

LT9560□ Series

φ 10mm Cylinder Type LED Lamps

Model No.

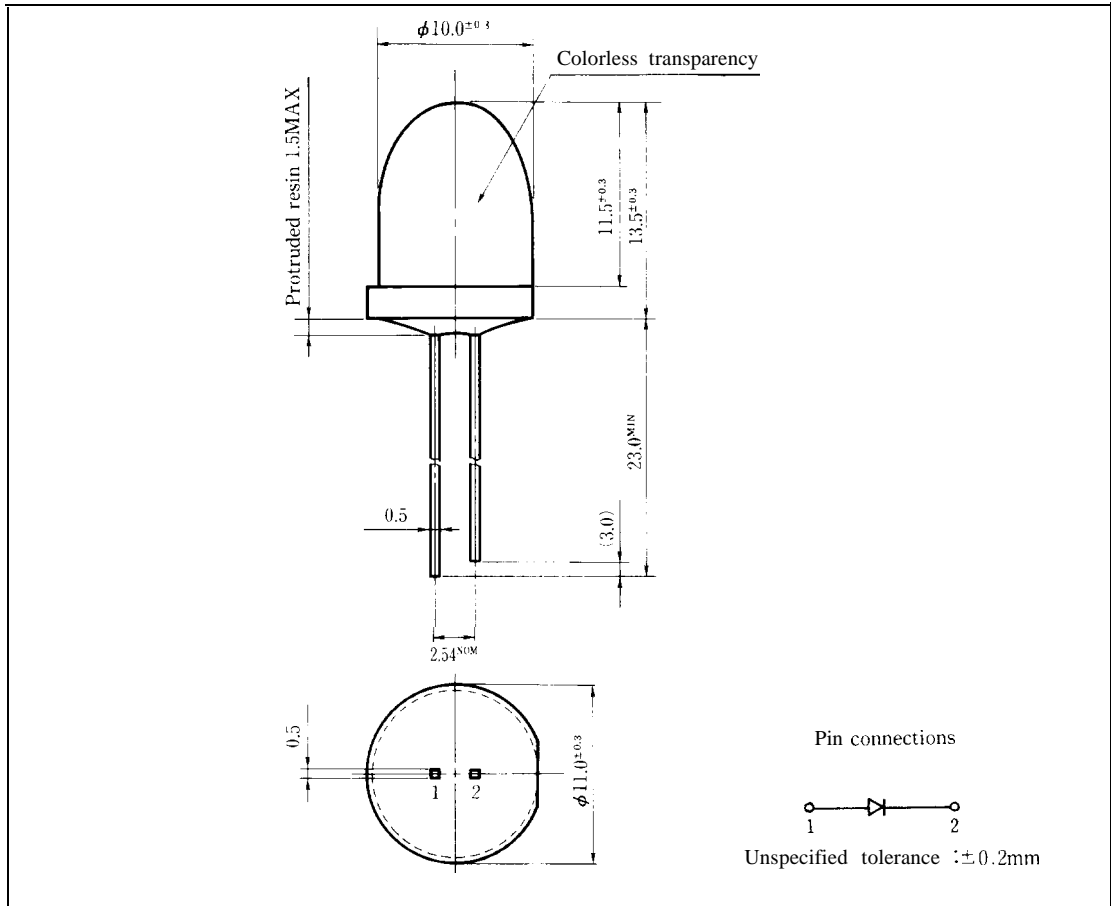
LT9560U Red (Super-luminosity)	GaAlAs/GaAlAs
LT9560L Red (High-luminosity)	GaAlAs/GaAs
LT9560T Red (High-luminosity)	GaAlAs/GaAs
LT9560D Red	GaAsP/GaP
LT9560S Sunset orange	GaAsP/GaP
LT9560H Yellow	GaAsP/GaP
LT9560E Yellow-green	GaP

Features

1. φ 10mm all resin mold
2. High-luminosity LED lamps
3. Colorless transparency lens type

Outline Dimensions

(Unit: mm)



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LT9560□

■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	LT9560U	LT9560L	LT9560D	LT9560E	Unit
			LT9560T	LT9560S		
				LT9560H		
Power dissipation	P	75	110	168	168	mW
Continuous forward current	I _F	30	50	60	60	mA
*1 Peak forward current	I _{FM}	50	300	100	100	mA
Derating factor	DC	0.40	0.67	0.80	0.80	mA/°C
	Pulse	0.67	4.00	1.33	1.33	mA/°C
Reverse voltage	V _R	4	5	5	5	v
operating temperature	T _{opr}	-25 to +85				°C
Storage temperature	T _{stg}	-25 to +100				°C
*2 Soldering temperature	T _{sol}	260(within 5 seconds)				°C

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

Duty ratio = 1/16, Pulse width ≤ 1ms for LT9560L and LT9560T

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

LT9560U(Red)

■ Electro-optical Characteristics

(Ta = 25°C)

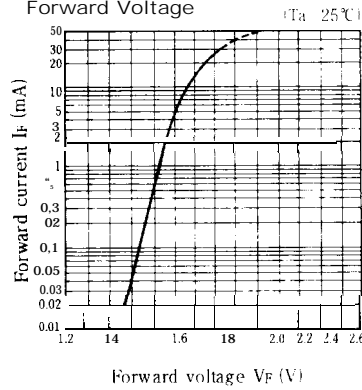
Parameter	Symbol	Model No.	Conditions	MIN	TYP.	MAX.	Unit
Forward voltage	V_F	LT9560U	$I_F = 20\text{mA}$		1.85	2.5	V
※3 Luminous intensity	I_v	LT9560U	$I_F = 20\text{mA}$	4,000	8,000	-	mcd
Peak emission wavelength	λ_p	LT9560U	$I_F = 20\text{mA}$		660	-	nm
Spectrum radiation bandwidth	$\Delta \lambda$	LT9560U	$I_F = 20\text{mA}$		20	-	nm
Reverse current	I_R	LT9560U	$V_R = 3\text{V}$	-		100	μA
Terminal capacitance	C_t	LT9560U	$V = 0\text{V}$ $f = 1\text{MHz}$	-	30		pF
Response frequency	f_c	LT9560U	-	-	8	-	MHz

※3 Tolerance: $\pm 30\%$

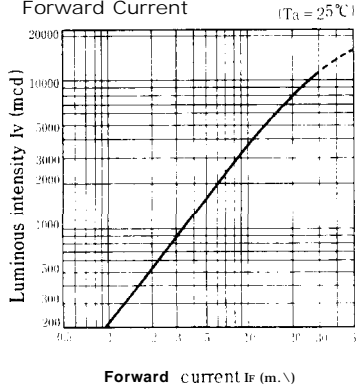
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■ Characteristics Diagrams

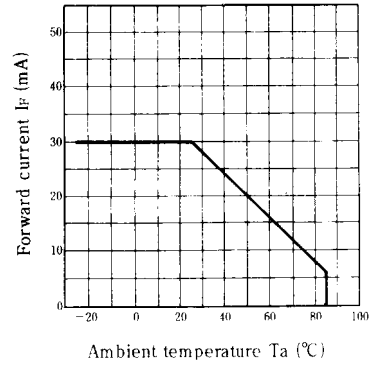
Forward Current vs. Forward Voltage



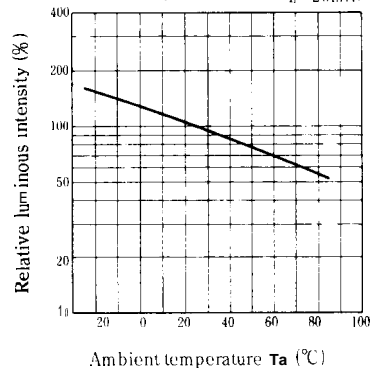
Luminous Intensity vs. Forward Current



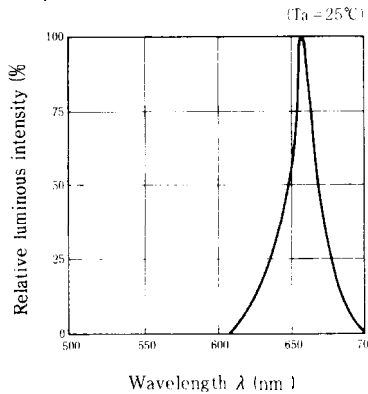
Forward Current Derating Curve



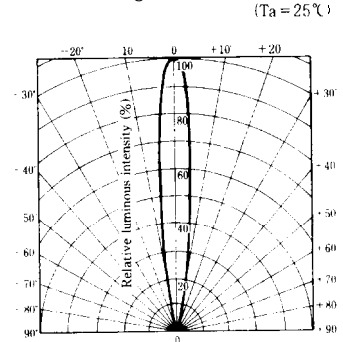
Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



Radiation Diagram



LT9560L (Red) / LT9560T (Red)

■ Electro-optical Characteristics

(Ta=25°C)

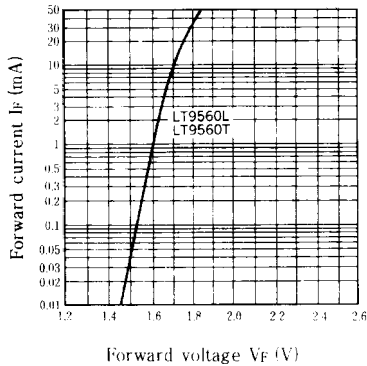
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	LT9560L	$I_F = 20\text{mA}$		1.75	2.2	V
		LT9560T	$I_F = 20\text{mA}$	-	1.75	2.2	
*3 Luminous intensity	I_v	LT9560L	$I_F = 20\text{mA}$	2,000	4,000	-	mcd
		LT9560T	$I_t = 20\text{mA}$	1,000	2,000	-	
Peak emission wavelength	λ_p	LT9560L	$I_F = 20\text{mA}$		660	-	'm
		LT9560T	$I_F = 20\text{mA}$		660	-	
Spectrum radiation bandwidth	$\Delta\lambda$	LT9560L	$I_F = 20\text{mA}$		20	-	'm
		LT9560T	$I_F = 20\text{mA}$		20	-	
Reverse current	I_R	LT9560L	$V_R = 4\text{V}$			10	μA
		LT9560T	$V_R = 4\text{V}$	-	-	10	
Terminal capacitance	C_t	LT9560L	$V = 0\text{V}$ $f = 1\text{ MHz}$	-	30	-	pF
		LT9560T	$V = 0\text{V}$ $f = 1\text{ MHz}$	-	30	-	
Response frequency	f_c	LT9560L	-		8	-	'Hz
		LT9560T	-		8	-	

*3 Tolerance: $\pm 30\%$

■ Characteristics Diagrams

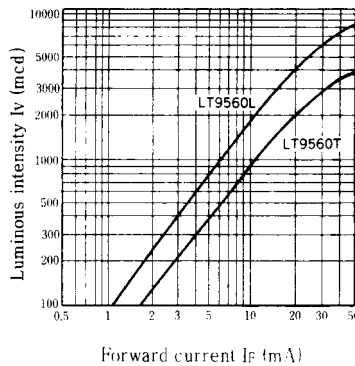
Forward Current vs. Forward Voltage

(Ta = 25°C)

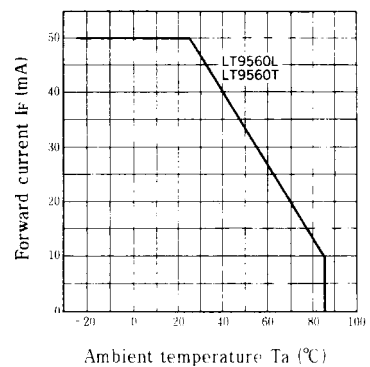


Luminous Intensity vs. Forward Current

(Ta = 25°C)

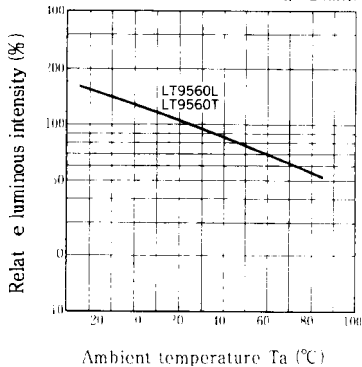


Forward Current Derating Curve



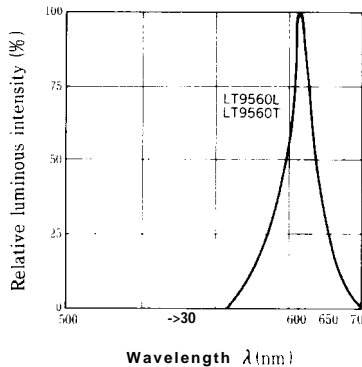
Relative Luminous Intensity vs. Ambient Temperature

(If = 20mA)



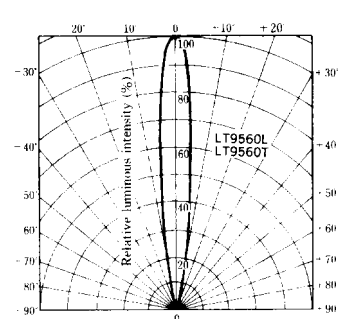
Spectrum Distribution

(Ta = 25°C)



Radiation Diagram

(Ta = 25°C)



LT9560D(Red) / LT9560S(Sunset orange)

■ Electro-optical Characteristics

(Ta = 25°C)

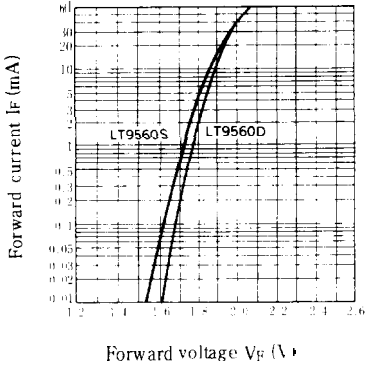
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	VF	LT9560D	IF = 40mA	-	2.0	2.8	V
		LT9560S	IF = 40mA	-	2.0	2.8	
※3 Luminous intensity	IV	LT9560D	IF = 40mA	400	1,000	-	mcd
		LT9560S	IF = 40mA	400	1,000	-	
Peak emission wavelength	λp	LT9560D	IF = 40mA	-	635	-	‘m
		LT9560S	IF = 40mA	-	610	-	
Spectrum radiation bandwidth	Δλ	LT9560D	IF = 40mA	-	35	-	‘m
		LT9560S	IF = 40mA	-	35	-	
Reverse current	IR	LT9560D	VR = 4V	-	-	10	μA
		LT9560S	VR = 4V	-	-	10	
Terminal capacitance	Ct	LT9560D	V = 0V f = 1 MHz	-	30	-	pF
		LT9560S	V = 0V f = 1 MHz	-	15	-	
Response frequency	fc	LT9560D	-	-	4	-	MHz
		LT9560S	-	-	4	-	

※3 Tolerance: ±30%

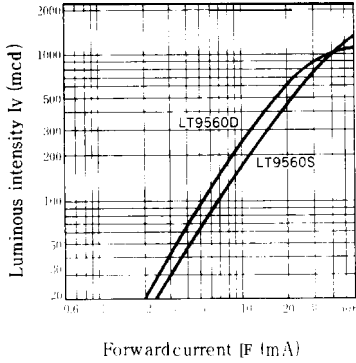
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■ Characteristics Diagrams

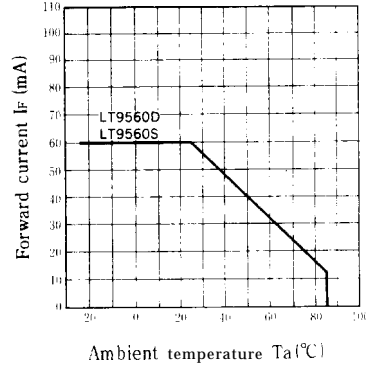
Forward Current vs. Forward Voltage (Ta = 25°C)



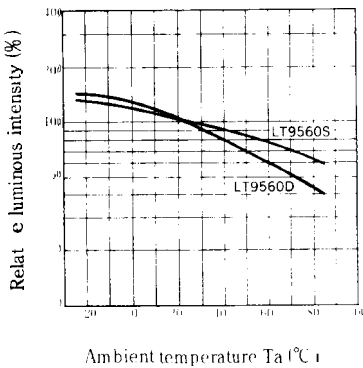
Luminous Intensity vs. Forward Current (Ta = 25°C)



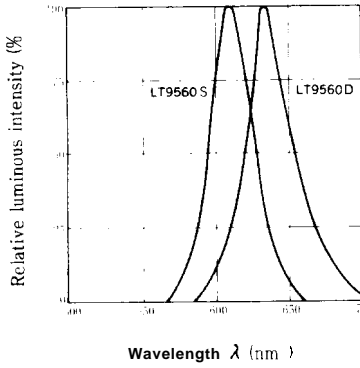
Forward Current Derating Curve



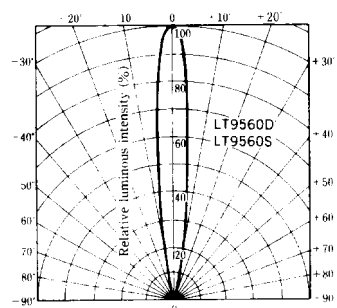
Relative Luminous Intensity vs. Ambient Temperature (IF = 40 mA)



Spectrum Distribution (Ta = 25°C)



Radiation Diagram (Ta = 25°C)



Wavelength λ (nm)



LT9560H(Yellow) / LT9560E(Yellow-green)

■ Electro-optical Characteristics

(Ta=25°C)

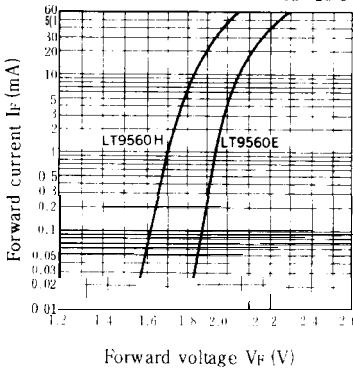
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	LT9560H	I _F = 40mA		2.0	2.8	V
		LT9560E	I _F = 40mA		2.2	2.8	
*3 Luminous intensity	I _v	LT9560H	I _F = 40mA	300	700	-	'cd
		LT9560E	I _F = 40mA	500	1,200	-	
Peak emission wavelength	λ _p	LT9560H	I _F = 40mA		585	-	'm
		LT9560E	I _F = 40mA		565	-	
Spectrum radiation bandwidth	Δλ	LT9560H	I _F = 40mA		30	-	'm
		LT9560E	I _F = 0mA		30	-	
Reverse current	I _R	LT9560H	V _R = 4V		-	10	μA
		LT9560E	V _R = 4V			10	
Terminal capacitance	C _t	LT9560H	V = 0V f = 1 MHz	-	30	-	pF
		LT9560E	V = 0V f = 1 MHz	-	70	-	
Response frequency	f _c	LT9560H	-		4	-	MHz
		LT9560E	-		-	4	

*3 Tolerance: ±30%

■ Characteristics Diagrams

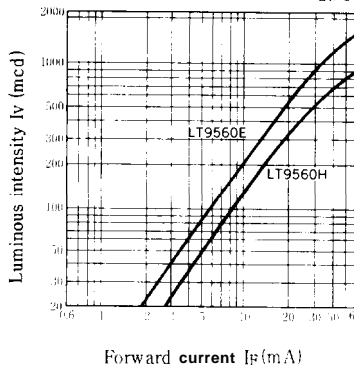
Forward Current vs. Forward Voltage

(Ta = 25°C)

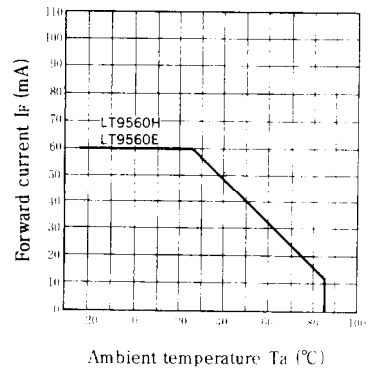


Luminous Intensity vs. Forward Current

(Ta = 25°C)

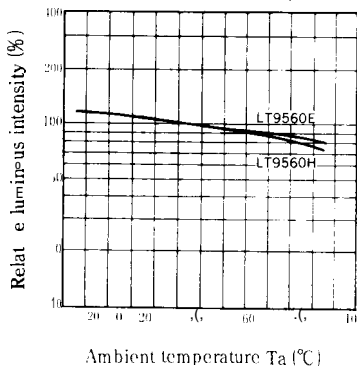


Forward Current Derating Curve



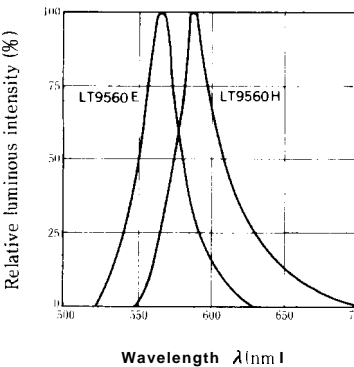
Relative Luminous Intensity vs. Ambient Temperature

(I_F = 40mA)



Spectrum Distribution

(Ta = 25°C)



Radiation Diagram

(Ta = 25°C)

