

GAS LIGHT EMITTING DIODE

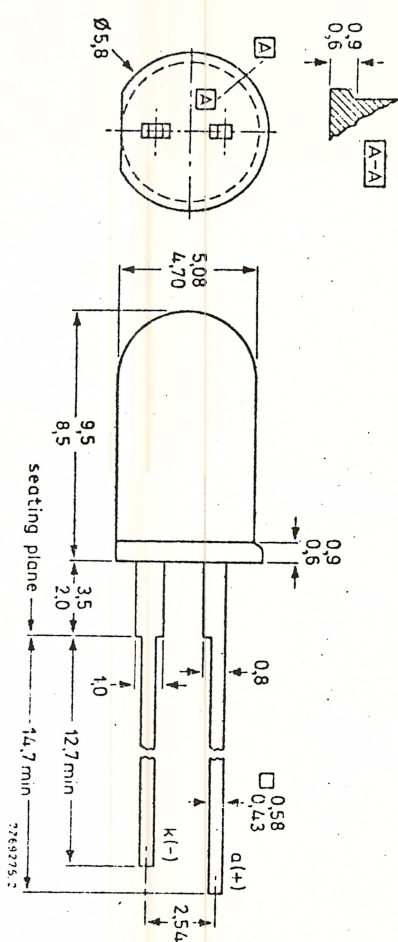
Epitaxial gallium arsenide light emitting diode intended for remote-control applications. It emits radiation in the near infrared when forward biased. Infrared translucent epoxy encapsulation (dark blue).

QUICK REFERENCE DATA

Continuous reverse voltage	V_R	max.	5 V
Forward current (d.c.)	I_F	max.	130 mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	P_{tot}	max.	215 mW
Junction temperature	T_j	max.	100 $^\circ\text{C}$
Radiant intensity (on-axis) at $I_F = 100\text{ mA}$	I_e	$>$	9 mW/sr
	I_e		9 to 20 mW/sr
	I_e	$>$	15 mW/sr
Wavelength at peak emission	λ_{pk}	typ.	930 nm

MECHANICAL DATA

Fig. 1 SOD-63.



RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Continuous reverse voltage	V_R	max.	5 V
Forward current (d.c.)	I_F	max.	130 mA
Forward current (peak value)	I_p	$\leq 50\text{ }\mu\text{s}; \delta = 0.05$	
Non-repetitive peak forward current ($t_p \leq 10\text{ }\mu\text{s}$)	I_{FSM}	max.	1000 mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	P_{tot}	max.	2500 mW
Storage temperature	T_{stg}	max.	215 mW
Junction temperature	T_j	max.	-55 to +100 $^\circ\text{C}$
Lead soldering temperature up to the seating plane; $t_{sld} \leq 10\text{ s}$	T_{sld}	max.	100 $^\circ\text{C}$
			260 $^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient mounted on a printed-circuit board

$$R_{thja} = 0.35\text{ K/mW}$$

CHARACTERISTICS

$T_j = 25^\circ\text{C}$ unless otherwise specified

Forward voltage	V_F	typ.	1.4 V
$I_F = 100\text{ mA}$	V_F	$<$	1.6 V
	V_{FM}	typ.	2.4 V
$I_{FM} = 1500\text{ mA}; t_p = 20\text{ }\mu\text{s}; \delta = 0.033$			
Reverse current	I_R	$<$	100 μA
$V_R = 5\text{ V}$			
Diode capacitance	C_d	typ.	40 pF
$V_R = 0; f = 1\text{ MHz}$			
Total radiant power	ϕ_e	$>$	7 mW
$I_F = 100\text{ mA}$		typ.	12 mW
Decrease of radiant power with temperature	$\frac{\Delta\phi_e}{\Delta T_j}$	typ.	1 %/K
$I_F = 100\text{ mA}$			
Radiant intensity (on-axis)	I_e	$>$	9 mW/sr
$I_F = 100\text{ mA}$		typ.	15 mW/sr
	I_e		9 to 20 mW/sr
	I_e	$>$	15 mW/sr
Wavelength at peak emission	λ_{pk}	typ.	930 nm
$I_F = 100\text{ mA}$			
Bandwidth at half height	B50%	typ.	50 nm
$I_F = 100\text{ mA}$			
Beamwidth between half-intensity directions	$\alpha_{50\%}$	typ.	40 $^\circ$
$I_F = 100\text{ mA}$			

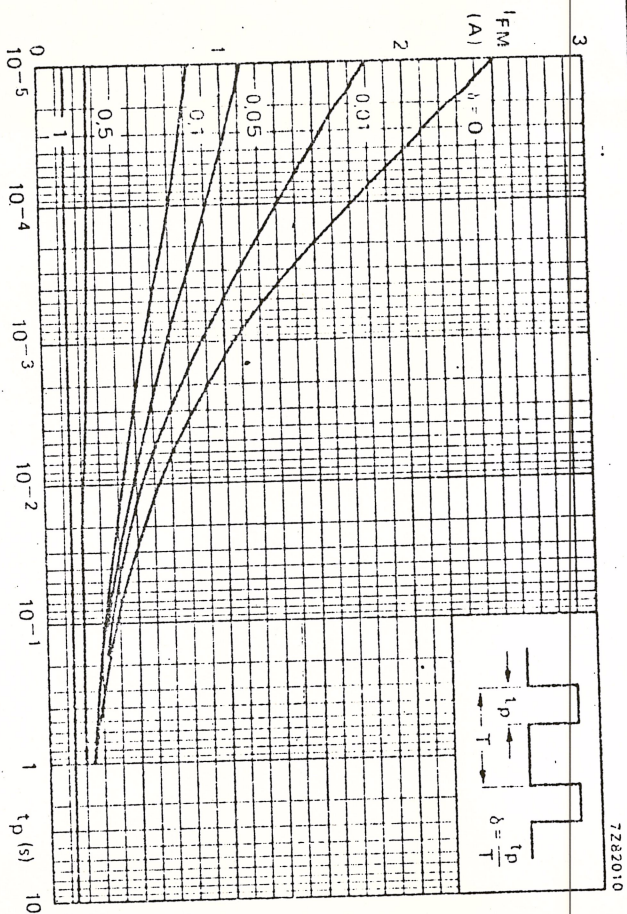


Fig. 2 $T_{amb} = 25^\circ C$; $T_{j peak} = 100^\circ C$.

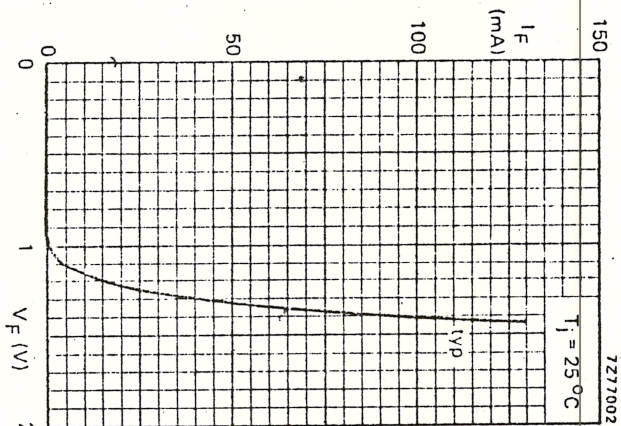


Fig. 3.

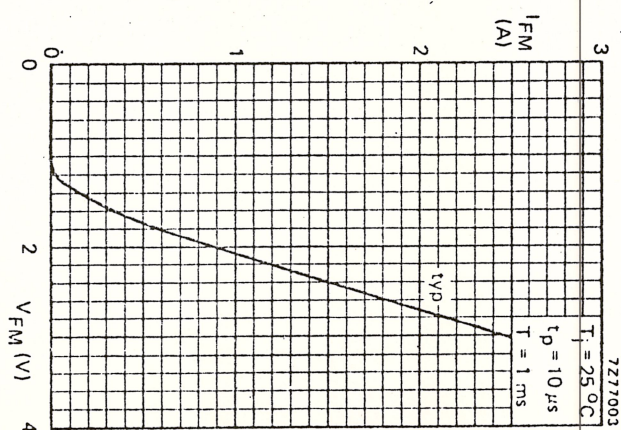


Fig. 4.

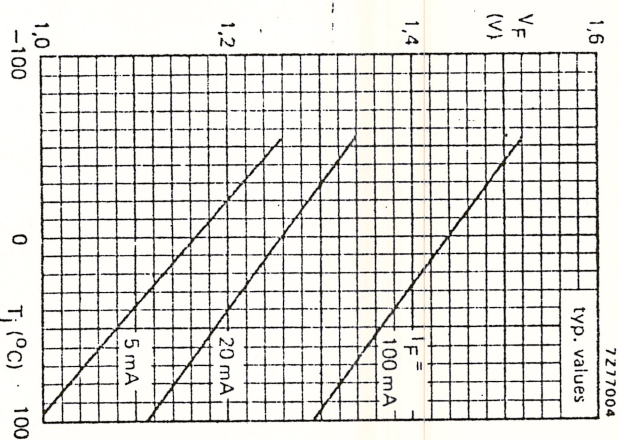


Fig. 5.

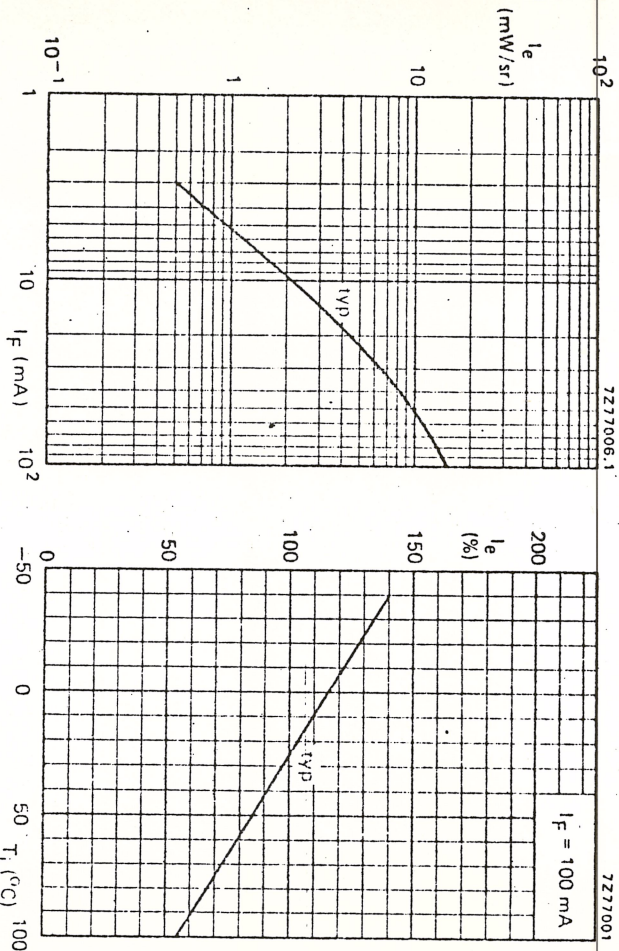
Fig. 6 $T_J = 25^\circ\text{C}$.

Fig. 7.

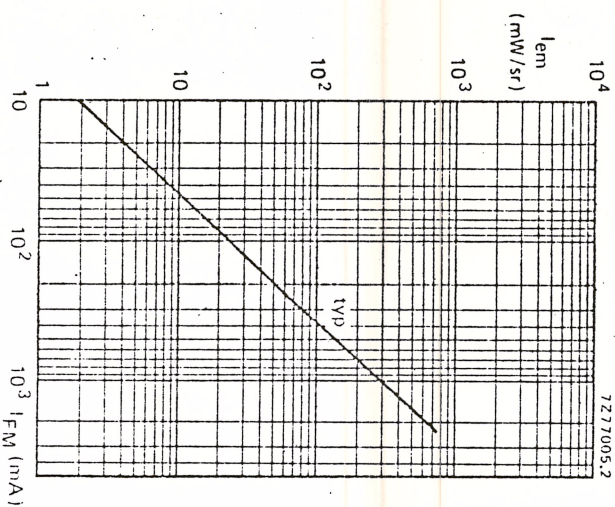
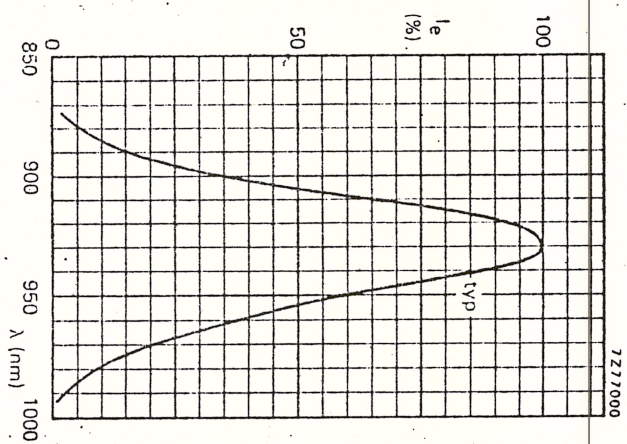
Fig. 8 $T_{amb} = 25^\circ\text{C}$; $I_F = 10$ mA; $T = 1$ min.

Fig. 9.

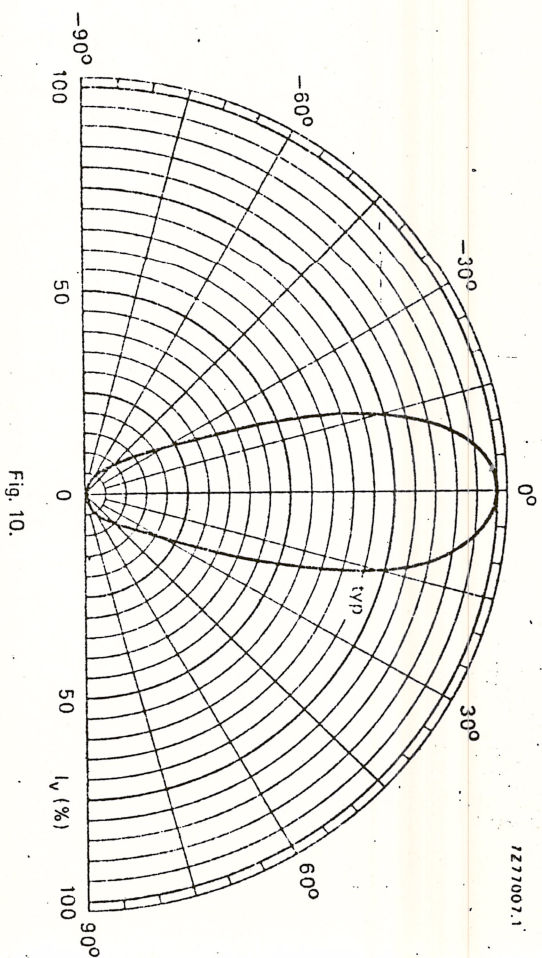


Fig. 10.