

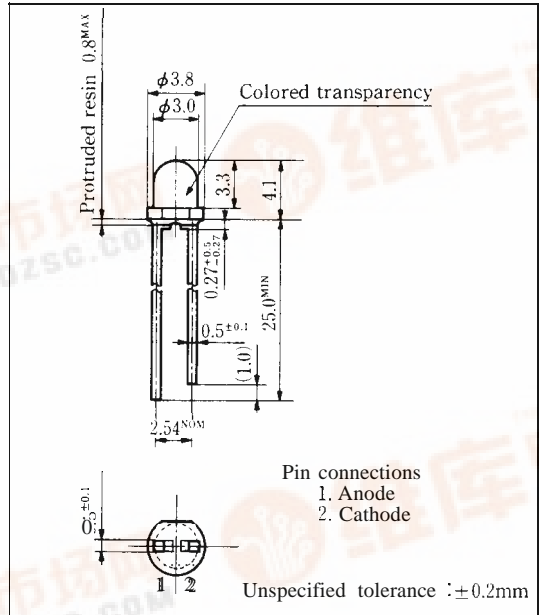
# GL3□□43 Series $\phi$ 3mm(T-1) Cylinder Type LED Lamps

## Model No.

GL3UR43 Red (Super-luminosity)	GaAlAs/GaAlAs
GL3LR43 Red (High-luminosity)	GaAlAs/GaAs
GL3TR43 Red (High-luminosity)	GaAlAs/GaAs
GL3PR43 Red	GaP
GL3HD43 Red	GaAsP/GaP
GL3HS43 Sunset orange	GaAsP/GaP
GL3HY43 Yellow	GaAsP/GaP
GL3EG43 Yellow-green	GaP
GL3KG43 Green	GaP

## Outline Dimensions

(Unit: mm)



## Features

- $\phi$ 3mm(T-1) all resin mold
- Colored transparency lens type
- Wide viewing angle

## Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	GL3UR43	GL3LR43	GL3TR43	GL3PR43	GL3HD43	GL3HS43	GL3EG43	Unit
Power dissipation	P	75	110	23	84	84			mW
Continuous forward current	I <sub>F</sub>	30	50	10	30	30			mA
※1 Peak forward current	I <sub>FM</sub>	50	300	50	50	50			mA
Derating factor	DC	—	0.40	0.67	0.13	0.40	0.40		mA/°C
	Pulse	—	0.67	4.00	0.67	0.67	0.67		mA/°C
Reverse voltage	V <sub>R</sub>	4	5	5	5	5			V
Operating temperature	T <sub>opr</sub>	-25 to +85							°C
Storage temperature	T <sub>stg</sub>	-25 to +100							°C
※2 Soldering temperature	T <sub>sol</sub>	260(within 5 seconds)							°C

※1 Duty ratio = 1/10, Pulse width = 0.1ms

Duty ratio = 1/10, Pulse width  $\leq$  1ms for GL3LR43 and GL3TR43

※2 At the position of 1.6mm from the bottom face of resin package

GL3UR43 (Red)

■ Electro-optical Characteristics

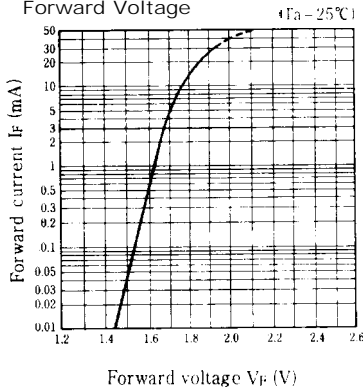
(Ta=25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	$V_F$	GL3UR43	$I_F = 20\text{mA}$	-	185	2.5	V
*3 Luminous intensity	$I_v$	GL3UR43	$I_F = 20\text{mA}$	50	100	-	mcd
Peak emission wavelength	$\lambda_p$	GL3UR43	$I_F = 20\text{mA}$	-	660	-	nm
Spectrum radiation bandwidth	$\Delta\lambda$	GL3UR43	$I_F = 20\text{mA}$	-	20	-	nm
Reverse current	$I_R$	GL3UR43	$V_R = 3\text{V}$	-	-	100	$\mu\text{A}$
Terminal capacitance	$C_t$	GL3UR43	$V = 0\text{V}$ $f = \text{MHz}$	-	25	-	pF
Response frequency	$f_c$	GL3UR43	-	-	8	-	MHz

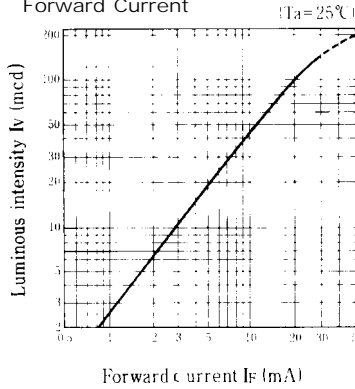
\*3 Tolerance:  $\pm 30\%$

■ Characteristics Diagrams

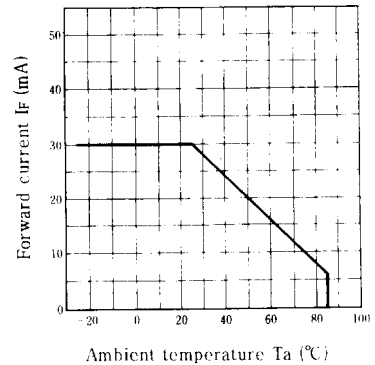
Forward Current vs. Forward Voltage



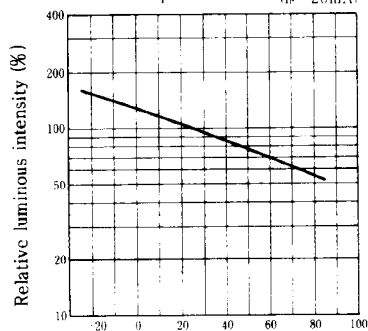
Luminous Intensity vs. Forward Current



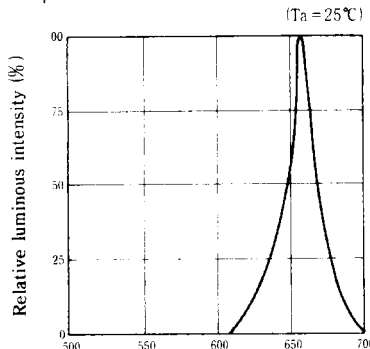
Forward Current Derating Curve



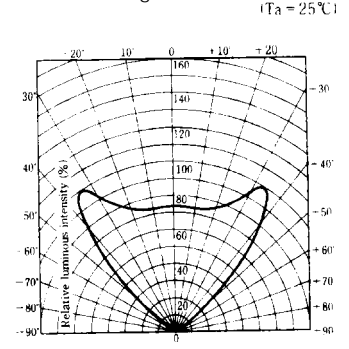
Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



Radiation Diagram



GL3LR43 (Red) / GL3TR43 (Red)

Electro-optical Characteristics

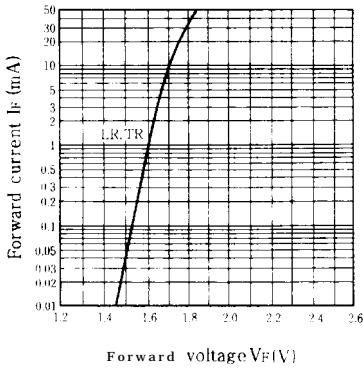
(Ta=25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V <sub>F</sub>	GL3LR43	I <sub>F</sub> =20mA	—	1.75	2.2	V
		GL3TR43	I <sub>F</sub> =20mA	—	1.75	2.2	
※3 Luminous intensity	I <sub>V</sub>	GL3LR43	I <sub>F</sub> =20mA	20	40	—	‘cd
		GL3TR43	I <sub>F</sub> =20mA	10	20	—	
Peak emission wavelength	λ <sub>p</sub>	GL3LR43	I <sub>F</sub> =20mA	—	660	—	‘m
		GL3TR43	I <sub>F</sub> =20mA	—	660	—	
Spectrum radiation bandwidth	Δλ	GL3LR43	I <sub>F</sub> =20mA	—	20	—	‘m
		GL3TR43	I <sub>F</sub> =20mA	—	20	—	
Reverse current	I <sub>R</sub>	GL3LR43	V <sub>R</sub> =4V	—	—	10	μA
		GL3TR43	V <sub>R</sub> =4V	—	—	10	
Terminal capacitance	C <sub>t</sub>	GL3LR43	V=0V f=1MHz	—	30	—	pF
		GL3TR43	V=0V f=1MHz	—	30	—	
Response frequency	f <sub>c</sub>	GL3LR43	—	—	8	—	MHz
		GL3TR43	—	—	8	—	

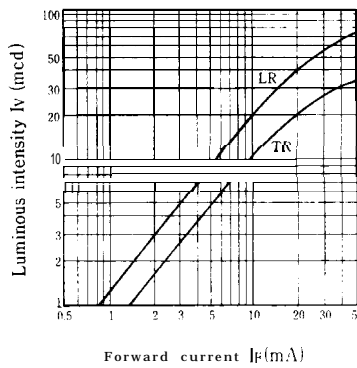
※3 Tolerance: ±30%

Characteristics Diagrams

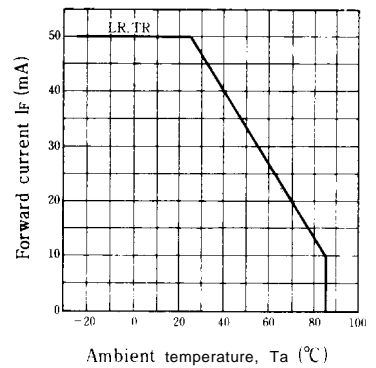
Forward Current vs. Forward Voltage (Ta=25°C)



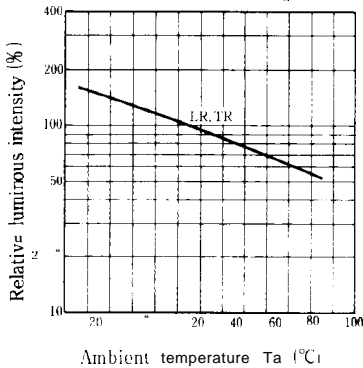
Luminous Intensity vs. Forward Current (Ta=25°C)



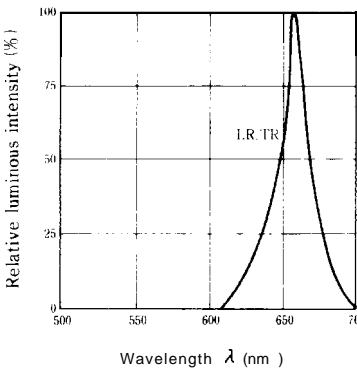
Forward Current Derating Curve



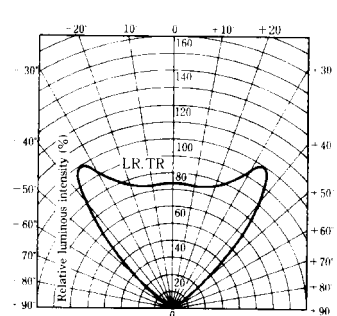
Relative Luminous Intensity vs. Ambient Temperature (If=20mA)



Spectrum Distribution (Ta=25°C)



Radiation Diagram (Ta=25°C)



GL3PR43 (Red) / GL3HD43 (Red)

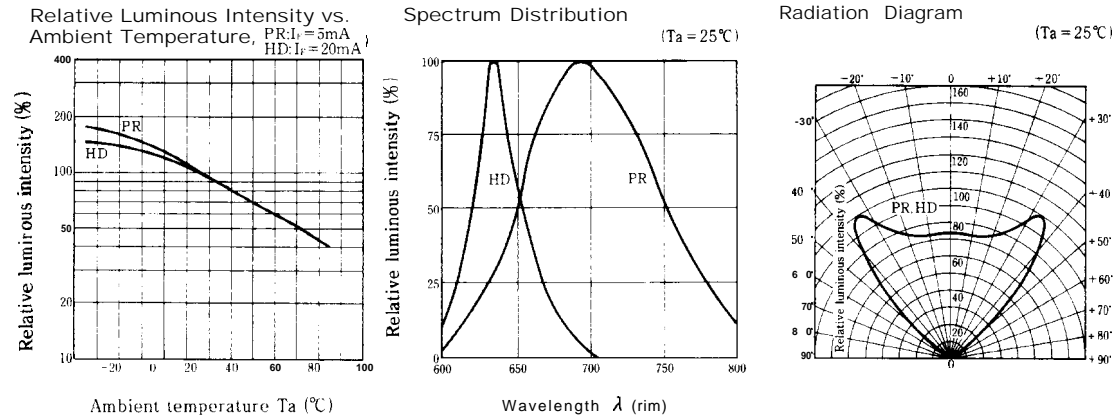
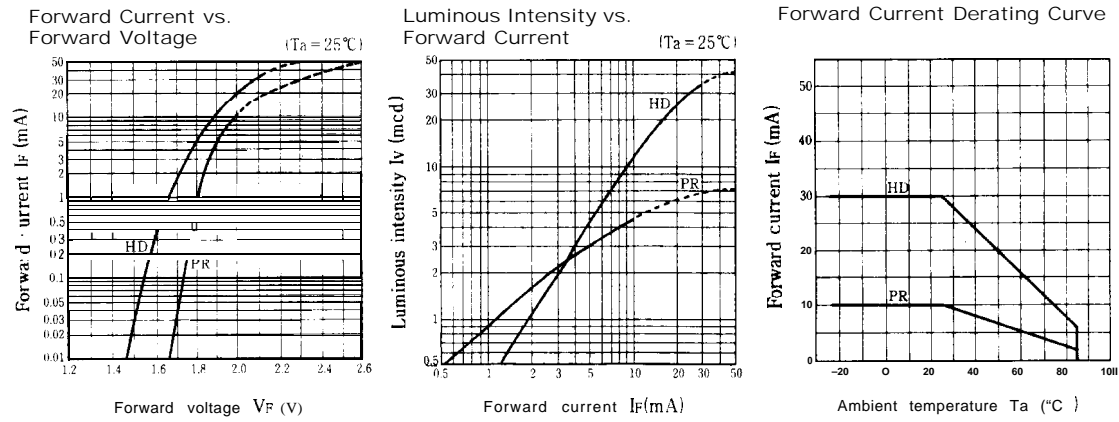
■ Electro-optical Characteristics

(Ta = 25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V <sub>F</sub>	GL3PR43	I <sub>F</sub> = 5mA	—	1.9	2.3	V
		GL3HD43	I <sub>F</sub> = 20mA	—	2.0	2.8	
*3 Luminous intensity	I <sub>V</sub>	GL3PR43	I <sub>F</sub> = 5mA	1.0	3.0	—	mcd
		GL3HD43	I <sub>F</sub> = 20mA	7.0	25	—	
Peak emission wavelength	λ <sub>p</sub>	GL3PR43	I <sub>F</sub> = 5mA	—	695	—	'm
		GL3HD43	I <sub>F</sub> = 20mA	—	635	—	
Spectrum radiation bandwidth	Δλ	GL3PR43	I <sub>F</sub> = 5mA	—	100	—	'm
		GL3HD43	I <sub>F</sub> = 20mA	—	35	—	
Reverse current	I <sub>R</sub>	GL3PR43	V <sub>R</sub> = 4V	—	—	10	μA
		GL3HD43	V <sub>R</sub> = 4V	—	—	10	
Terminal capacitance	C <sub>t</sub>	GL3PR43	V = 0V f = 1MHz	—	55	—	pF
		GL3HD43	V = 0V f = 1MHz	—	20	—	
Response frequency	f <sub>c</sub>	GL3PR43	—	—	4	—	MHz
		GL3HD43	—	—	4	—	

\*3 Tolerance: ±30%

■ Characteristics Diagrams



GL3HS43 (Sunset orange) / GL3HY43 (Yellow)

■ Electro-optical Characteristics

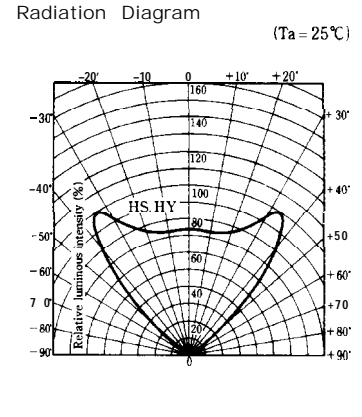
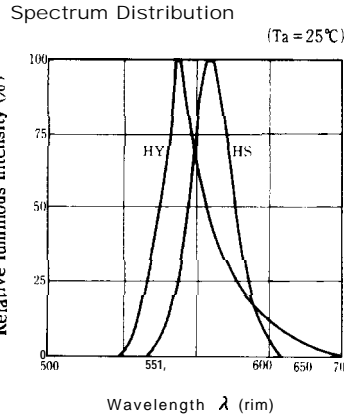
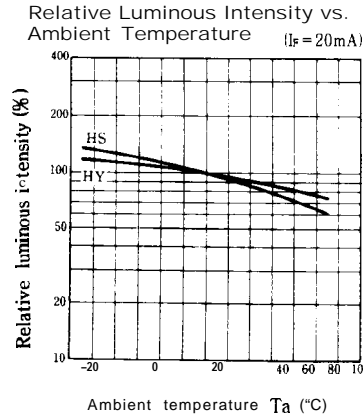
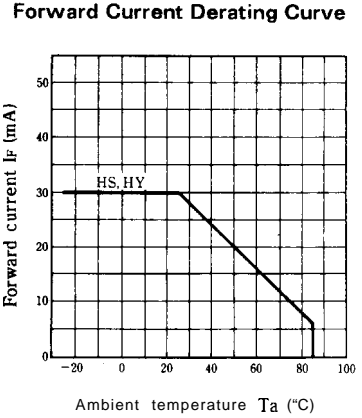
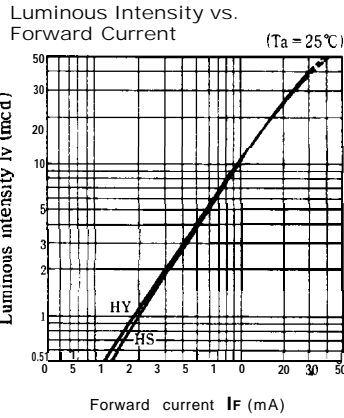
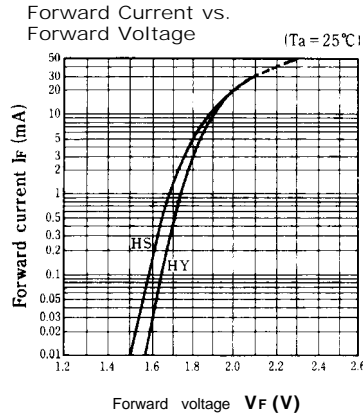
(Ta = 25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V <sub>F</sub>	GL3HS43	I <sub>F</sub> = 20mA	—	2.0	2.8	V
		GL3HY43	I <sub>F</sub> = 20mA	—	2.0	2.8	
※3 Luminous intensity	I <sub>v</sub>	GL3HS43	I <sub>F</sub> = 20mA	7.0	25	—	'cd
		GL3HY43	I <sub>F</sub> = 20mA	7.0	25	—	
Peak emission wavelength	λ <sub>p</sub>	GL3HS43	I <sub>F</sub> = 20mA	—	610	—	'm
		GL3HY43	I <sub>F</sub> = 20mA	—	585	—	
Spectrum radiation bandwidth	Δλ	GL3HS43	I <sub>F</sub> = 20mA	—	35	—	'm
		GL3HY43	I <sub>F</sub> = 20mA	—	30	—	
Reverse current	I <sub>R</sub>	GL3HS43	V <sub>R</sub> = 4V	—	—	10	μA
		GL3HY43	V <sub>R</sub> = 4V	—	—	10	
Terminal capacitance	C <sub>t</sub>	GL3HS43	V = 0V f = 1 MHz	—	15	—	pF
		GL3HY43	V = 0V f = 1MHz	—	35	—	
Response frequency	f <sub>c</sub>	GL3HS43	—	—	4	—	'Hz
		GL3HY43	—	—	4	—	

※3 Tolerance: ±30%



■ Characteristics Diagrams



GL3EG43 (Yellow-green) / GL3KG43 (Green)

■ Electro-optical Characteristics

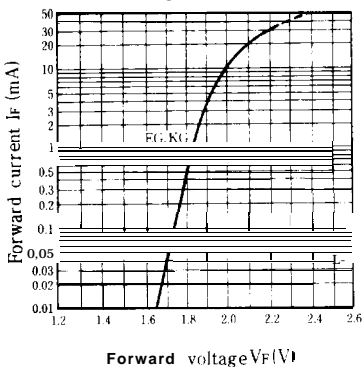
(Ta = 25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V <sub>F</sub>	GL3EG43	I <sub>F</sub> = 20mA		2.1	2.8	V
		GL3KG43	I <sub>F</sub> = 20mA	—	2.1	2.8	
※3 Luminous intensity	I <sub>v</sub>	GL3EG43	I <sub>F</sub> = 20mA	10	25	—	cd
		GL3KG43	I <sub>F</sub> = 20mA	8.0	20	—	
Peak emission wavelength	λ <sub>p</sub>	GL3EG43	I <sub>F</sub> = 20mA	—	565	—	nm
		GL3KG43	I <sub>F</sub> = 20mA	—	555	—	
Spectrum radiation bandwidth	Δλ	GL3EG43	I <sub>F</sub> = 20mA	—	30	—	nm
		GL3KG43	I <sub>F</sub> = 20mA	—	25	—	
Reverse current	I <sub>R</sub>	GL3EG43	V <sub>R</sub> = 4V	—	—	10	μA
		GL3KG43	V <sub>R</sub> = 4V	—	—	10	
Terminal capacitance	C <sub>t</sub>	GL3EG43	V = 0V f = 1MHz	—	35	—	pF
		GL3KG43	V = 0V f = 1MHz	—	4(1)	—	
Response frequency	f <sub>c</sub>	GL3EG43	—	—	4	—	MHz
		GL3KG43	—	—	4	—	

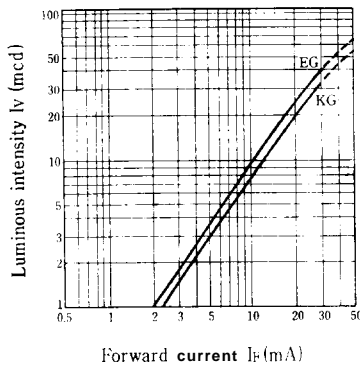
※3 Tolerance: ±30%

■ Characteristics Diagrams

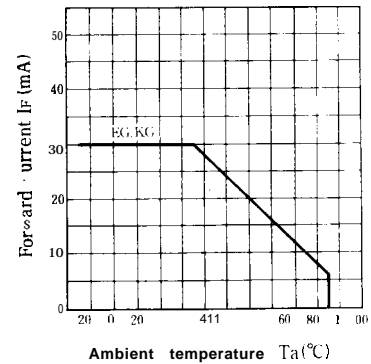
Forward Current vs. Forward Voltage (Ta = 25°C)



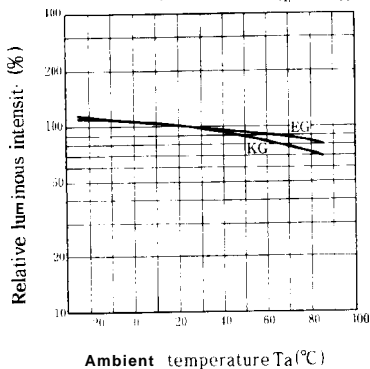
Luminous Intensity vs. Forward Current (Ta = 25°C)



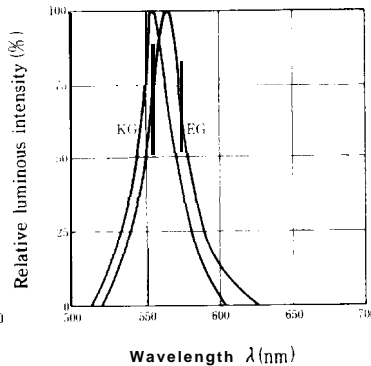
Forward Current Derating Curve



Relative Luminous Intensity vs. Ambient Temperature (If = 20mA)



Spectrum Distribution (Ta = 25°C)



Radiation Diagram (Ta = 25°C)

