**CS39-4B**
**CS39-4D**
**CS39-4M**
**CS39-4N**

**SILICON CONTROLLED RECTIFIER**
**4 AMP, 200 THRU 800 VOLTS**




**TO-39 CASE**

Central Semiconductor Corp.

www.centralsemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CS39-4B series types are hermetically sealed silicon controlled rectifiers designed for sensing circuit applications and control systems.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ($T_C$=25°C unless otherwise noted)

| | SYMBOL | CS39 -4B | CS39 -4D | CS39 -4M | CS39 -4N | UNITS |
|---|---|---|---|---|---|---|
| Peak Repetitive Off-State Voltage | $V_{DRM}$, $V_{RRM}$ | 200 | 400 | 600 | 800 | V |
| RMS On-State Current ($T_C$=90°C) | $I_{T(RMS)}$ | | 4.0 | | | A |
| Peak One Cycle Surge Current (t=10ms) | $I_{TSM}$ | | 35 | | | A |
| $I^2t$ Value for Fusing (t=10ms) | $I^2t$ | | 4.5 | | | $A^2s$ |
| Peak Gate Power Dissipation (tp=10µs) | $P_{GM}$ | | 3.0 | | | W |
| Average Gate Power Dissipation | $P_{G(AV)}$ | | 0.2 | | | W |
| Peak Gate Current (tp=10µs) | $I_{GM}$ | | 1.2 | | | A |
| Operating Junction Temperature | $T_J$ | | -40 to +125 | | | °C |
| Storage Temperature | $T_{stg}$ | | -65 to +150 | | | °C |
| Thermal Resistance | $\Theta_{JA}$ | | 180 | | | °C/W |
| Thermal Resistance | $\Theta_{JC}$ | | 10 | | | °C/W |

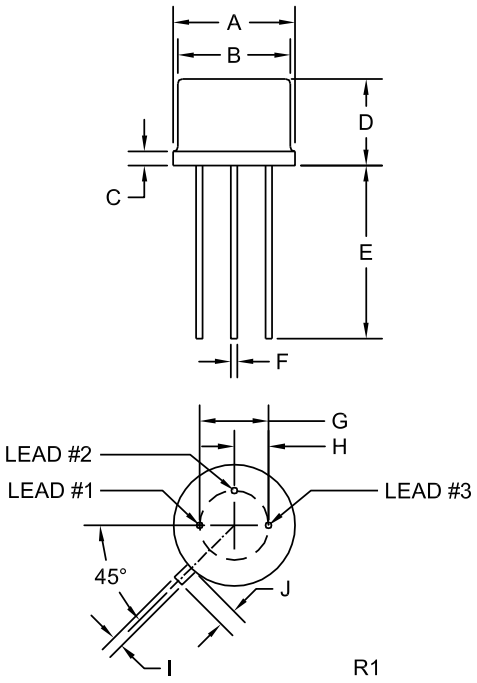
**ELECTRICAL CHARACTERISTICS:** ($T_C$=25°C unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|---|---|---|---|---|---|
| $I_{DRM}$, $I_{RRM}$ | Rated $V_{DRM}$, $V_{RRM}$, $R_{GK}$=1.0KΩ | | | 5.0 | µA |
| $I_{DRM}$, $I_{RRM}$ | Rated $V_{DRM}$, $V_{RRM}$, $R_{GK}$=1.0KΩ, $T_C$=125°C | | | 200 | µA |
| $I_{GT}$ | $V_D$=12V, $R_L$=10Ω | | 38 | 200 | µA |
| $I_H$ | $I_T$=50mA, $R_{GK}$=1.0KΩ | | 0.25 | 5.0 | mA |
| $V_{GT}$ | $V_D$=12V, $R_L$=10Ω | | 0.55 | 0.8 | V |
| $V_{GD}$ | $V_D$=300V, $R_{GK}$=1.0KΩ, $T_C$=125°C | 0.2 | | | V |
| $V_{TM}$ | $I_T$=8.0A, tp=380µs | | 1.6 | 1.95 | V |
| dv/dt | $V_D$=⅔$V_{DRM}$, $R_{GK}$=1.0KΩ, $T_C$=125°C | 10 | | | V/µs |

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## TO-39 CASE - MECHANICAL OUTLINE




| DIMENSIONS | | | | |
|---|---|---|---|---|
| | INCHES | | MILLIMETERS | |
| SYMBOL | MIN | MAX | MIN | MAX |
| A (DIA) | 0.335 | 0.370 | 8.51 | 9.40 |
| B (DIA) | 0.315 | 0.335 | 8.00 | 8.51 |
| C | - | 0.040 | - | 1.02 |
| D | 0.240 | 0.260 | 6.10 | 6.60 |
| E | 0.500 | - | 12.70 | - |
| F (DIA) | 0.016 | 0.021 | 0.41 | 0.53 |
| G (DIA) | 0.200 | | 5.08 | |
| H | 0.100 | | 2.54 | |
| I | 0.028 | 0.034 | 0.71 | 0.86 |
| J | 0.029 | 0.045 | 0.74 | 1.14 |

TO-39 (REV: R1)

**LEAD CODE:**
1) Cathode
2) Gate
3) Anode

**MARKING: FULL PART NUMBER**