

CQ89D
CQ89M
CQ89N

1.0 AMP TRIAC
400 THRU 800 VOLTS



SOT-89 CASE

MAXIMUM RATINGS: ($T_C=25^{\circ}\text{C}$)

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ89D series types are epoxy molded silicon triacs designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

MARKING CODE: FULL PART NUMBER

| | SYMBOL | CQ89D | CQ89M | CQ89N | UNITS |
|---|---------------|-------|-------------|-------|----------------------|
| Peak Repetitive Off-State Voltage | V_{DRM} | 400 | 600 | 800 | V |
| RMS On-State Current ($T_C=80^{\circ}\text{C}$) | I_T (RMS) | | 1.0 | | A |
| Peak One Cycle Surge ($t_p=10$ ms) | I_{TSM} | | 10 | | A |
| Peak Gate Current | I_{GM} | | 1.0 | | A |
| Average Gate Power Dissipation | P_G (AV) | | 0.1 | | W |
| Storage Temperature | T_{stg} | | -40 to +150 | | $^{\circ}\text{C}$ |
| Junction Temperature | T_J | | -40 to +125 | | $^{\circ}\text{C}$ |
| Thermal Reistance | θ_{JC} | | 10 | | $^{\circ}\text{C/W}$ |

ELECTRICAL CHARACTERISTICS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

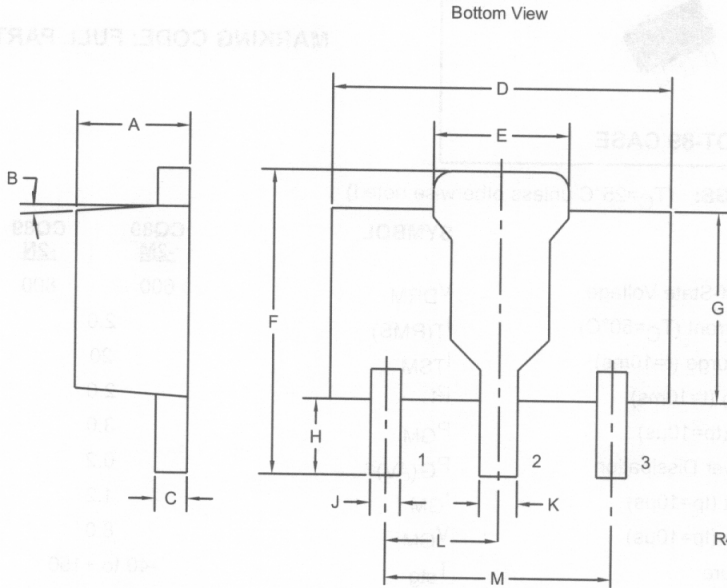
| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|-----------|--|-----|-----|-----|------------------------|
| I_{DRM} | $V_D = \text{Rated } V_{DRM}$ | | | 10 | μA |
| I_{DRM} | $V_D = \text{Rated } V_{DRM}, T_C = 125^{\circ}\text{C}$ | | | 200 | μA |
| I_{GT} | $V_D = 12\text{V}, \text{QUAD I, II, III, IV}$ | | | 10 | mA |
| I_H | $V_D = 12\text{V}$ | | | 10 | mA |
| V_{GT} | $V_D = 12\text{V}, R_L = 10\Omega, \text{QUAD I, II, III}$ | | | 2.0 | V |
| V_{GT} | $V_D = 12\text{V}, R_L = 10\Omega, \text{QUAD IV}$ | | | 2.5 | V |
| V_{TM} | $I_T = 1.0\text{A}$ | | | 2.0 | V |
| dv/dt | $V_D = 2/3 V_{DRM}, T_C = 125^{\circ}\text{C}$ | 5.0 | | | $\text{V}/\mu\text{s}$ |

PRELIMINARY

CQ89D
CQ89M
CQ89N

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SOT-89 CASE - MECHANICAL OUTLINE



DATA SHEETS

LEAD CODE:

- 1) GATE
- 2) MT2
- 3) MT1

MARKING CODE:

FULL PART NUMBER

| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.055 | 0.067 | 1.40 | 1.70 |
| B | 4° | | 4° | |
| C | 0.014 | 0.018 | 0.35 | 0.46 |
| D | 0.173 | 0.185 | 4.40 | 4.70 |
| E | 0.064 | 0.074 | 1.62 | 1.87 |
| F | 0.146 | 0.177 | 3.70 | 4.50 |
| G | 0.090 | 0.106 | 2.29 | 2.70 |
| H | 0.028 | 0.051 | 0.70 | 1.30 |
| J | 0.014 | 0.019 | 0.36 | 0.48 |
| K | 0.017 | 0.023 | 0.44 | 0.58 |
| L | 0.059 | | 1.50 | |
| M | 0.118 | | 3.00 | |

SOT-89 (REV: R4)