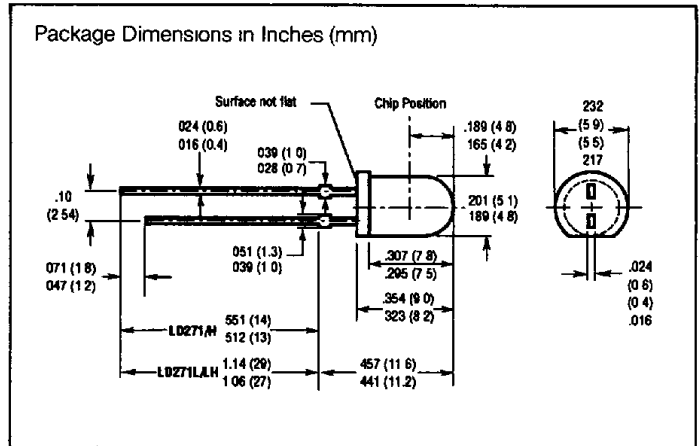
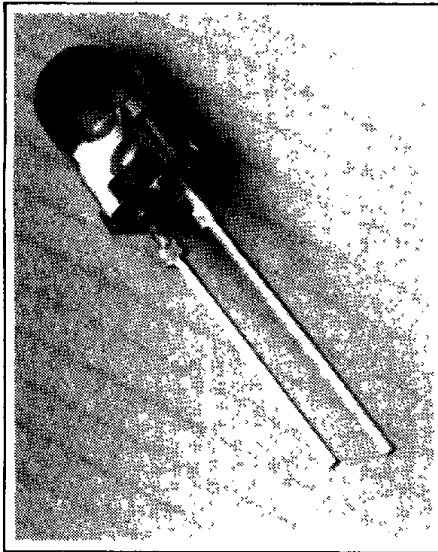


T-41-11



FEATURES

- Low Cost
- T-1 $\frac{1}{2}$ Package
- Lightly Diffused Gray Plastic Lens
- LD 271L/LD 271LH 1-inch Leads
- Long Term Stability
- Medium Wide Beam, 50°
- Very High Power
- High Intensity
- Matches with Photodiodes SFH 205 or BP104 or Phototransistors BP103B

DESCRIPTION

LD 271/H/L/LH an infrared emitting diode, emits radiation in the near infrared range (950 nm peak). The emitted radiation, which can be modulated, is generated by forward flowing current. The device is enclosed in a 5 mm plastic package. An application for the LD 271 family is remote control of color TV receivers

Maximum Ratings

Storage Temperature	T	-55 to +100	°C
Soldering Temperature (Distance from soldering joint to package ≥ 10 mm, soldering time $t \leq 3$ s)	T_S	260	°C
Junction Temperature	T_J	100	°C
Reverse Voltage	V_R	5	V
Forward Current	I_F	130	mA
Surge Current ($t = 10 \mu\text{s}$, $D = 0$)	I_{FS}	3.5	A
Power Dissipation	P_{tot}	210	mW
Thermal Resistance	R_{thJamb}	350	K/W

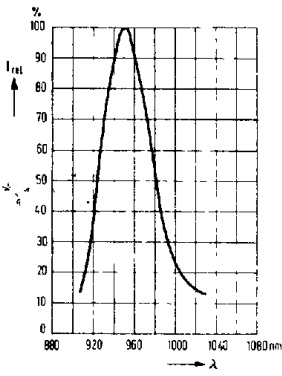
Characteristics ($T_{amb} = 25^\circ\text{C}$)

Wavelength ($I_F = 100$ mA, $t_p = 20$ ms)	λ	950 \pm 20	nm
Spectral Bandwidth ($I_F = 100$ mA, $t_p = 20$ ms)	$\Delta\lambda$	55	nm
Half Angle	φ	± 25	Deg
Active Area	A	0.25	mm ²
Active Die Area per Die	L x W	0.5 x 0.5	mm
Distance Die Surface to Package Surface	H	4.0 to 4.6	mm
Switching Time (I_F from 10% to 90% and from 90% to 10% at $I_F = 100$ mA)	t_r, t_f	1	μs
Capacitance ($V_R = 0$ V)	C_o	40	pF
Forward Voltage ($I_F = 100$ mA)	V_F	1.30 (≤ 1.5)	V
($I_F = 1$ A, $t_p = 100 \mu\text{s}$)	V_F	1.9 (≤ 2.5)	V
Breakdown Voltage ($I_R = 10 \mu\text{A}$)	V_{BR}	30 (≥ 5)	V
Reverse Current ($V_R = 5$ V)	I_R	0.01 (≤ 1)	μA
Temperature Coefficient of I_F or Φ_e	TC_I	-0.55	%/K
Temperature Coefficient of V_F	TC_V	-1.5	mV/K
Temperature Coefficient of λ_{peak}	TC_λ	+0.3	nm/K

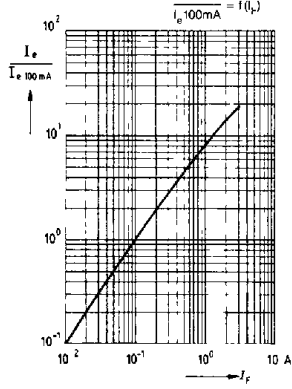
Radiant Intensity I_e in Axial Direction Measured at a Solid Angle of $\Omega = 0.01$ sr

Group	LD 271 & LD 271L	LD 271H & LD 271LH	
Radiant Intensity ($I_F = 100$ mA, $t_p = 20$ ms) I_e	15 (≥ 10)	≥ 16	mW/sr
($I_F = 1$ A, $t_p = 100 \mu\text{s}$) I_e	100	120	mW/sr
Radiant Power ($I_F = 100$ mA $t_p = 20$ ms) Φ_e	12	16	mW

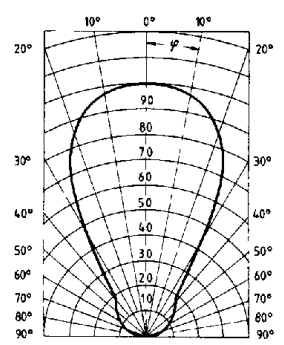
Relative spectral emission $I_{rel} = f(\lambda)$



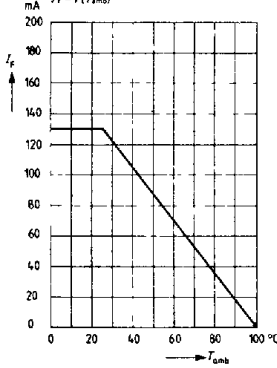
Radiant intensity $I_e = f(I_f)$



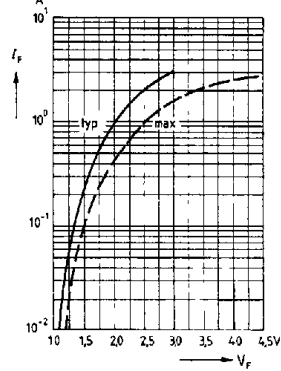
Radiation characteristic $I_e = f(\varphi)$



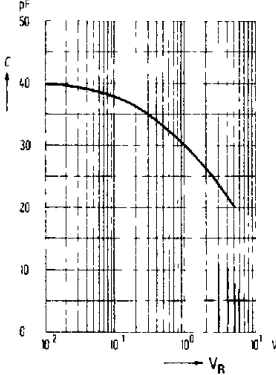
Max permissible forward current $I_{fmax} = f(T_{amb})$



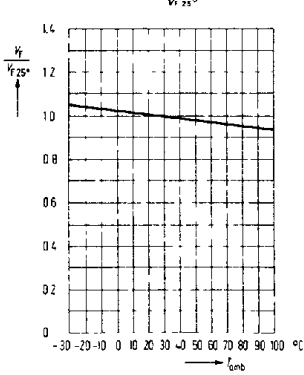
Forward voltage $I_s = f(V_f)$



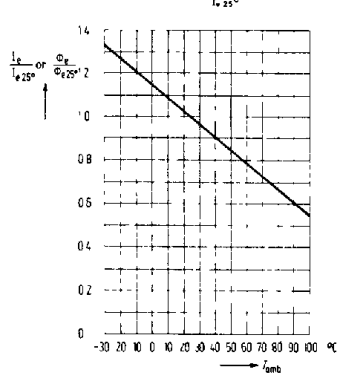
Capacitance $C = f(V_R)$



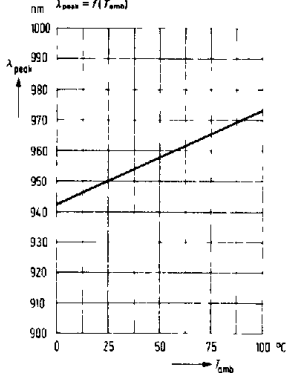
Forward voltage $\frac{V_f}{V_{f, 25^\circ}} = f(T_{amb})$



Radiant intensity $\frac{I_e}{I_{e, 25^\circ}} = f(T_{amb})$



Wavelength at peak emission $\lambda_{peak} = f(T_{amb})$



Pulse capability

