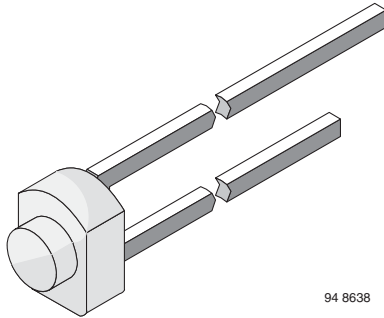


## Infrared Emitting Diode, RoHS Compliant, 950 nm, GaAs



### 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:  $\varphi = \pm 55^\circ$
- Low forward voltage
- Suitable for high pulse current operation
- Good spectral matching with Si photodetectors
- Package matches with detector BPW16N
- Compliant to RoHS Directive 2002/95/EC and in accordance with WEEE 2002/96/EC


**RoHS**  
COMPLIANT

### DESCRIPTION

CQY36N is an infrared, 950 nm emitting diode in GaAs technology molded in a miniature, clear plastic package without lens.

### APPLICATIONS

- Radiation source in near infrared range

### PRODUCT SUMMARY

COMPONENT	$I_e$ (mW/sr)	$\varphi$ (deg)	$\lambda_p$ (nm)	$t_r$ (ns)
CQY36N	1.5	$\pm 55$	950	800

#### Note

- Test conditions see table "Basic Characteristics"

### ORDERING INFORMATION

ORDERING CODE	PACKAGING	REMARKS	PACKAGE FORM
CQY36N	Bulk	MOQ: 5000 pcs, 5000 pcs/bulk	T-3/4

#### Note

- MOQ: minimum order quantity

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25^\circ\text{C}$ , unless otherwise specified)

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

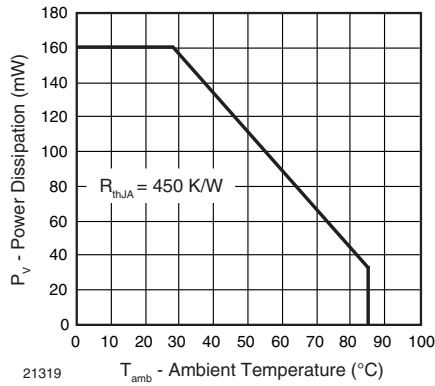


Fig. 1 - Power Dissipation Limit vs. Ambient Temperature

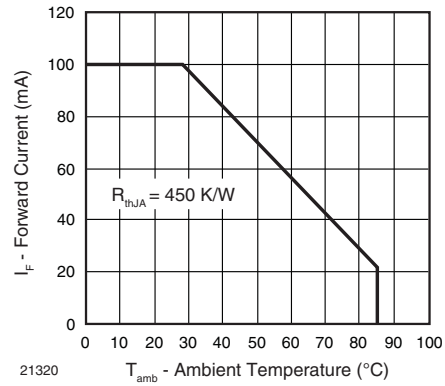


Fig. 2 - Forward Current Limit vs. Ambient Temperature

BASIC CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 50 mA, t <sub>p</sub> ≤ 20 ms	V <sub>F</sub>		1.3	1.6	V
Temperature coefficient of V <sub>F</sub>	I <sub>F</sub> = 100 mA	TK <sub>V<sub>F</sub></sub>		- 1.3		mV/K
Breakdown voltage	I <sub>R</sub> = 100 μA	V <sub>(BR)</sub>	5			μA
Junction capacitance	V <sub>R</sub> = 0 V, f = 1 MHz, E = 0	C <sub>j</sub>		50		pF
Radiant intensity	I <sub>F</sub> = 50 mA, t <sub>p</sub> ≤ 20 ms	I <sub>e</sub>	0.7	1.5	2.1	mW/sr
Radiant power	I <sub>F</sub> = 50 mA, t <sub>p</sub> ≤ 20 ms	φ <sub>e</sub>		10		mW
Temperature coefficient of φ <sub>e</sub>	I <sub>F</sub> = 50 mA	TKφ <sub>e</sub>		- 0.8		%/K
Angle of half intensity		φ		± 55		deg
Peak wavelength	I <sub>F</sub> = 50 mA	λ <sub>p</sub>		950		nm
Spectral bandwidth	I <sub>F</sub> = 50 mA	Δλ		50		nm
Rise time	I <sub>F</sub> = 100 mA	t <sub>r</sub>		800		ns
	I <sub>F</sub> = 1.5 A, t <sub>p</sub> /T = 0.01, t <sub>p</sub> ≤ 10 μs	t <sub>r</sub>		400		ns
Virtual source diameter		d		1.2		mm

**BASIC CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

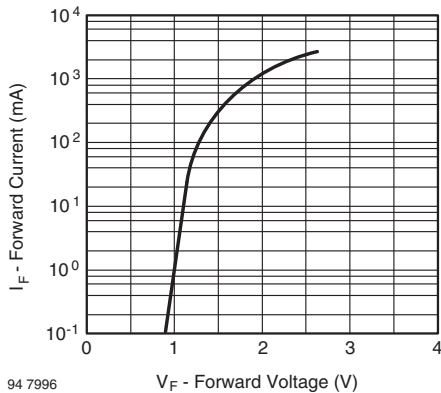


Fig. 3 - Forward Current vs. Forward Voltage

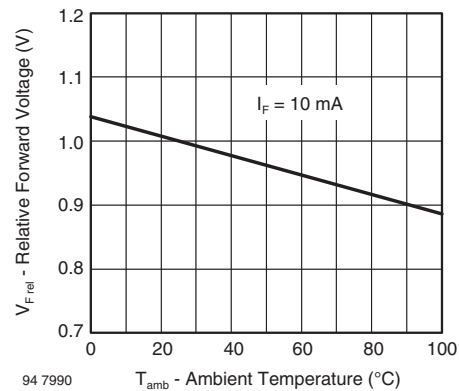


Fig. 4 - Relative Forward Voltage vs. Ambient Temperature

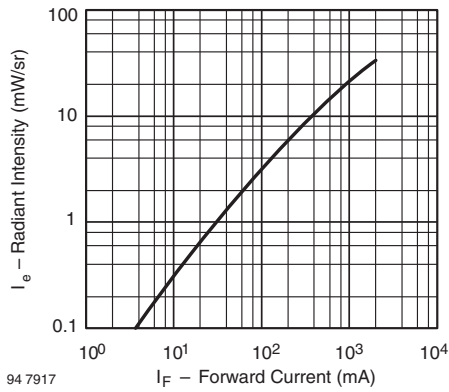


Fig. 5 - Radiant Intensity vs. Forward Current

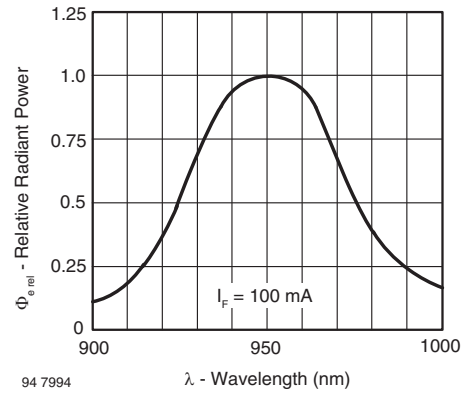


Fig. 8 - Relative Radiant Power vs. Wavelength

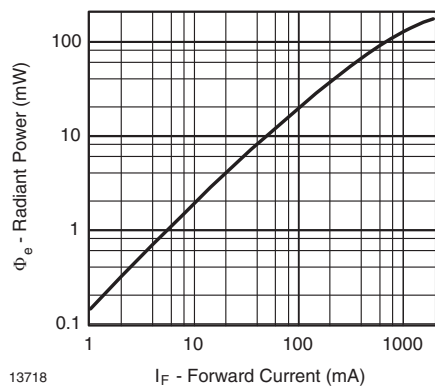


Fig. 6 - Radiant Power vs. Forward Current

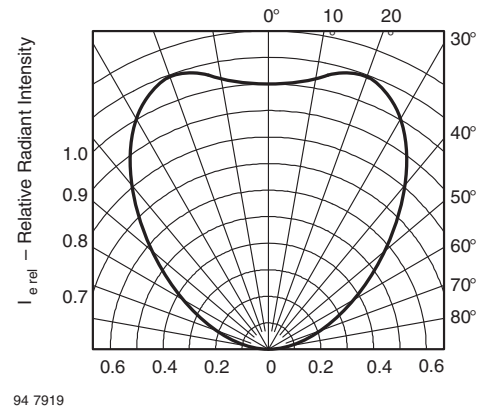


Fig. 9 - Relative Radiant Intensity vs. Angular Displacement

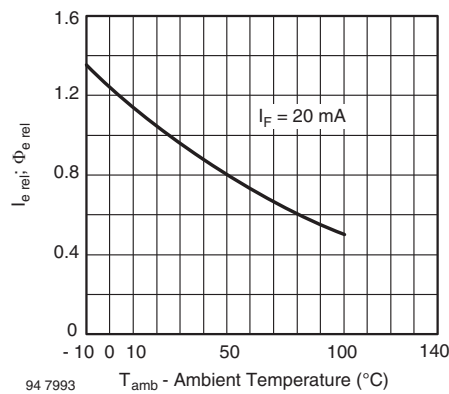
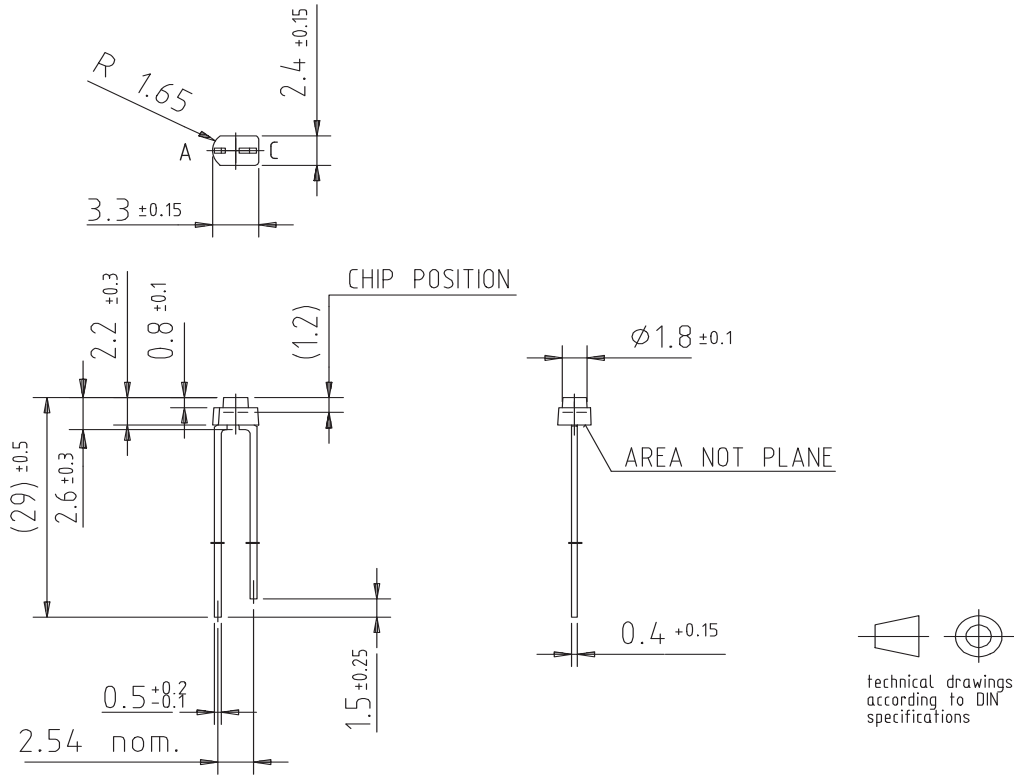


Fig. 7 - Relative Radiant Intensity/Power vs. Ambient Temperature

## PACKAGE DIMENSIONS in millimeters



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