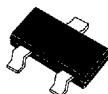


**CMPD5001  
CMPD5001S**

**HIGH CURRENT  
INDUCTIVE LOAD  
SWITCHING DIODE**



**SOT-23 CASE**

**Central<sup>TM</sup>**  
**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPD5001 series types are silicon switching diodes manufactured by the epitaxial planar process, designed for switching inductive load applications requiring extremely high current capability.

The following configurations are available:

|           |                 |
|-----------|-----------------|
| CMPD5001  | SINGLE          |
| CMPD5001S | DUAL, IN SERIES |

**MARKING CODE: DA2**  
**MARKING CODE: D49**

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

|   | SYMBOL         |             | UNITS                       |
|---|----------------|-------------|-----------------------------|
| Continuous Reverse Voltage                  | $V_R$          | 120         | V                           |
| Continuous Forward Current                  | $I_F$          | 400         | mA                          |
| Peak Repetitive Forward Current             | $I_{FRM}$      | 800         | mA                          |
| Peak Repetitive Reverse Current             | $I_{RRM}$      | 600         | mA                          |
| Forward Surge Current, $t_p=1\ \mu\text{s}$ | $I_{FSM}$      | 6000        | mA                          |
| Forward Surge Current, $t_p=1\ \text{s}$    | $I_{FSM}$      | 1500        | mA                          |
| Power Dissipation                           | $P_D$          | 350         | mW                          |
| Operating and Storage                       |                |             |                             |
| Junction Temperature                        | $T_J, T_{stg}$ | -65 to +150 | $^{\circ}\text{C}$          |
| Thermal Resistance                          | $\Theta_{JA}$  | 357         | $^{\circ}\text{C}/\text{W}$ |

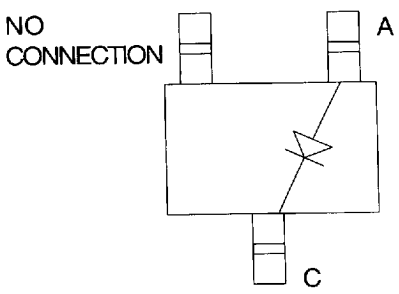
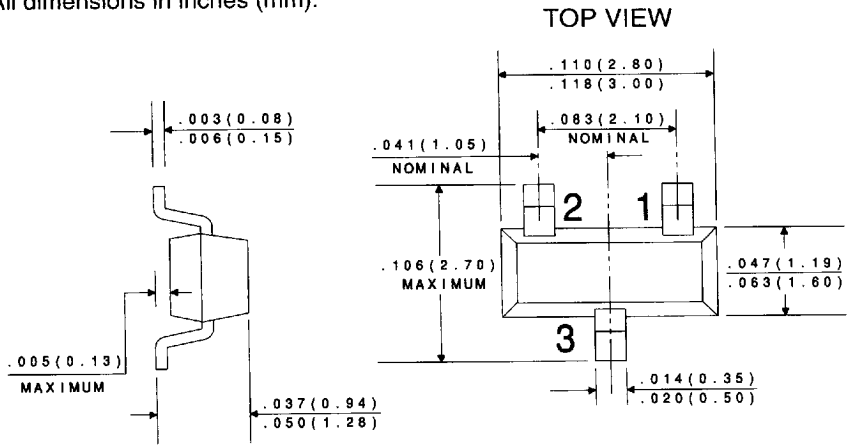
**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

| SYMBOL  | TEST CONDITIONS                           | MIN | MAX  | UNITS         |
|---------|---|-----|------|---------------|
| $B_V R$ | $I_R=1.0\text{mA}$                        | 120 | 175  | V             |
| $I_R$   | $V_R=90\text{V}$                          |     | 100  | nA            |
| $I_R$   | $V_R=90\text{V}, T_A=150^{\circ}\text{C}$ |     | 100  | $\mu\text{A}$ |
| $V_F$   | $I_F=10\text{mA}$                         |     | 0.75 | V             |
| $V_F$   | $I_F=50\text{mA}$                         |     | 0.84 | V             |
| $V_F$   | $I_F=100\text{mA}$                        |     | 0.90 | V             |
| $V_F$   | $I_F=200\text{mA}$                        |     | 1.00 | V             |

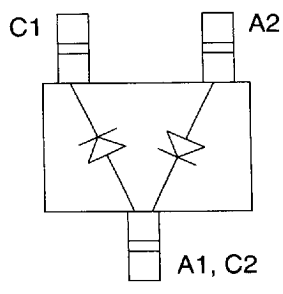
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| SYMBOL   | TEST CONDITIONS  | MIN | MAX  | UNITS |
|----------|--|-----|------|-------|
| $V_F$    | $I_F=400\text{mA}$                                       |     | 1.25 | V     |
| $C_T$    | $V_R=0, f=1\text{ MHz}$                                  |     | 35   | pF    |
| $t_{rr}$ | $I_F=I_R=30\text{mA}$ , RECOV. TO 1.0mA, $R_L=100\Omega$ |     | 60   | ns    |
| $t_{rr}$ | $I_F=I_R=10\text{mA}$ , RECOV. TO 1.0mA, $R_L=100\Omega$ |     | 50   | ns    |

All dimensions in inches (mm).



CMPD5001



CMPD5001S

DATA  
SHEET

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R2