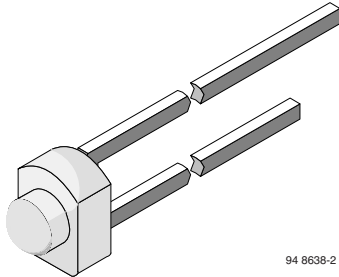


Infrared Emitting Diode, RoHS Compliant, 950 nm, GaAs



94 8638-2

DESCRIPTION

CQY37N is an infrared, 950 nm emitting diode in GaAs technology molded in a miniature, clear plastic package with lens.

FEATURES

- Package type: leaded
- Package form: T-3/4
- Dimensions (in mm): \varnothing 1.8
- Peak wavelength: $\lambda_p = 950$ nm
- High reliability
- Angle of half intensity: $\varphi = \pm 12^\circ$
- Low forward voltage
- Suitable for high pulse current operation
- Good spectral matching with Si photodetectors
- Package matches with detector BPW17N
- Lead (Pb)-free component in accordance with RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS COMPLIANT

APPLICATIONS

- Radiation source in near infrared range

PRODUCT SUMMARY				
COMPONENT	I_e (mW/sr)	φ (deg)	λ_p (nm)	t_r (ns)
CQY37N	5	± 12	950	800

Note

Test conditions see table "Basic Characteristics"

ORDERING INFORMATION			
ORDERING CODE	PACKAGING	REMARKS	PACKAGE FORM
CQY37N	Bulk	MOQ: 5000 pcs, 5000 pcs/bulk	T-3/4

Note

MOQ: minimum order quantity

ABSOLUTE MAXIMUM RATINGS				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	5	V
Forward current		I_F	100	mA
Surge forward current	$t_p \leq 100 \mu s$	I_{FSM}	2	A
Power dissipation		P_V	160	mW
Junction temperature		T_j	100	$^\circ C$
Operating temperature range		T_{amb}	- 25 to + 85	$^\circ C$
Storage temperature range		T_{stg}	- 25 to + 100	$^\circ C$
Soldering temperature	$t \leq 3 s$	T_{sd}	245	$^\circ C$
Thermal resistance junction/ambient	leads not soldered	R_{thJA}	450	K/W

Note

$T_{amb} = 25 \text{ }^\circ C$, unless otherwise specified

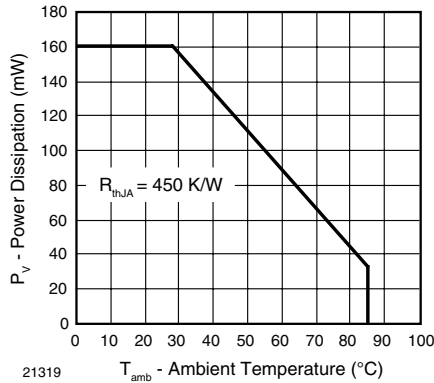


Fig. 1 - Power Dissipation Limit vs. Ambient Temperature

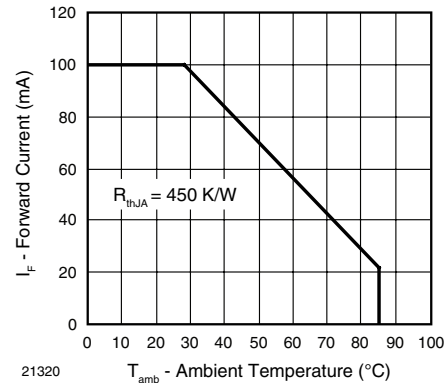


Fig. 2 - Forward Current Limit vs. Ambient Temperature

BASIC CHARACTERISTICS						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 50 \text{ mA}$, $t_p \leq 20 \text{ ms}$	V_F		1.3	1.6	V
Temperature coefficient of V_F	$I_F = 100 \text{ mA}$	TK_{V_F}		- 1.3		mV/K
Breakdown voltage	$I_R = 100 \text{ }\mu\text{A}$	$V_{(BR)}$	5			μA
Junction capacitance	$V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$, $E = 0$	C_j		50		pF
Radiant intensity	$I_F = 50 \text{ mA}$, $t_p \leq 20 \text{ ms}$	I_e	2.2	5	11	mW/sr
Radiant power	$I_F = 50 \text{ mA}$, $t_p \leq 20 \text{ ms}$	ϕ_e		10		mW
Temperature coefficient of ϕ_e	$I_F = 50 \text{ mA}$	TK_{ϕ_e}		- 0.8		%/K
Angle of half intensity		φ		± 12		deg
Peak wavelength	$I_F = 50 \text{ mA}$	λ_p		950		nm
Spectral bandwidth	$I_F = 50 \text{ mA}$	$\Delta\lambda$		50		nm
Rise time	$I_F = 100 \text{ mA}$	t_r		800		ns
	$I_F = 1.5 \text{ A}$, $t_p/T = 0.01$, $t_p \leq 10 \text{ }\mu\text{s}$	t_r		400		ns
Virtual source diameter		d		1.2		mm

Note
 $T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified

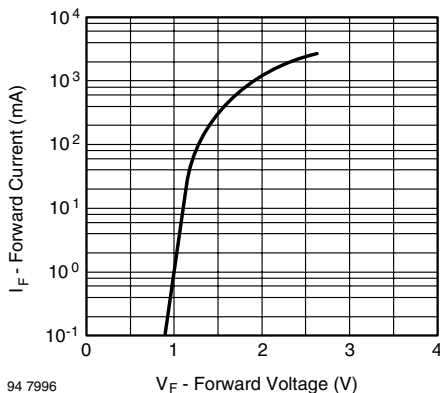
BASIC CHARACTERISTICS
 $T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified


Fig. 3 - Forward Current vs. Forward Voltage

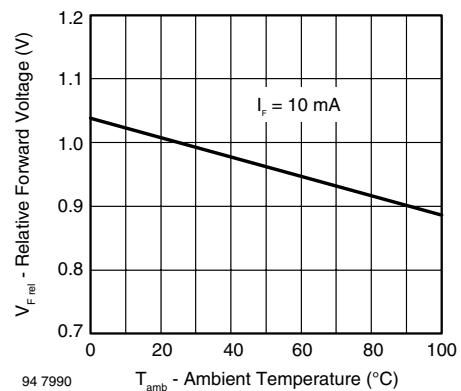


Fig. 4 - Relative Forward Voltage vs. Ambient Temperature

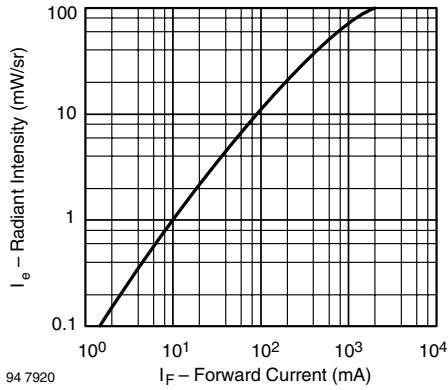


Fig. 5 - Radiant Intensity vs. Forward Current

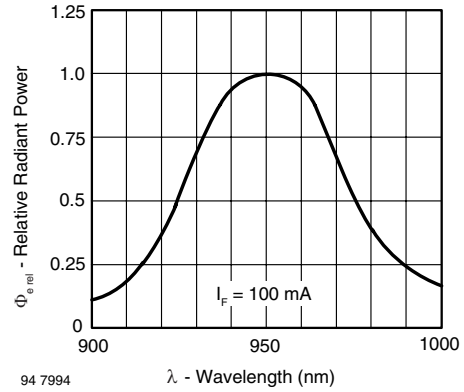


Fig. 8 - Relative Radiant Power vs. Wavelength

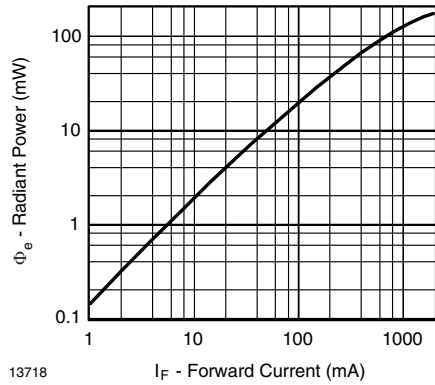


Fig. 6 - Radiant Power vs. Forward Current

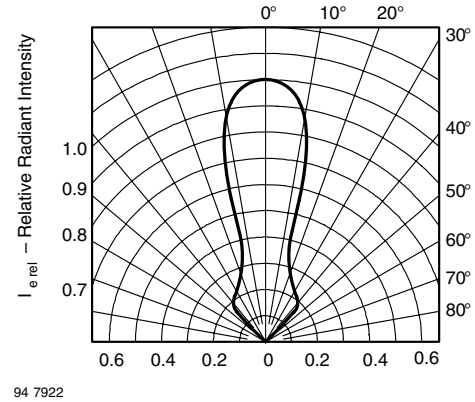


Fig. 9 - Relative Radiant Intensity vs. Angular Displacement

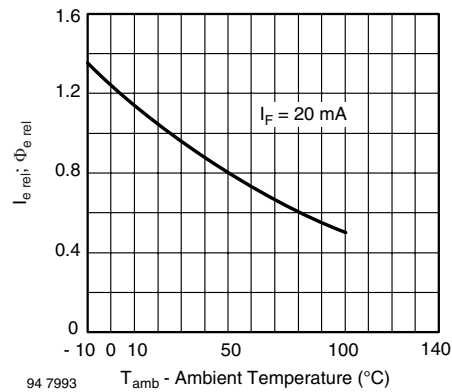
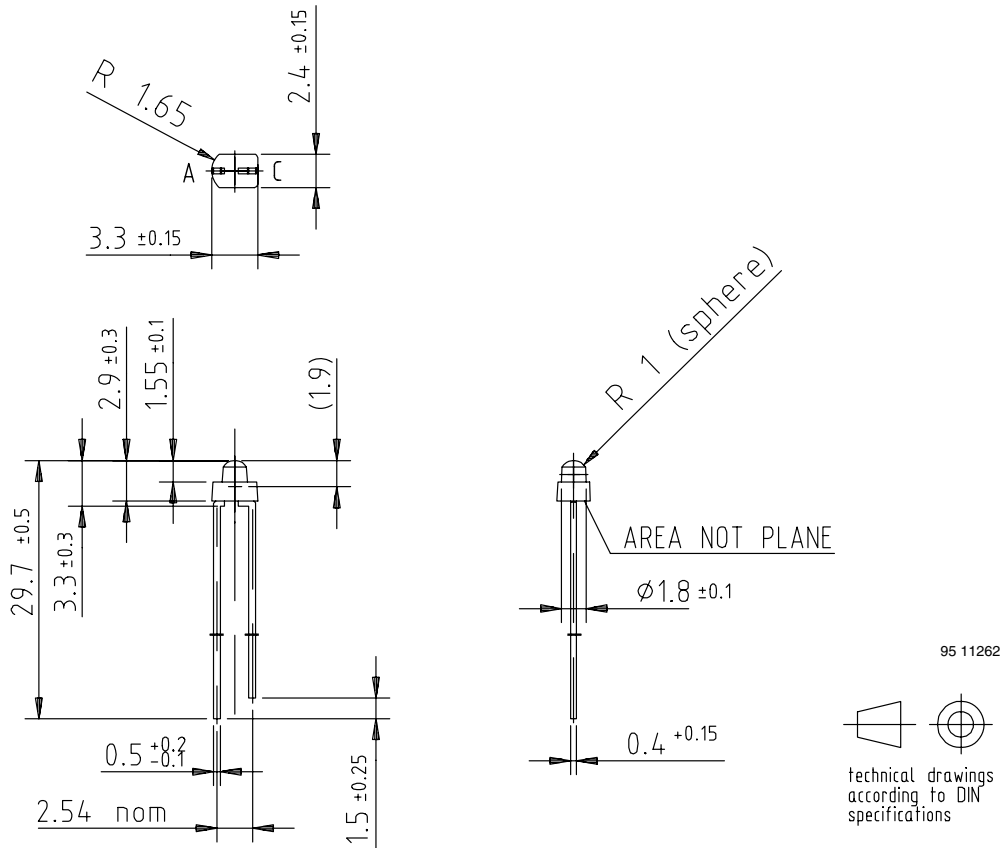


Fig. 7 - Relative Radiant Intensity/Power vs. Ambient Temperature



PACKAGE DIMENSIONS in millimeters





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