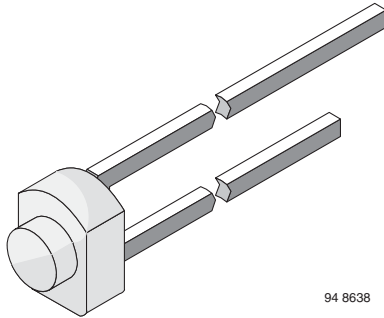


Infrared Emitting Diode, RoHS Compliant, 950 nm, GaAs



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) | φ (deg) | λ_p (nm) | t_r (ns) |
|-----------|---------------|-----------------|------------------|------------|
| CQY36N | 1.5 | ± 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 |

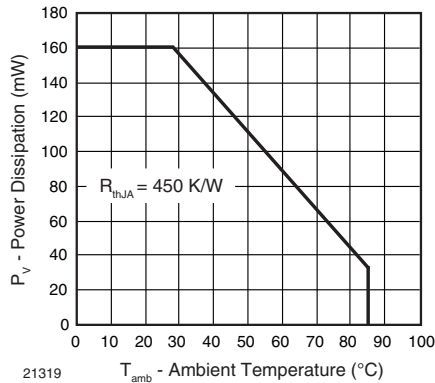


Fig. 1 - Power Dissipation Limit vs. Ambient Temperature

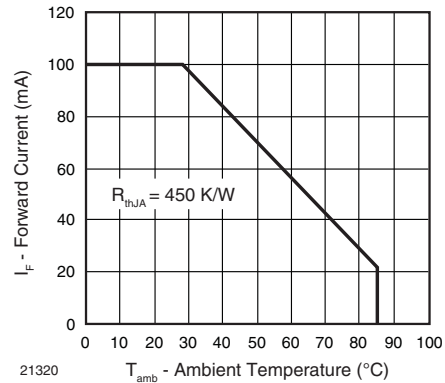


Fig. 2 - Forward Current Limit vs. Ambient Temperature

| BASIC CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | |
|--|--|-----------------------------|------|-------|------|-------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | I _F = 50 mA, t _p ≤ 20 ms | V _F | | 1.3 | 1.6 | V |
| Temperature coefficient of V _F | I _F = 100 mA | TK _{V_F} | | - 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 ≤ 20 ms | I _e | 0.7 | 1.5 | 2.1 | mW/sr |
| Radiant power | I _F = 50 mA, t _p ≤ 20 ms | φ _e | | 10 | | mW |
| Temperature coefficient of φ _e | I _F = 50 mA | TKφ _e | | - 0.8 | | %/K |
| Angle of half intensity | | φ | | ± 55 | | deg |
| Peak wavelength | I _F = 50 mA | λ _p | | 950 | | nm |
| Spectral bandwidth | I _F = 50 mA | Δλ | | 50 | | nm |
| Rise time | I _F = 100 mA | t _r | | 800 | | ns |
| | I _F = 1.5 A, t _p /T = 0.01, t _p ≤ 10 μs | t _r | | 400 | | ns |
| Virtual source diameter | | d | | 1.2 | | mm |

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

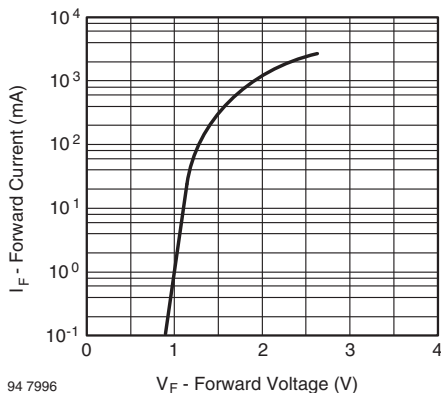


Fig. 3 - Forward Current vs. Forward Voltage

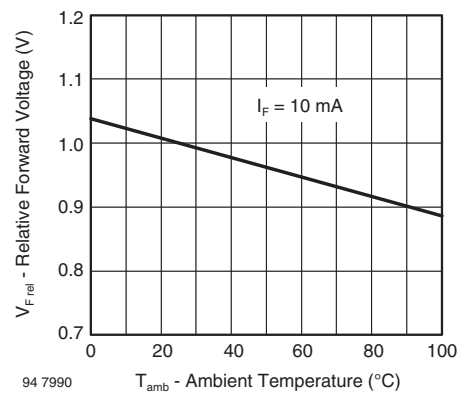


Fig. 4 - Relative Forward Voltage vs. Ambient Temperature

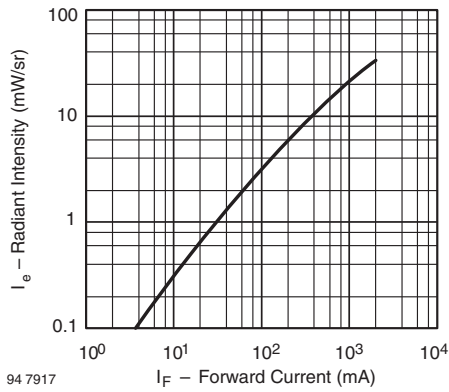


Fig. 5 - Radiant Intensity vs. Forward Current

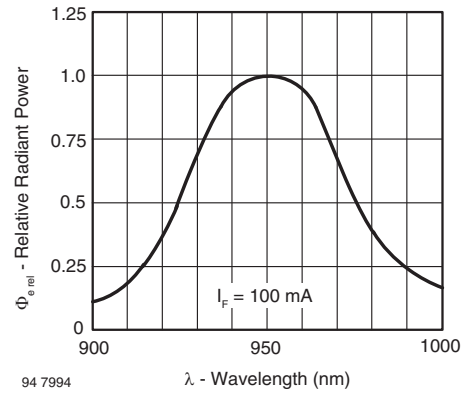


Fig. 8 - Relative Radiant Power vs. Wavelength

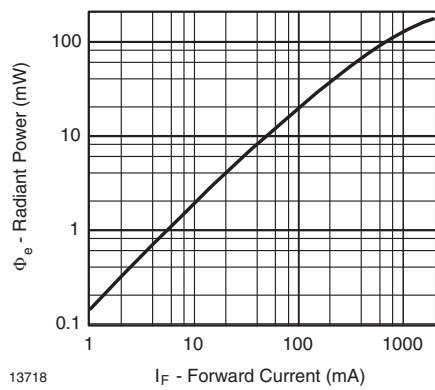


Fig. 6 - Radiant Power vs. Forward Current

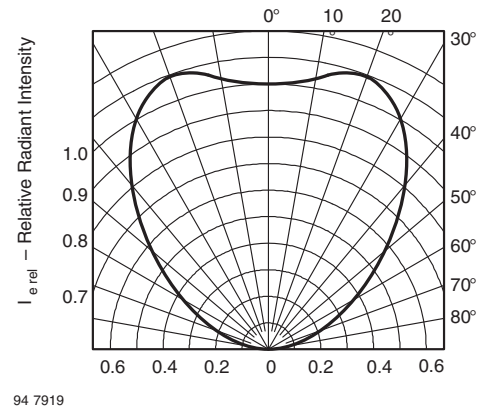


Fig. 9 - Relative Radiant Intensity vs. Angular Displacement

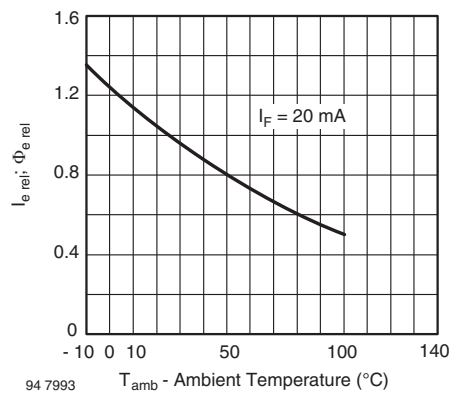
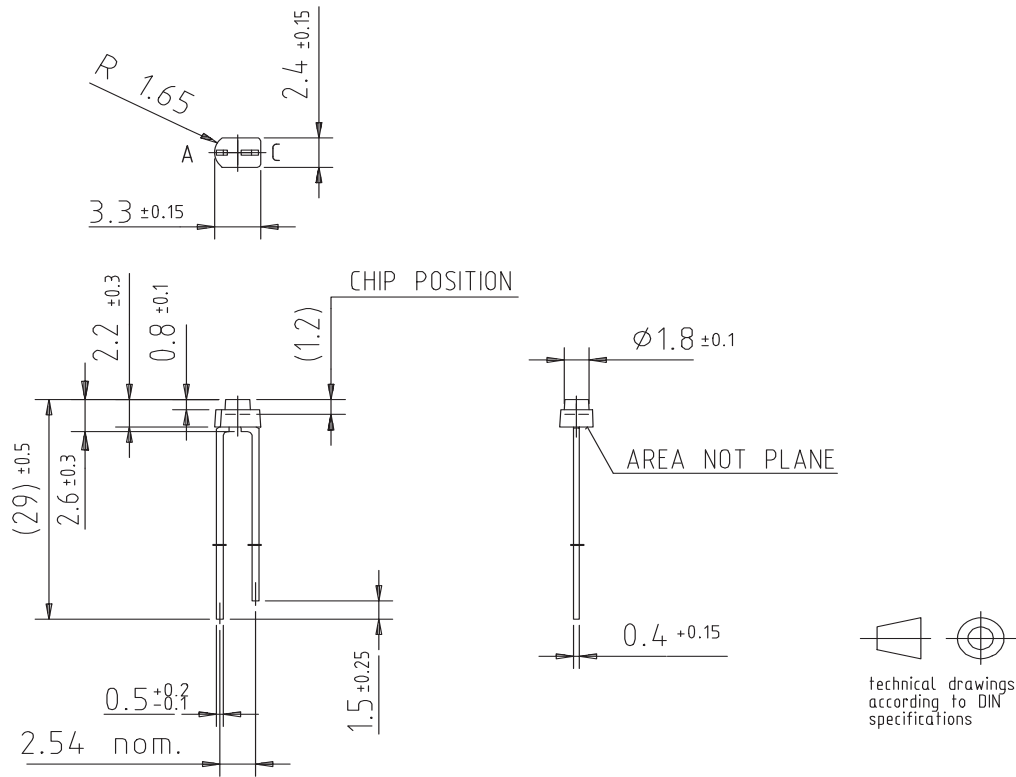


Fig. 7 - Relative Radiant Intensity/Power vs. Ambient Temperature

PACKAGE DIMENSIONS in millimeters



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