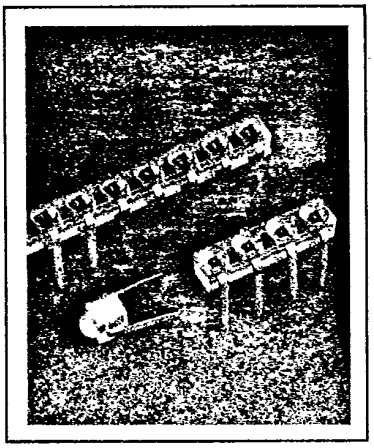
SIEMENS

LD 261 SERIES

INFRARED EMITTER SINGLE AND ARRAYS

T-41-11



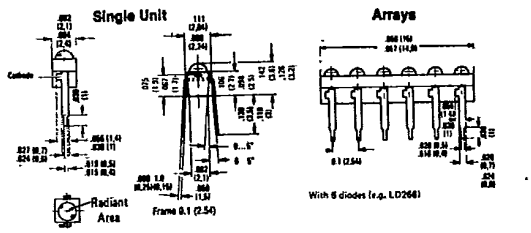
FEATURES

- **Low Cost**
- **Miniature Size**
- **Available As Single Unit, LD 261 and Arrays:**
  - **Two Diodes, LD 262**
  - **Three Diodes, LD 263**
  - **Four Diodes, LD 264**
  - **Five Diodes, LD 265**
  - **Six Diodes, LD 266**
  - **Seven Diodes, LD 267**
  - **Eight Diodes, LD 268**
  - **Nine Diodes, LD 269**
  - **Ten Diodes, LD 260**
- **Medium Wide Beam, 60°**

DESCRIPTION

The LD 261 series, GaAs infrared emitting diodes, emit radiation at a wavelength in the near infrared range. This miniature device comes in a grey plastic package and is available as a single emitter as well as two through ten element arrays. The terminals are solder pins with .10" lead spacing. The LD 261 series is designed for use with the BPX 81 series phototransistor when the spacing between each is approximately 10mm. These devices can easily be mounted on PC boards and in thick film circuits for simple or complex scanning systems.

Package Dimensions in Inches (mm)



Maximum Ratings

Storage Temperature	T	-40 to +80	°C
Soldering Temperature (Distance from soldering joint to package ≥2 mm, soldering time t ≤ 3 s)	T_S	230	°C
Junction Temperature	T_j	80	°C
Reverse Voltage	V_R	5	V
Forward Current	I_F	60	mA
Surge Current (t = 10 µs, D = 0)	I_{FS}	1.6	A
Power Dissipation	P_{tot}	85	mW
Thermal Resistance	R_{thJamb}	750	K/W
	R_{thJL}	650	K/W

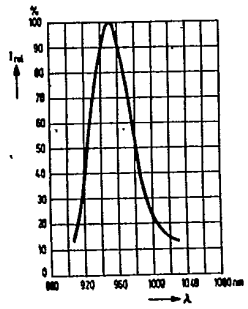
Characteristics (T_{amb} = 25°C)

Wavelength (I_F = 50 mA, t_p = 20 ms)	λ	950±20	nm
Spectral Bandwidth (I_F = 50 mA, t_p = 20 ms)	Δλ	55	nm
Half Angle	φ	±30	Deg.
Active Area	A	0.25	mm²
Active Die Area per Die	L x W	0.5 x 0.5	mm
Distance Die Surface to Package Surface	H	1.3 to 1.9	mm
Switching Time (I_e from 10% to 90% and from 90% to 10% at I_F = 50 mA)	t_r, t_f	1	µs
Capacitance (V_R = 0 V)	C_o	40	pF
Forward Voltage (I_F = 50 mA, t_p = 20 ms)	V_F	1.25 (≤1.4)	V
Breakdown Voltage (I_R = 10 µA)	V_{BR}	30 (≥5)	V
Reverse Current (V_R =5 V)	I_R	0.01 (≤1)	µA
Temperature Coefficient of I_e or Φ_e	TC_I	-0.55	%/K
Temperature Coefficient of V_F	TC_V	-1.5	mV/K
Temperature Coefficient of λpeak	TC_λ	0.3	nm/K

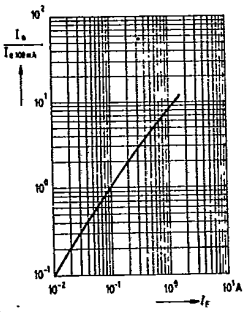
Radiant Intensity I_e in Axial Direction Measured at a Solid Angle of Ω = 0.01 sr

Group	LD261-4	LD261-5	260, 262-269	
Radiant Intensity (I_F = 50 mA, t_p = 20 ms) I_e	2 to 4	3.2 to 6.3	2.5 to 8	mW/sr
Radiant Power (I_F = 50 mA, t_p = 20 ms) Φ_e	5	6.5	8	mW

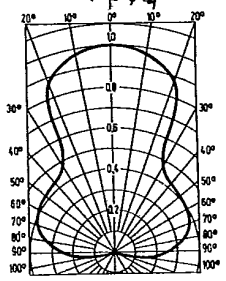
Relative spectral emission $I_{rel} = f(\lambda)$



Radiant intensity $I_e = f(I_F)$



Radiation characteristic $I_{rel} = f(\varphi)$



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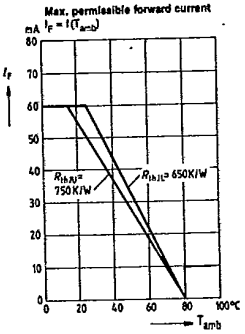
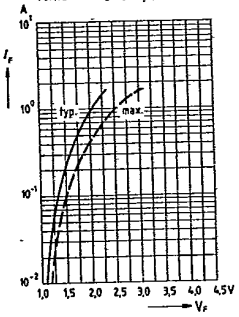
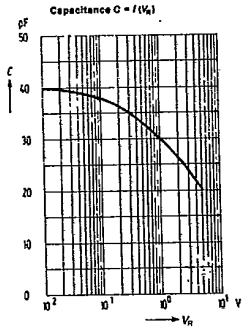
Max. permissible forward current $I_F = f(T_{amb})$



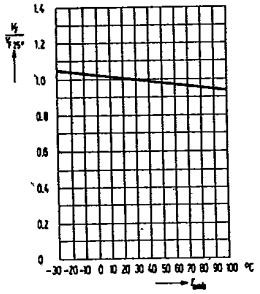
Forward voltage $I_F = f(V_F)$



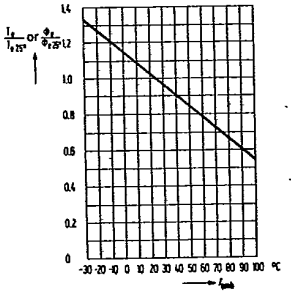
Capacitance $C = f(V_R)$



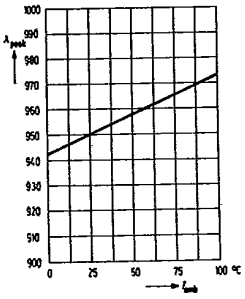
Forward voltage $\frac{V_F}{V_{F\,25°}} = f(T_{amb})$



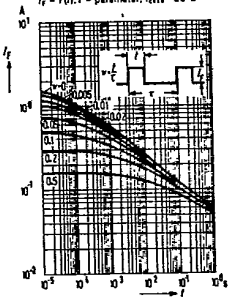
Radiant intensity $\frac{I_e}{I_{e\,25°}} = f(T_{amb})$



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



Perm. pulse handling capability $I_F = f(t)$; τ = parameter; T_{case} = 25 °C



LD 261

Infrared Emitters