LT1 ❑ 53A Series

Milky Diffusion Chip LED Devices

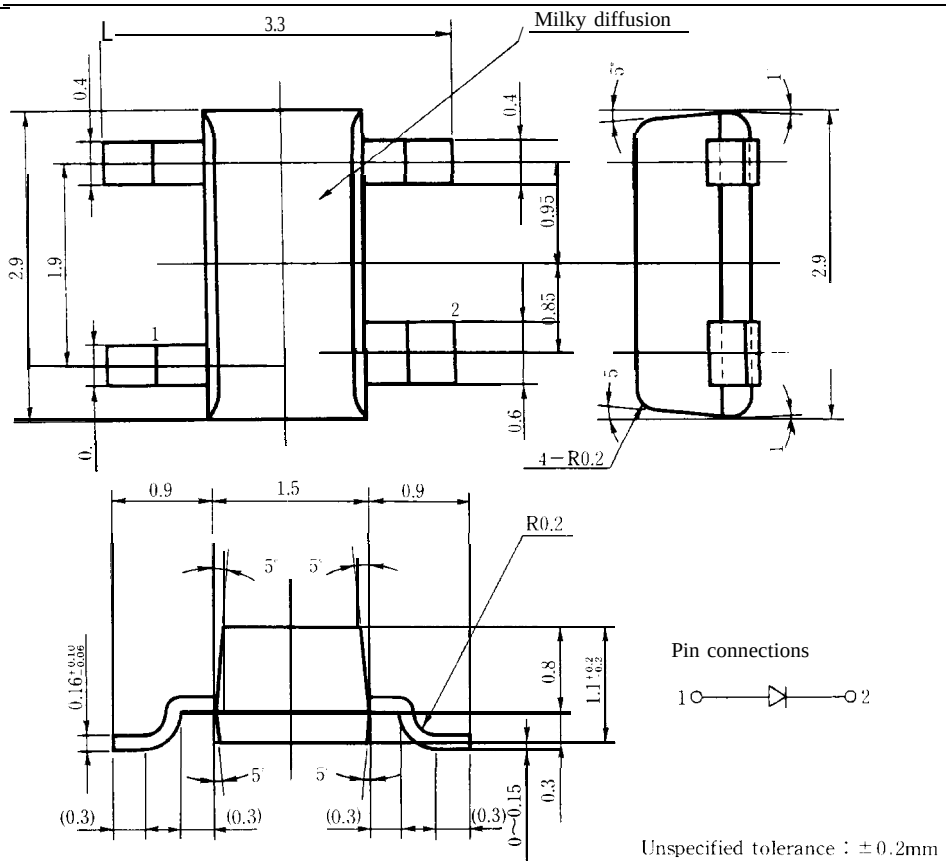
■ Model No.

LT1P53A Red	GaP
LT1D53A Red	GaAsP/GaP
LT1S53A Sunset orange	GaAsP/GaP
LT1H53A Yellow	GaAsP/GaP
LT1E53A Yellow-green	GaP
LT1K53A Green	GaP

■ Features

1. Radiation size 1.5 ×2.9mm
2. Milky diffusion lens type
3. Taped models : Tape width 8mm, 3,000 pcs/reel

■ Outline Dimensions (Unit: mm)



Regarding the taping specifications, please see "Taped Models" of Appendix.

LT1 □53A

■ Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	T1P53A	LT1D53A	LT1H53A			Unit
			LT1S53A	LT1E53A			
				LT1K53A			
Power dissipation	P	23	84	50			mW
Continuous forward current	IF	10	30	20			I mA
※1 Peak forward current	IFM	50	50	50			mA
Derating factor DC		0.13	0.40	0.27			mA/℃
Derating factor Pulse		0.67	0.67	0.67			mA/℃
Reverse voltage	VR	5	5	5			V
Operating temperature	Topr	−25 to +85					℃
Storage temperature	Tstg	−25 to +100					℃

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

LT1 P53A (Red) / LT1D53A (Red)

■ Electro-optical Characteristics

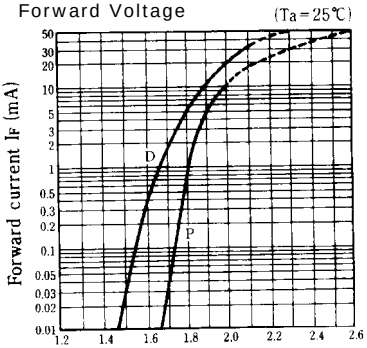
(Ta = 25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	LT1P53A	I_F = 5mA	—	1.9	2.3	V
		LT1D53A	I_F = 20mA	—	2.0	2.8	
※2 Luminous intensity	I_V	LT1P53A	I_F = 5mA	0.4	1.4	—	mcd
		LT1D53A	I_F = 20mA	2.5	9.6	—	
Peak emission wavelength	λ_p	LT1P53A	I_F = 5mA	—	695	—	nm
		LT1D53A	I_F = 20mA	—	635	—	
Spectrum radiation bandwidth	$\Delta\lambda$	LT1P53A	I_F = 5mA	—	100	—	nm
		LT1D53A	I_F = 20mA		35	—	
Reverse current	I_R	LT1P53A	V_R = 4V	—	—	10	μA
		LT1D53A	V_R = 4V	—	—	10	
Terminal capacitance	C_t	LT1P53A	V = 0V f = 1MHz	—	55	—	pF
		LT1D53A	V = 0V f = 1MHz	—	20	—	
Response frequency	f_c	LT1P53A	—	—	4	—	MHz
		LT1D53A	—	—	4	—	

※2 Tolerance: ±30%

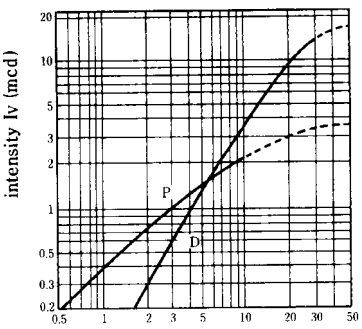
■ Characteristics Diagrams

Forward Current vs. Forward Voltage (Ta = 25℃)



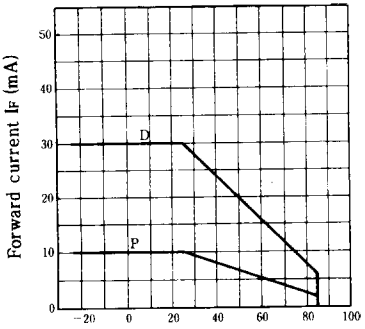
Forward voltage V_F (V)

Luminous Intensity vs. Forward Current (Ta = 25℃)



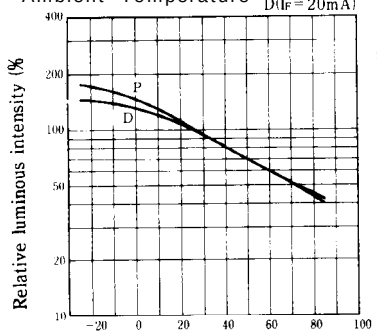
Forward current I_F (mA)

Forward Current **Derating** Curve



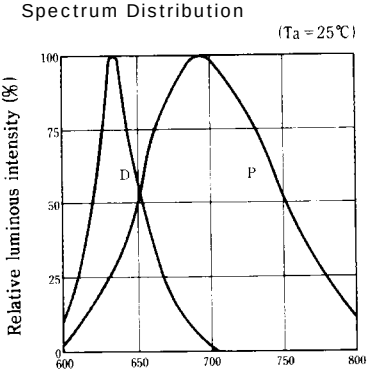
Ambient temperature Ta (℃)

Relative Luminous **Intensity vs.** Ambient Temperature P(I_F = 5mA) D(I_F = 20mA)



Ambient temperature T. (℃)

Spectrum Distribution (Ta = 25℃)



Wavelength λ (nm)

LT1 S53A (Sunset orange) / LT1 H53A (Yellow)

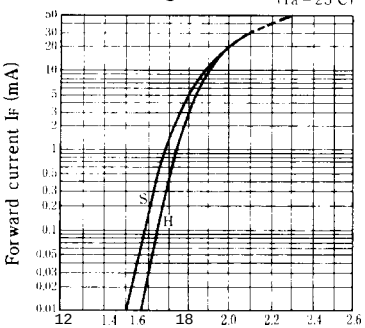
■ Electro-optical Characteristics (Ta = 25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	LT1S53A	I_F = 20mA		2.0	2.8	V
		LT1H53A	I_F = 10mA	–	1.9	2.5	
※2 Luminous intensity	I_V	LT1S53A	I_F = 20mA	2.5	7.8	–	mcd
		LT1H53A	I_F = 10mA	1.0	3.7	–	
Peak emission wavelength	λ_p	LT1S53A	I_F = 20mA	–	610	–	nm
		LT1H53A	I_F = 10mA		585	–	nm
Spectrum radiation bandwidth	$\Delta\lambda$	LT1S53A	I_F = 20mA	–	35	–	nm
		LT1H53A	I_F = 10mA	–	30	–	nm
Reverse current	I_R	LT1S53A	V_R = 4V	–		10	μA
		LT1H53A	V_R = 4V	–	–	10	
Terminal capacitance	C_t	LT1S53A	V = 0V f = 1 MHz	–	15		pF
		LT1H53A	V = 0V f = 1 MHz	–	35	–	pF
Response frequency	f_c	LT1S53A	–	–	4	–	MHz
		LT1H53A	–	–	4	–	MHz

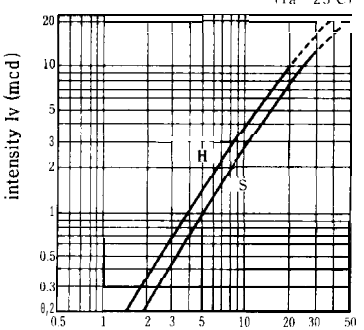
※2 Tolerance: ±30%

■ Characteristics Diagrams

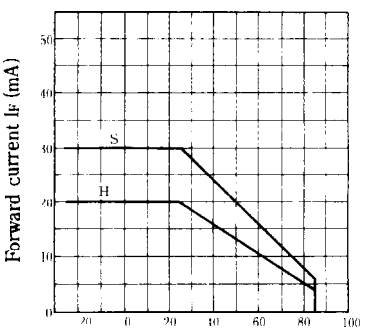
Forward Current vs. Forward Voltage (Ta = 25℃)



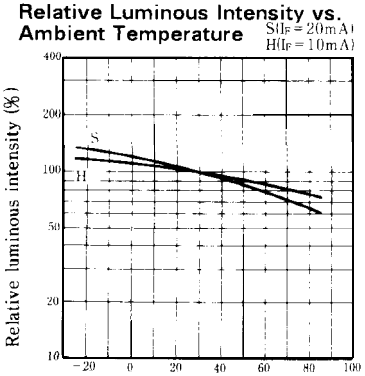
Luminous Intensity vs. Forward Current (Ta = 25℃)



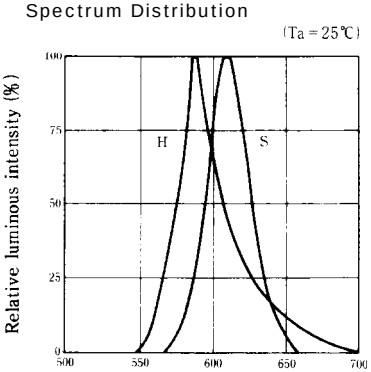
Forward Current **Derating** Curve



Relative Luminous Intensity vs. Ambient Temperature S(IF = 20mA) H(IF = 10mA)



Spectrum Distribution (Ta = 25℃)



LT1 E53A (Yellow-green) / LT1 K53A (Green)

■ Electro-optical Characteristics

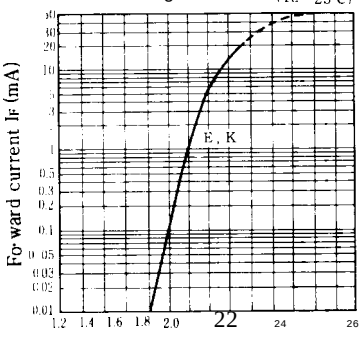
(Ta = 25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	LT1E53A	I_F = 10mA	–	1.95	2.5	V
		LT1K53A	I_F = 10mA	–	1.95	2.5	
※2 Luminous intensity	I_V	LT1E53A	I_F = 10mA	1.6	4.8	–	mcd
		LT1K53A	I_F = 10mA	1.2	2.2	–	
Peak emission wavelength	λ_p	LT1E53A	I_F = 10mA	–	565	–	‘m
		LT1K53A	I_F = 10mA		555	–	
Spectrum radiation bandwidth	$\Delta\lambda$	LT1E53A	I_F = 10mA	–	30	–	‘m
		LT1K53A	I_F = 10mA	–	25	–	
Reverse current	I_R	LT1E53A	V_R = 4V	–	–	10	μA
		LT1K53A	V_R = 4V	–	–	10	
Terminal capacitance	C_t	LT1E53A	V = 0V f = 1MHz	–	35	–	pF
		LT1K53A	V = 0V f = 1MHz	–	40	–	
Response frequency	f_c	LT1E53A	–	–	4	–	MHz
		LT1K53A	–		4	–	

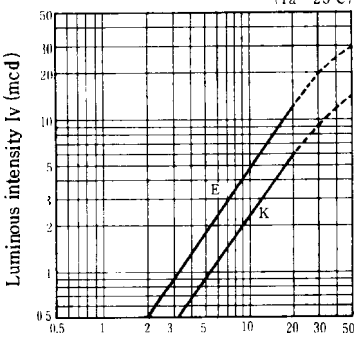
※2 Tolerance: ±30%

■ Characteristics Diagrams

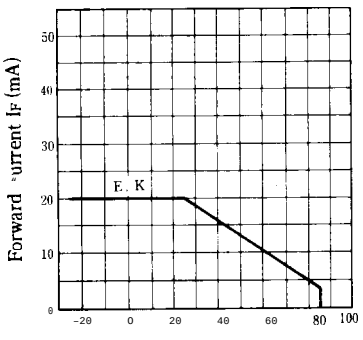
Forward Current vs. Forward Voltage



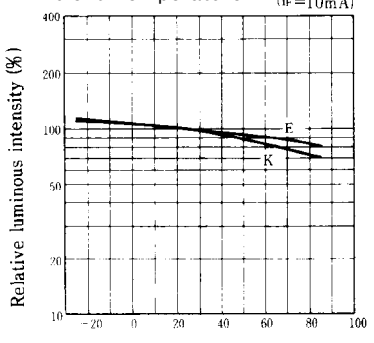
Luminous Intensity vs. Forward Current



Forward Current Derating Curve



Relative Luminous Intensity va. Ambient Temperature



Spectrum Distribution