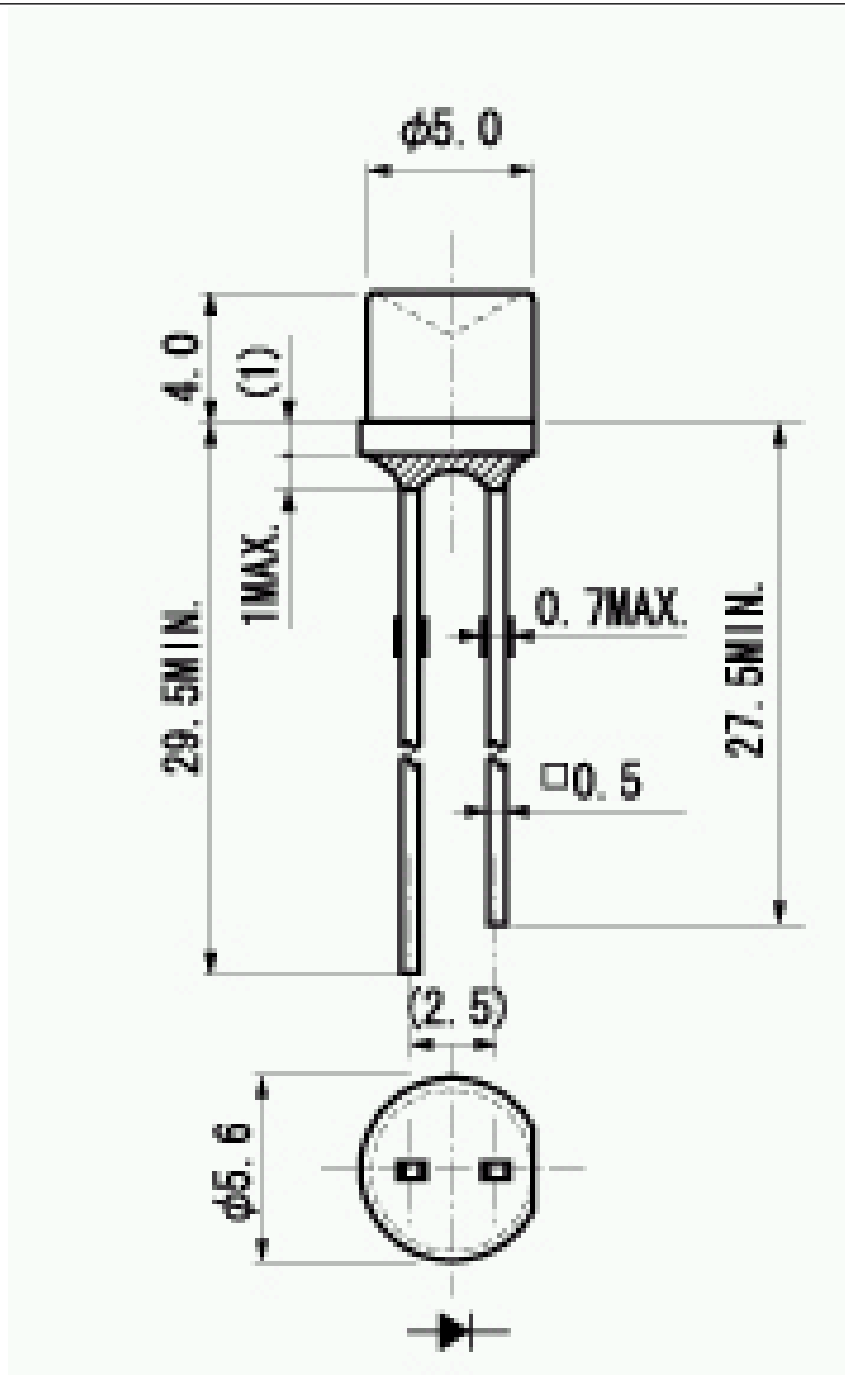


## Technical Data(PR)



## Package Dimensions

(Unit: mm)



## TTW (Through The Wave) soldering Conditions

Pre-heating	100 °C 60 s	(MAX.) (MAX.)
Solder Bath Temp.	265 °C	(MAX.)
Dipping Time	5 s	(MAX.)

- 1) The dip soldering process shall be 2 times maximum.
- 2) The product shall be cooled to normal temperature before the second dipping process.

## Manual Soldering Conditions

Iron tip temp.	400 °C	(MAX.)
Soldering time and frequency	3 s 2 times	(MAX.) (MAX.)

## Reliability Testing Result

Reliability Testing Result	Applicable Standard	Testing Conditions	Duration	Failure
Room Temp. Operating Life	EIAJ ED-4701/100(101)	Ta = 25°C, If = Maximum Rated Current	1,000 h	0/25
Resistance to Soldering Heat	EIAJ ED-4701/300(302)	260±5°C, 3mm from package base	10sec	0/25
Temperature Cycling	EIAJ ED-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	EIAJ ED-4701/100(103)	Ta = 60±2°C, RH = 90±5%	1,000 h	0/25
High Temp. Storage Life	EIAJ ED-4701/200(201)	Ta = Maximum Rated Storage Temperature	1,000 h	0/25
Low Temp. Storage Life	EIAJ ED-4701/200(202)	Ta = Minimum Rated Storage Temperature	1,000 h	0/25
Lead Tension	EIAJ ED-4701/400(401)	10N, 1time (□0.4 and Flat Package : 5N)	10sec	0/10
Vibration, Variable Frequency	EIAJ ED-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	-	-	No notable, decoloration, deformation and cracking



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