

LT1 □ 21A Series Colorless Transparency Mini-mold LED Lamps

■ Model No.

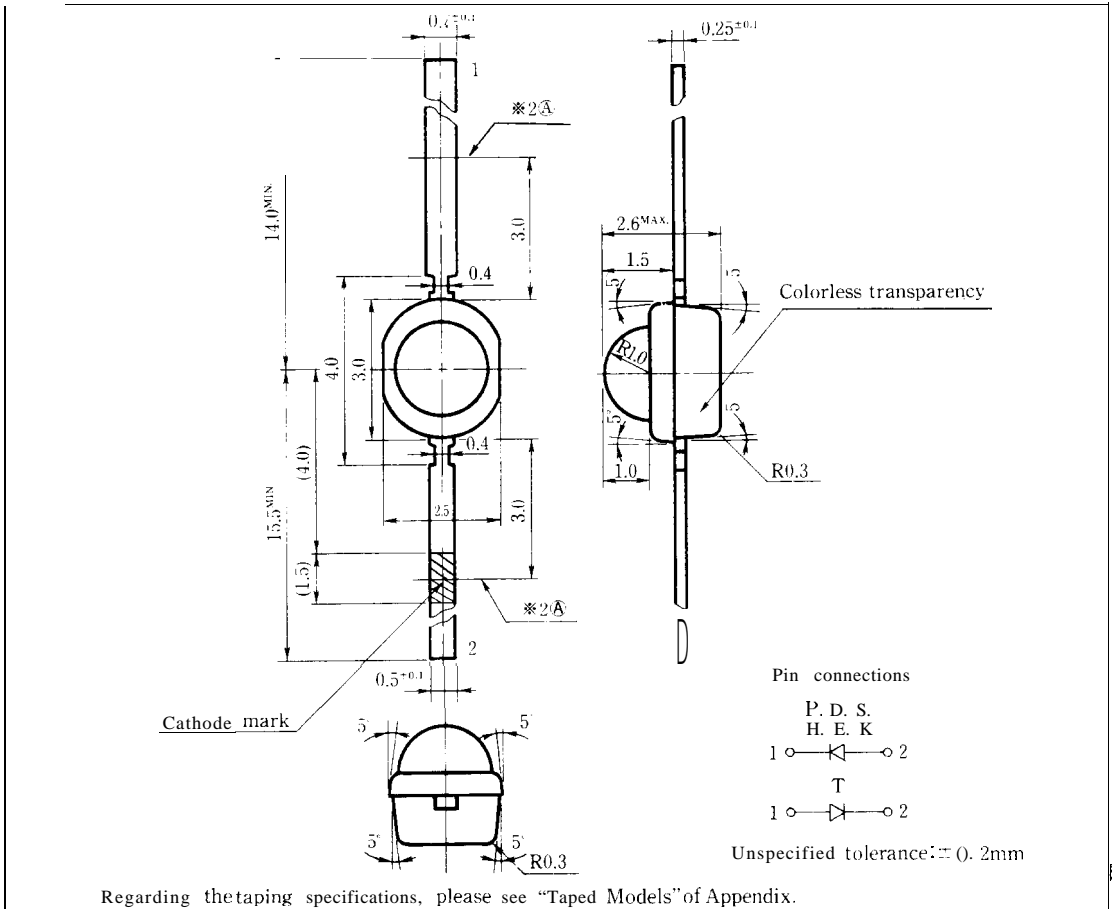
LT1T21A Red (High-luminosity)	GaAlAs/GaAs
LT1P21A Red	GaP
LT1D21A Red	GaAsP/GaP
LT1S21A Sunset orange	GaAsP/GaP
LT1H21A Yellow	GaAsP/GaP
LT1E21A Yellow-green	GaP

■ Features

1. ϕ 2mm all resin mold
2. Colorless transparency lens type
3. Taped models : Tape width 8mm, 3,000 pcs/reel

■ Outline Dimensions

(Unit: mm)



LT1021A

■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	LT1T21A	LT1P21A	LT1D21A	LT1H21A		Unit	
				LT1S21A	LT1E21A			
Power dissipation	P	66	23	84	50		mW	
Continuous forward current	I _F	30	10	30	20		mA	
*1 Peak forward current	I _{FM}	50	50	50	50		mA	
Derating factor	DC	0.40	0.13	0.40	0.27		mA/°C	
	Pulse	0.67	0.67	0.67	0.67		mA/°C	
Reverse voltage	V _R	5	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

*2 At the (A) position of above outline dimensions

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LT1T21 A (Red)

■ **Electro-optical** Characteristics

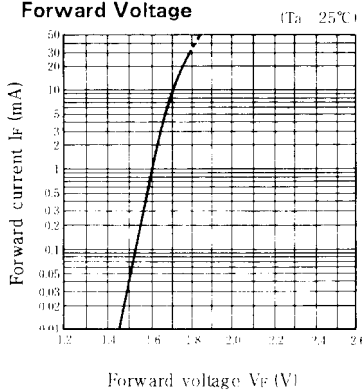
(Ta = 25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	LT1T21A	$I_F = 20\text{mA}$	—	1.75	2.2	V
※3 Luminous intensity	I_v	LT1T21A	$I_F = 20\text{mA}$	10	19	—	mcd
Peak emission wavelength	λ_p	LT1T21A	$I_F = 20\text{mA}$	—	660	—	nm
Spectrum radiation bandwidth	$\Delta\lambda$	LT1T21A	$I_F = 20\text{mA}$	—	20	—	nm
Reverse current	I_R	LT1T21A	$V_R = 4\text{V}$	—	—	10	μA
Terminal capacitance	c_t	LT1T21A	$V = 0\text{V}$ $f = 1\text{MHz}$	—	30	—	pF
Response frequency	f_c	LT1T21A	—	—	8	—	MHz

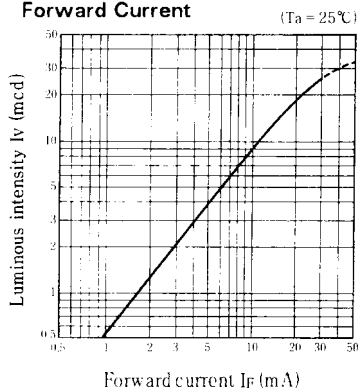
※3 Tolerance: $\pm 30\%$

■ **Characteristics Diagrams**

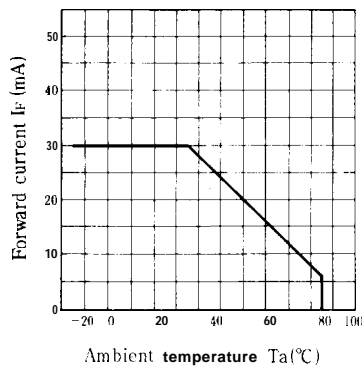
Forward Current vs. Forward Voltage



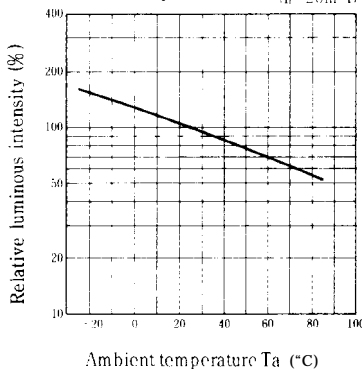
Luminous Intensity vs. Forward Current



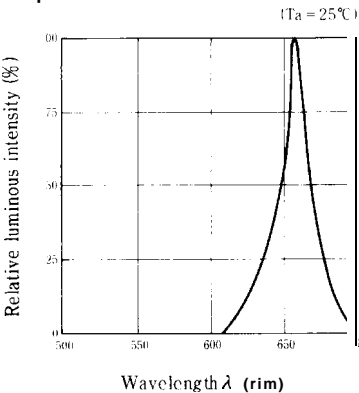
Forward Current Derating Curve



Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



LT1 P21A (Red) / LT1 D21 A (Red)

■ Electro-optical Characteristics

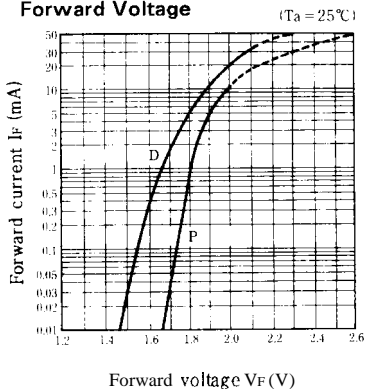
(Ta = 25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	LT1P21A	I _F = 5mA	—	1.9	2.3	V
		LT1D21A	I _F = 20mA	—	2.0	2.8	
*3 Luminous intensity	I _v	LT1P21 A	I _F = 5mA	1.0	2.6	—	mcd
		LT1D21A	I _F = 20mA	6.8	14	—	
Peak emission wavelength	λ _p	LT1P21A	I _F = 5mA	—	695	—	'm
		LT1D21A	I _F = 20mA	—	635	—	
Spectrum radiation bandwidth	Δλ	LT1P21A	I _F = 5mA	—	100	—	'm
		LT1D21A	I _F = 20mA	—	35	—	
Reverse current	I _R	LT1P21 A	V _R = 4V	—	—	10	μA
		LT1D21A	V _R = 4V	—	—	10	
Terminal capacitance	C _t	LT1P21 A	V=0V f=1 MHz	—	55	—	pF
		LT1D21A	V=0V f=1MHz	—	20	—	
Response frequency	f _c	LT1P21 A	—	—	4	—	'Hz
		LT1D21A	—	—	4	—	

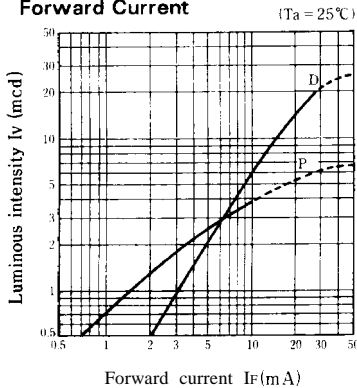
*3 Tolerance: ±30%

■ Characteristics Diagrams

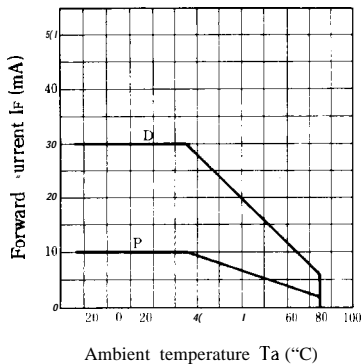
Forward Current vs. Forward Voltage



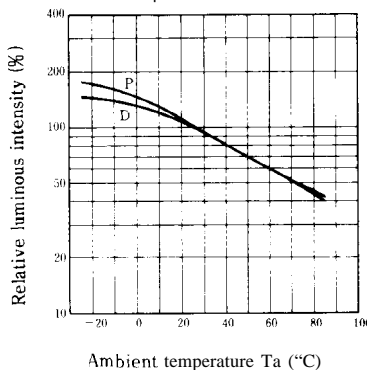
Luminous Intensity vs. Forward Current



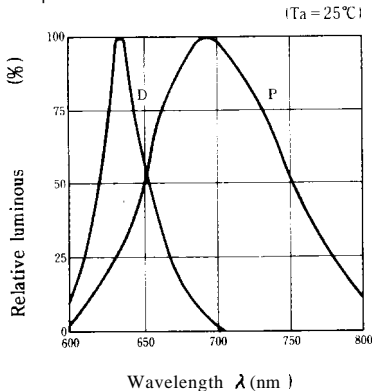
Forward Current Derating Curve



Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



LT1 S21A (Sunset orange) / LT1 H21A (Yellow)

■ Electro-optical Characteristics

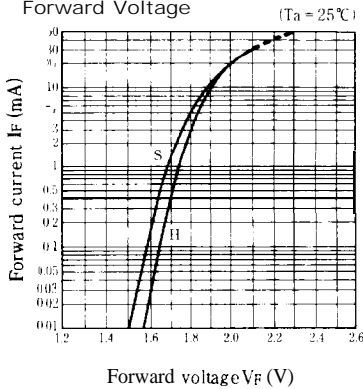
(Ta=25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	LT1S21A	I _F = 20mA		2.0	2.8	V
		LT1H21A	I _F = 10mA	—	1.9	2.5	
*3 Luminous intensity	I _v	LT1S21A	I _F = 20mA	4.0	4.8	—	mcd
		LT1H21A	I _F = 10mA	1.7	4.8	—	
Peak emission wavelength	λ _p	LT1S21A	I _F = 20mA	—	610	—	nm
		LT1H21A	I _F = 10mA	—	585	—	
Spectrum radiation bandwidth	Δλ	LT1S21A	I _F = 20mA	—	35	—	nm
		LT1H21A	I _F = 10mA	—	30	—	
Reverse current	I _R	LT1S21A	V _R = 4V	—	—	10	μA
		LT1H21A	V _R = 4V	—	—	10	
Terminal capacitance	C _t	LT1S21A	V = 0V f = 1MHz	—	15	—	pF
		LT1H21A	V = 0V f = 1MHz	—	35	—	
Response frequency	f _c	LT1S21A	—	—	4	—	MHz
		LT1H21A	—	—	4	—	

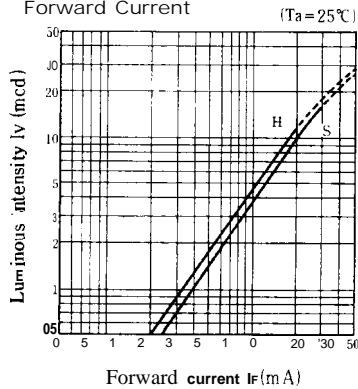
*3 Tolerance: ±30%

■ Characteristics Diagrams

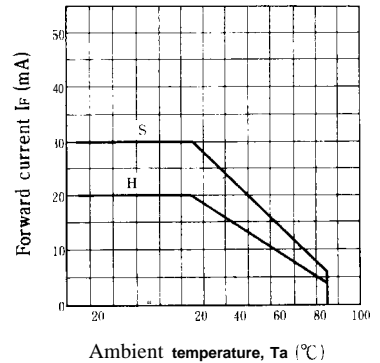
Forward Current vs. Forward Voltage



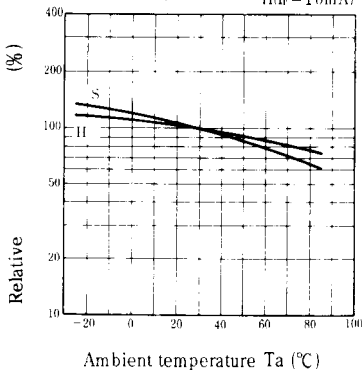
Luminous Intensity vs. Forward Current



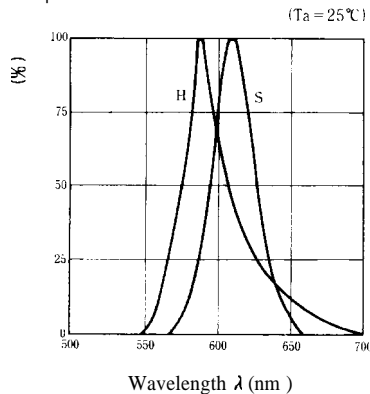
Forward Current Derating Curve



Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



LT1 E21 A (Yellow-green)

■ **Electro-optical** Characteristics

(Ta = 25°C)

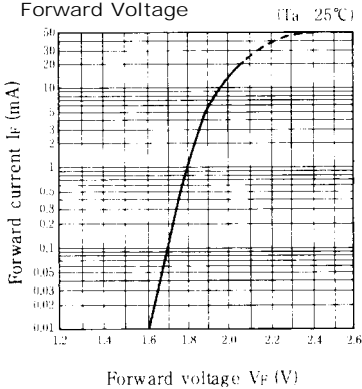
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	LT1E21A	$I_F = 10\text{mA}$		1.95	2.5	V
*3 Luminous intensity	I_v	LT1E21A	$I_F = 10\text{mA}$	4.0	8.0	-	mcd
Peak emission wavelength	λ_p	LT1E21A	$I_F = 10\text{mA}$		565	-	nm
Spectrum radiation bandwidth	$\Delta\lambda$	LT1E21A	$I_F = 10\text{mA}$		30	-	nm
Reverse current	I_R	LT1E21A	$V_R = 4\text{V}$			10	μA
Terminal capacitance	C_t	LT1E21A	$V = 0\text{V}$ $f = 1\text{MHz}$		35	-	pF
Response frequency	f_c	LT1E21A	-	-	4	-	MHz

*3 Tolerance: $\pm 30\%$

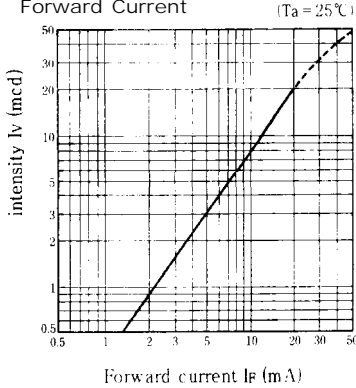
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, Characteristics Diagrams

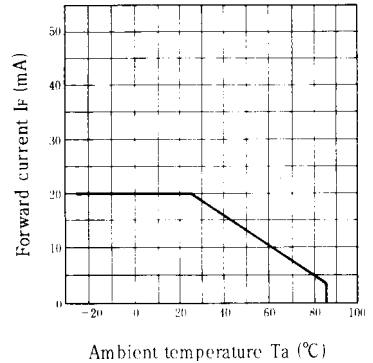
Forward Current vs. Forward Voltage



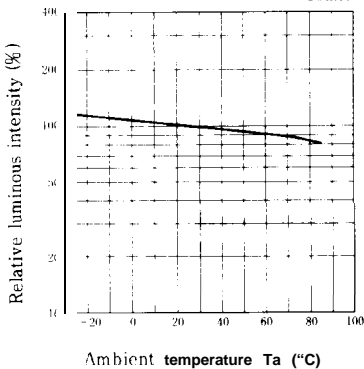
Luminous Intensity vs. Forward Current



Forward Current Derating Curve



Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution

