

CS18B  
CS18D  
CS18M  
CS18N

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



**TO-18 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CS18B series types are hermetically sealed silicon controlled rectifiers manufactured in a TO-18 case, designed for control systems and sensing circuit applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

|   | SYMBOL             | CS18B | CS18D       | CS18M | CS18N | UNITS                |
|---|--------------------|-------|-------------|-------|-------|----------------------|
| Peak Repetitive Off-State Voltage               | $V_{DRM}, V_{RRM}$ | 200   | 400         | 600   | 800   | V                    |
| RMS On-State Current ( $T_C=90^\circ\text{C}$ ) | $I_T(\text{RMS})$  |       |             | 1.0   |       | A                    |
| Nonrept. On-State Current                       | $I_{TSM}$          |       |             | 10    |       | A                    |
| Fusing Current ( $t=10\text{ms}$ )              | $I^2t$             |       |             | 0.24  |       | $\text{A}^2\text{s}$ |
| Peak Gate Current ( $t=10\mu\text{s}$ )         | $I_{GM}$           |       |             | 1.0   |       | A                    |
| Peak Gate Dissipation ( $t=10\mu\text{s}$ )     | $P_{GM}$           |       |             | 2.0   |       | W                    |
| Gate Dissipation                                | $P_{G(AV)}$        |       |             | 0.1   |       | W                    |
| Operating Junction Temperature                  | $T_J$              |       | -40 to +125 |       |       | $^\circ\text{C}$     |
| Storage Temperature                             | $T_{stg}$          |       | -40 to +150 |       |       | $^\circ\text{C}$     |
| Thermal Resistance                              | $\theta_{JC}$      |       |             | 32    |       | $^\circ\text{C/W}$   |
| Thermal Resistance                              | $\theta_{JA}$      |       |             | 200   |       | $^\circ\text{C/W}$   |

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

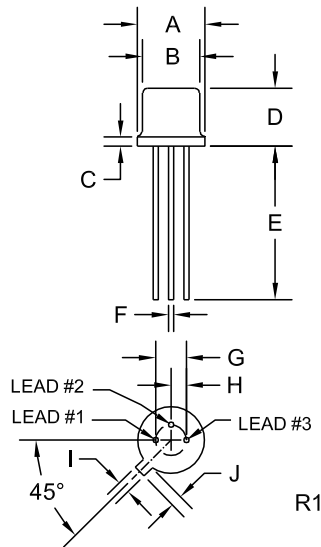
| SYMBOL             | TEST CONDITIONS  | MIN | TYP  | MAX  | UNITS                  |
|--------------------|--|-----|------|------|------------------------|
| $I_{DRM}, I_{RRM}$ | Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega$                                 |     |      | 1.0  | $\mu\text{A}$          |
| $I_{DRM}, I_{RRM}$ | Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$          |     |      | 0.1  | mA                     |
| $V_{TM}$           | $I_T=2.0\text{A}$  |     | 1.6  | 2.15 | V                      |
| $I_{GT}$           | $V_D=12\text{V}, R_L=10\Omega$   |     | 20   | 200  | $\mu\text{A}$          |
| $V_{GT}$           | $V_D=12\text{V}, R_L=10\Omega$   |     | 0.65 | 0.8  | V                      |
| $I_H$              | $R_{GK}=1.0\text{K}\Omega$   |     | 0.5  | 5.0  | mA                     |
| dv/dt              | $V_D=0.67\text{V} \times V_{DRM}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$ | 25  |      |      | $\text{V}/\mu\text{s}$ |

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TO-18 CASE - MECHANICAL OUTLINE



| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A (DIA)    | 0.209  | 0.230 | 5.31        | 5.84 |
| B (DIA)    | 0.178  | 0.195 | 4.52        | 4.95 |
| C          | -      | 0.030 | -           | 0.76 |
| D          | 0.170  | 0.210 | 4.32        | 5.33 |
| E          | 0.500  | -     | 12.70       | -    |
| F (DIA)    | 0.016  | 0.019 | 0.41        | 0.48 |
| G (DIA)    | 0.100  |       | 2.54        |      |
| H          | 0.050  |       | 1.27        |      |
| I          | 0.036  | 0.046 | 0.91        | 1.17 |
| J          | 0.028  | 0.048 | 0.71        | 1.22 |

TO-18 (REV: R1)

LEAD CODE:

- 1) CATHODE
- 2) GATE
- 3) ANODE

MARKING:

FULL PART NUMBER

R2 (18-January 2010)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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