

CMSD2005S

**SURFACE MOUNT
DUAL, IN SERIES
HIGH VOLTAGE
SILICON SWITCHING DIODES**



SOT-323 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMSD2005S contains two (2) High Voltage Silicon Switching Diodes, manufactured by the epitaxial planar process, epoxy molded in a SOT-323 surface mount package, designed for applications requiring high voltage capability.

MARKING CODE: B5D

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

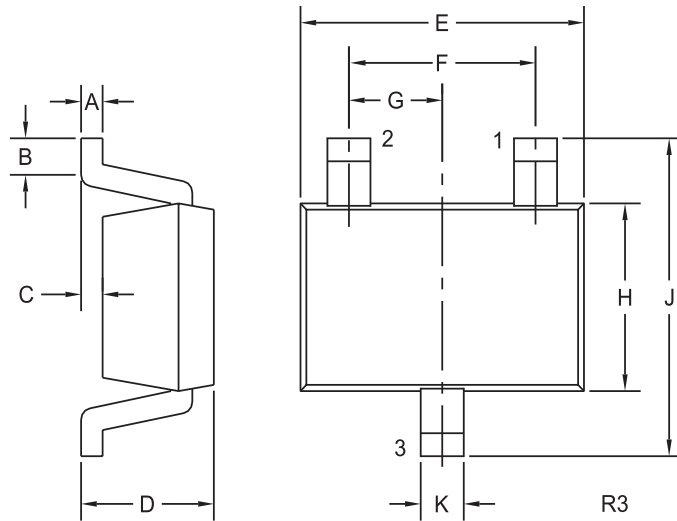
| | SYMBOL | | UNITS |
|---|----------------|-------------|--------------------|
| Continuous Reverse Voltage | V_R | 300 | V |
| Peak Repetitive Reverse Voltage | V_{RRM} | 350 | V |
| Peak Repetitive Reverse Current | I_O | 200 | mA |
| Continuous Forward Current | I_F | 225 | mA |
| Peak Repetitive Forward Current | I_{FRM} | 625 | mA |
| Forward Surge Current, $t_p=1\mu\text{s}$ | I_{FSM} | 4.0 | A |
| Forward Surge Current, $t_p=1\text{s}$ | I_{FSM} | 1.0 | A |
| Power Dissipation | P_D | 275 | mW |
| Operating and Storage Junction Temperature | T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Thermal Resistance | θ_{JA} | 455 | $^\circ\text{C/W}$ |

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

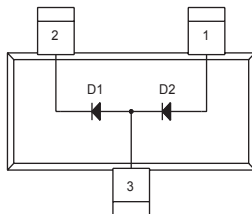
| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|---------------|--|------------|------------|------------|---------------|
| I_R | $V_R=280\text{V}$ | | | 100 | nA |
| I_R | $V_R=280\text{V}, T_A=150^\circ\text{C}$ | | | 100 | μA |
| BV_R | $I_R=100\mu\text{A}$ | 350 | | | V |
| V_F | $I_F=20\text{mA}$ | | | 0.87 | V |
| V_F | $I_F=100\text{mA}$ | | | 1.0 | V |
| V_F | $I_F=200\text{mA}$ | | | 1.25 | V |
| C_T | $V_R=0, f=1.0\text{ MHz}$ | | | 5.0 | pF |
| t_{rr} | $I_R=I_F=30\text{mA}, \text{Rec. to } 3.0\text{mA}, R_L=100\Omega$ | | | 50 | ns |

R0 (17-August 2004)

SOT-323 CASE - MECHANICAL OUTLINE



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LEAD CODE:

- 1) Anode D2
- 2) Cathode D1
- 3) Anode D1, Cathode D2

| SYMBOL | INCHES | | MILLIMETERS | |
|--------|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.002 | 0.008 | 0.05 | 0.20 |
| B | 0.004 | - | 0.10 | - |
| C | - | 0.004 | - | 0.10 |
| D | 0.031 | 0.043 | 0.80 | 1.10 |
| E | 0.071 | 0.087 | 1.80 | 2.20 |
| F | 0.051 | | 1.30 | |
| G | 0.026 | | 0.65 | |
| H | 0.045 | 0.053 | 1.15 | 1.35 |
| J | 0.079 | 0.087 | 2.00 | 2.20 |
| K | 0.008 | 0.016 | 0.20 | 0.40 |

SOT-323 (REV: R3)