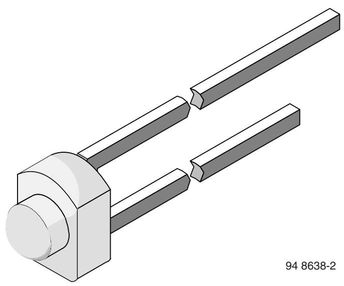
Infrared Emitting Diode, 950 nm, GaAs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FEATURES

- Package type: leaded
- Package form: T-¾
- Dimensions (in mm): Ø 1.8
- Peak wavelength: λ_p = 950 nm
- High reliability
- Angle of half intensity: φ = ± 12°
- Low forward voltage
- Suitable for high pulse current operation
- Good spectral matching with Si photodetectors
- Package matches with detector BPW17N
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free
e4
RoHS COMPLIANT

DESCRIPTION

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

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-¾

Note
- MOQ: minimum order quantity

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

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

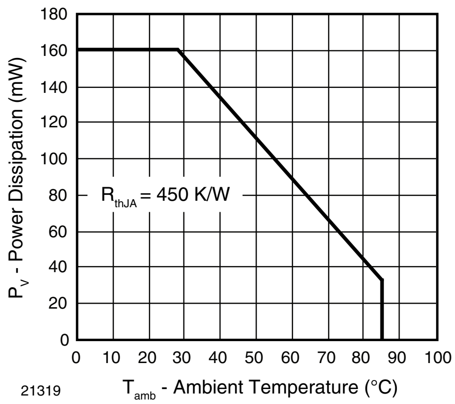


Fig. 1 - Power Dissipation Limit vs. Ambient Temperature

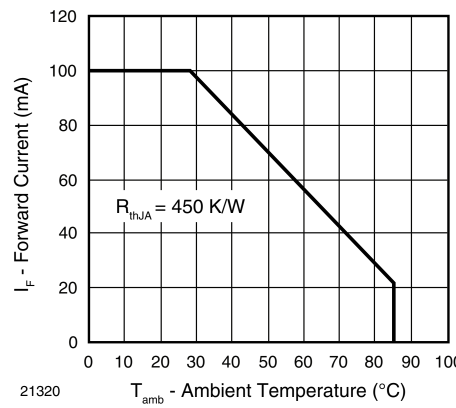


Fig. 2 - Forward Current Limit vs. Ambient Temperature

BASIC CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 50 mA, $t_p \leq$ 20 ms	V_F		1.3	1.6	V
Temperature coefficient of V_F	I_F = 100 mA	TK_{VF}		- 1.3		mV/K
Breakdown voltage	I_R = 100 μA	$V_{(BR)}$	5			μA
Junction capacitance	V_R = 0 V, f = 1 MHz, E = 0	C_j		50		pF
Radiant intensity	I_F = 50 mA, $t_p \leq$ 20 ms	I_e	2.2	5	11	mW/sr
Radiant power	I_F = 50 mA, $t_p \leq$ 20 ms	ϕ_e	4.8	10	17.8	mW
Temperature coefficient of ϕ_e	I_F = 50 mA	$TK\phi_e$		- 0.8		%/K
Angle of half intensity		φ		± 12		deg
Peak wavelength	I_F = 50 mA	λ_p		950		nm
Spectral bandwidth	I_F = 50 mA	$\Delta\lambda$		50		nm
Rise time	I_F = 100 mA	t_r		800		ns
	I_F = 1.5 A, t_p/T = 0.01, $t_p \leq$ 10 μs	t_r		400		ns
Virtual source diameter		d		1.2		mm

BASIC CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

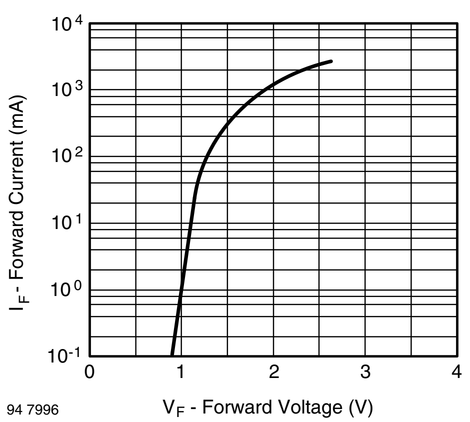


Fig. 3 - Forward Current vs. Forward Voltage

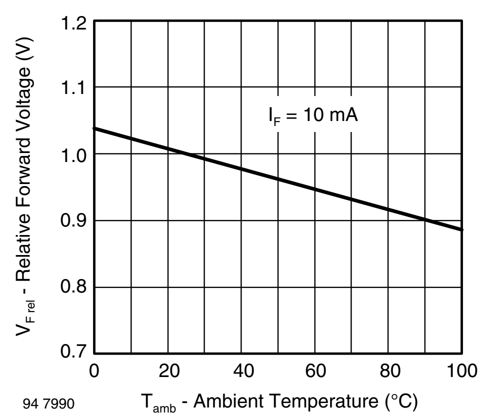


Fig. 4 - Relative Forward Voltage vs. Ambient Temperature

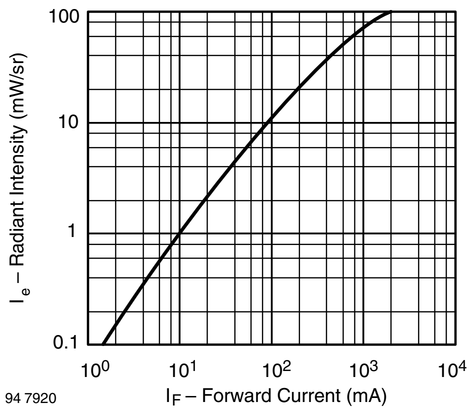


Fig. 5 - Radiant Intensity vs. Forward Current

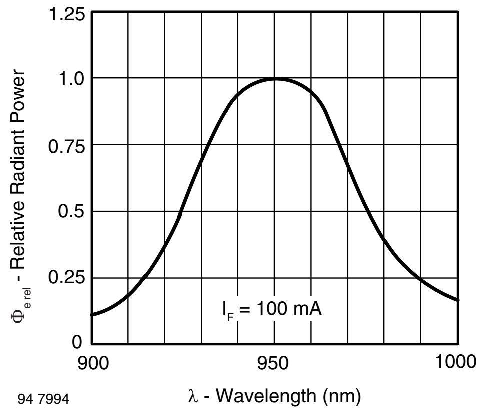


Fig. 8 - Relative Radiant Power vs. Wavelength

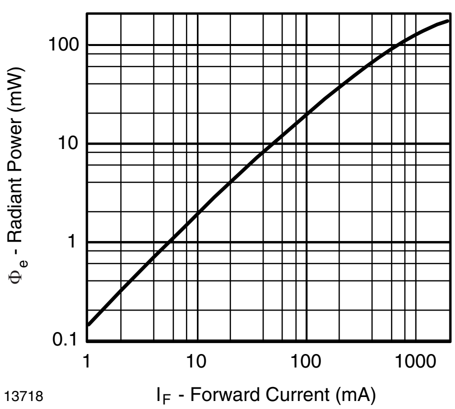


Fig. 6 - Radiant Power vs. Forward Current

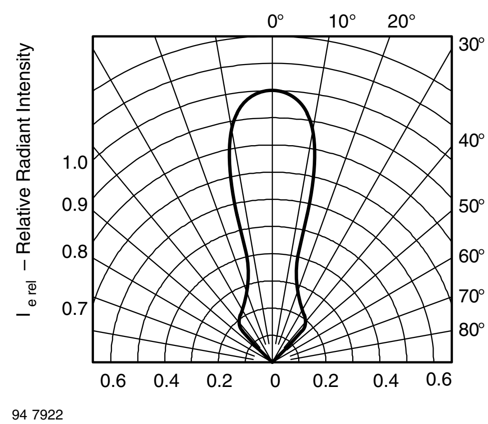


Fig. 9 - Relative Radiant Intensity vs. Angular Displacement

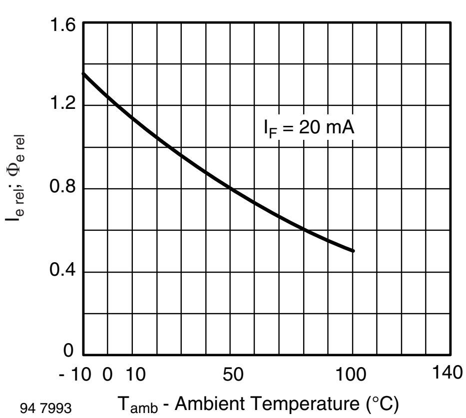
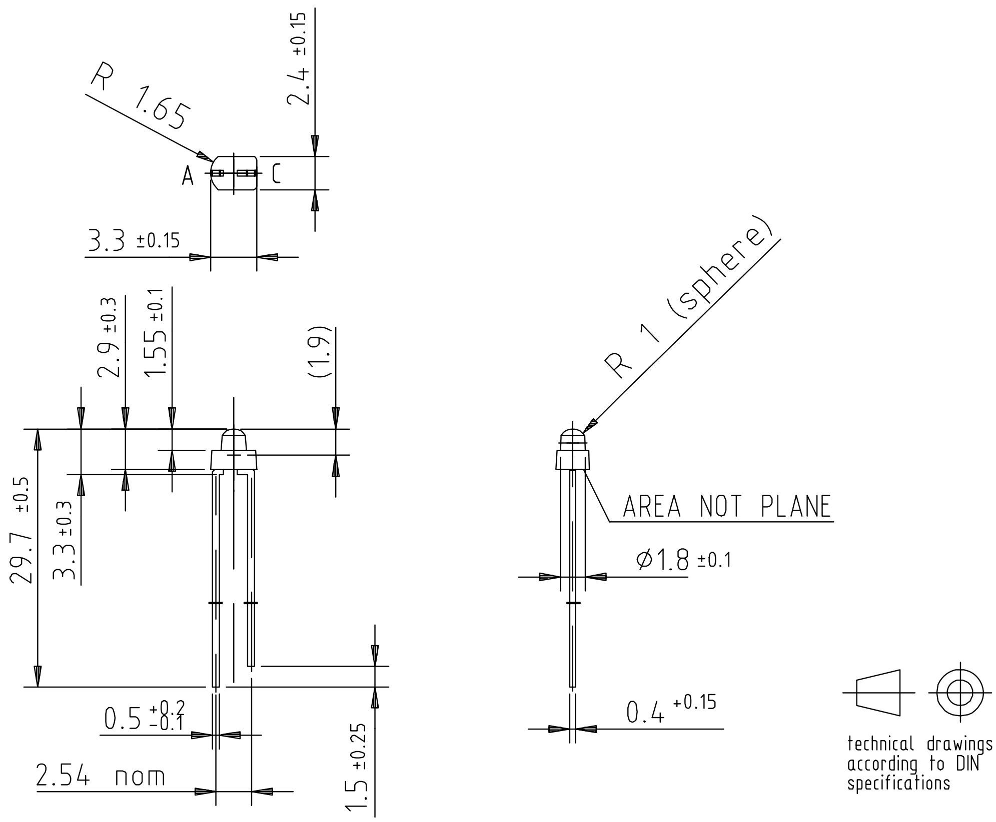


Fig. 7 - Relative Radiant Intensity/Power vs. Ambient Temperature

PACKAGE DIMENSIONS in millimeters



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