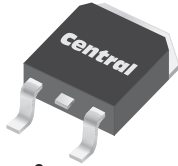


CSDD-12M
CSDD-12N

**SURFACE MOUNT
SILICON CONTROLLED RECTIFIER
12 AMP, 600 THRU 800 VOLTS**



D²PAK CASE



www.centrialsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSDD-12M series type is an Epoxy Molded Silicon Controlled Rectifier designed for sensing circuit applications and control systems.

MARKING: FULL PART NUMBER

| MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$ unless otherwise noted) | SYMBOL | CSDD-12M | CSDD-12N | UNITS |
|--|----------------------------------|-----------------|-----------------|--------------------|
| Peak Repetitive Off-State Voltage | $V_{\text{DRM}}, V_{\text{RRM}}$ | 600 | 800 | V |
| RMS On-State Current ($T_C=90^\circ\text{C}$) | $I_{\text{T(RMS)}}$ | 12 | | A |
| Peak One Cycle Surge, $t=10\text{ms}$ | I_{TSM} | 110 | | A |
| I^2t Value for Fusing, $t=10\text{ms}$ | I^2t | 60 | | A ² s |
| Peak Gate Power, $t_p=10\mu\text{s}$ | P_{GM} | 40 | | W |
| Average Gate Power Dissipation | $P_{\text{G(AV)}}$ | 1.0 | | W |
| Peak Forward Gate Current, $t_p=10\mu\text{s}$ | I_{FGM} | 4.0 | | A |
| Peak Forward Gate Voltage, $t_p=10\mu\text{s}$ | V_{FGM} | 16 | | V |
| Peak Reverse Gate Voltage, $t_p=10\mu\text{s}$ | V_{RGM} | 5.0 | | V |
| Critical Rate of Rise of On-State Current | di/dt | 100 | | A/ μs |
| Operating Junction Temperature | T_{J} | -40 to +125 | | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -40 to +150 | | $^\circ\text{C}$ |
| Thermal Resistance | θ_{JA} | 60 | | $^\circ\text{C/W}$ |
| Thermal Resistance | θ_{JC} | 2.5 | | $^\circ\text{C/W}$ |

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

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|----------------------------------|---|------------|------------|------------|------------------|
| $I_{\text{DRM}}, I_{\text{RRM}}$ | Rated $V_{\text{DRM}}, V_{\text{RRM}}$ | | | 10 | μA |
| $I_{\text{DRM}}, I_{\text{RRM}}$ | Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^\circ\text{C}$ | | | 3.0 | mA |
| I_{GT} | $V_{\text{D}}=12\text{V}, R_{\text{L}}=10\Omega$ | | 3.5 | 15 | mA |
| I_{H} | $I_{\text{T}}=100\text{mA}$ | | 8.7 | 20 | mA |
| V_{GT} | $V_{\text{D}}=12\text{V}, R_{\text{L}}=10\Omega$ | | 0.64 | 1.50 | V |
| V_{TM} | $I_{\text{TM}}=24\text{A}, t_p=380\mu\text{s}$ | | 1.21 | 1.60 | V |
| dv/dt | $V_{\text{D}}=2/3 V_{\text{DRM}}, T_C=125^\circ\text{C}$ | 200 | | | V/ μs |

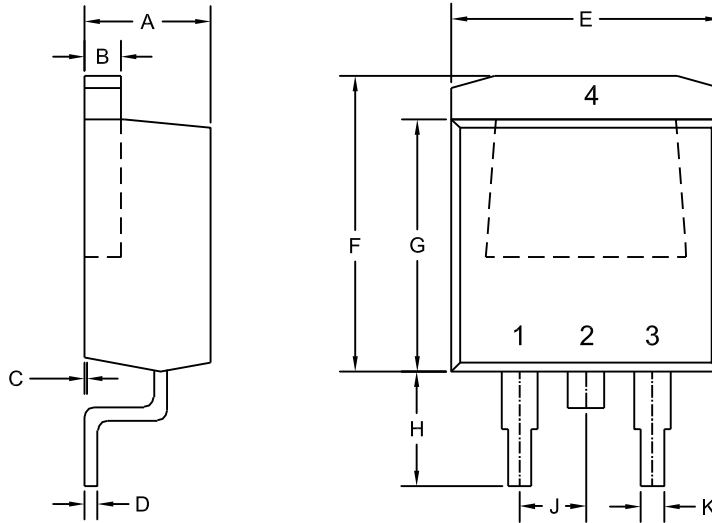
R2 (17-February 2010)

CSDD-12M
CSDD-12N



**SURFACE MOUNT
SILICON CONTROLLED RECTIFIER
12 AMP, 600 THRU 800 VOLTS**

D²PAK CASE - MECHANICAL OUTLINE



R2

LEAD CODE:

- 1) Cathode
- 2) Anode
- 3) Gate
- 4) Anode

MARKING:

FULL PART NUMBER

| DIMENSIONS | | | | |
|------------|--------|-------|-------------|-------|
| SYMBOL | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.163 | 0.189 | 4.14 | 4.80 |
| B | 0.045 | 0.055 | 1.14 | 1.40 |
| C | 0.000 | 0.010 | 0.00 | 0.25 |
| D | 0.012 | 0.028 | 0.30 | 0.70 |
| E | 0.386 | 0.409 | 9.80 | 10.40 |
| F | 0.378 | 0.417 | 9.60 | 10.60 |
| G | 0.335 | 0.358 | 8.50 | 9.10 |
| H | 0.197 | 0.236 | 5.00 | 6.00 |
| J | 0.093 | 0.108 | 2.35 | 2.75 |
| K | 0.030 | 0.035 | 0.75 | 0.90 |

D2PAK (REV: R2)

R2 (17-February 2010)