

# SMD Switching Diode

## CDSNC4148

High Speed

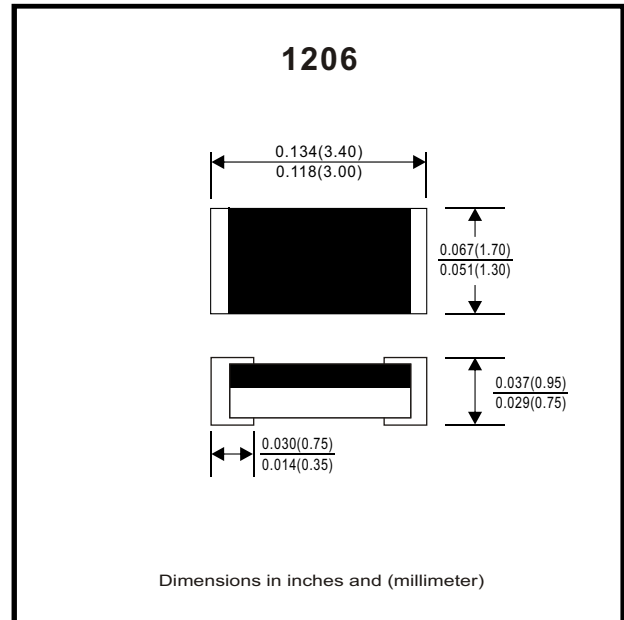


### Features

- Designed for mounting on small surface.
- Silicon Epitaxial Planar Diode.
- Fast switching diode.

### Mechanical data

- Case: 1206
- Marking: Cathode Band.
- Weight: 0.01 gram(approx.).



### Maximum Rating (at TA=25°C unless otherwise noted)

| Parameter   | Conditions                         | Symbol             | Min | Typ               | Max               | Unit |
|---|------------------------------------|--------------------|-----|-------------------|-------------------|------|
| Peak reverse voltage  |                                    | V <sub>RM</sub>    |     |                   | 100               | V    |
| Reverse voltage   |                                    | V <sub>R</sub>     |     |                   | 75                | V    |
| Forward continuous current  |                                    | I <sub>FM</sub>    |     |                   | 150               | mA   |
| Average rectified current sin half wave rectification with resistive load | f >= 50 HZ                         | I <sub>F(AV)</sub> |     |                   | 150 <sup>1)</sup> | mA   |
| Surge forward current   | T < 1 s and T <sub>j</sub> = 25 °C | I <sub>FSM</sub>   |     |                   | 500               | mA   |
| Power Dissipation   |                                    | P <sub>D</sub>     |     |                   | 400 <sup>1)</sup> | mW   |
| Thermal Resistance Junction To ambient air                                |                                    | R <sub>θJA</sub>   |     | 450 <sup>1)</sup> |                   | K/W  |
| Storage temperature   |                                    | T <sub>STG</sub>   | -65 |                   | +175              | °C   |
| Junction temperature  |                                    | T <sub>j</sub>     |     |                   | +150              | °C   |

1) Valid provided that electrodes are kept at ambient temperature.

### Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter                      | Conditions  | Symbol          | Min  | Typ | Max           | Unit           |
|--------------------------------|---|-----------------|------|-----|---------------|----------------|
| Forward voltage                | I <sub>F</sub> = 10 mA DC   | V <sub>F</sub>  |      |     | 1.0           | V              |
| Reverse current                | V <sub>R</sub> = 20 V<br>V <sub>R</sub> = 75 V<br>V <sub>R</sub> = 20 V, T <sub>j</sub> = 150°C   | I <sub>R</sub>  |      |     | 25<br>5<br>50 | nA<br>uA<br>uA |
| Capacitance                    | V <sub>F</sub> = V <sub>R</sub> = 0V  | C <sub>T</sub>  |      |     | 4             | pF             |
| Reverse recovery time          | I <sub>F</sub> =10mA to I <sub>R</sub> = 1mA, V <sub>R</sub> =6V, R <sub>L</sub> =100 ohms        | T <sub>RR</sub> |      |     | 4             | nS             |
| Voltage rise when switching on | Tested with 50 mA pulses, t <sub>p</sub> = 0.1s, rise time < 30ns, f <sub>p</sub> = (5 to 100)kHz | V <sub>FR</sub> |      |     | 2.5           | V              |
| Rectification efficiency       | f = 100MHz, V <sub>RF</sub> = 2V  |                 | 0.45 |     |               |                |

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## RATING AND CHARACTERISTIC CURVES (CDSNC4148)

Fig. 1 - Forward characteristics

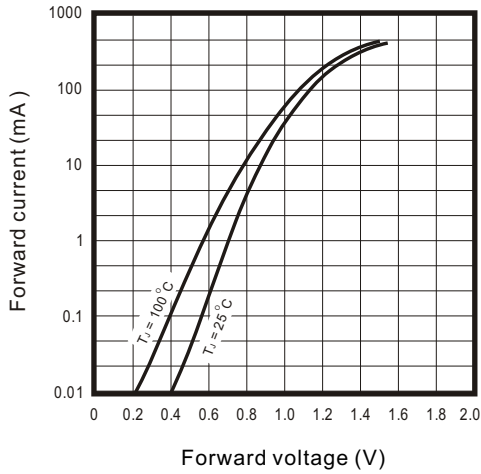


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

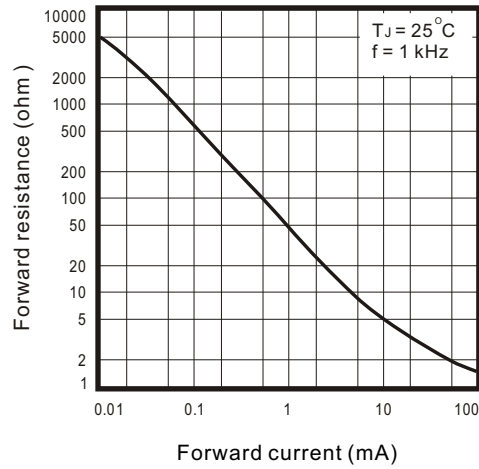


Fig.3 - Admissible Power Dissipation vs. Ambient Temperature

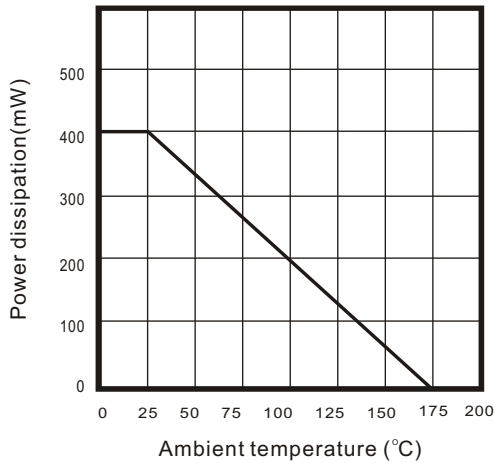


Fig.4 - Relative Capacitance vs. Reverse Voltage

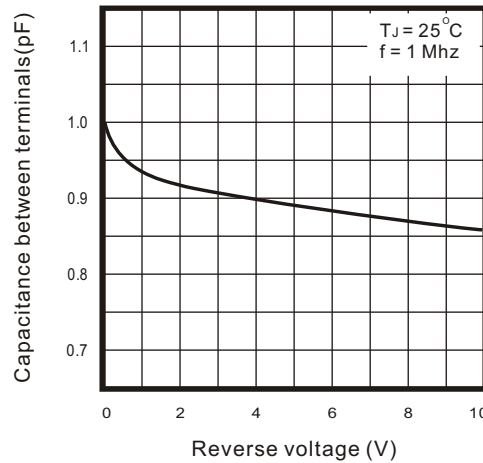


Fig.5 - Leakage Current vs. Junction Temperature

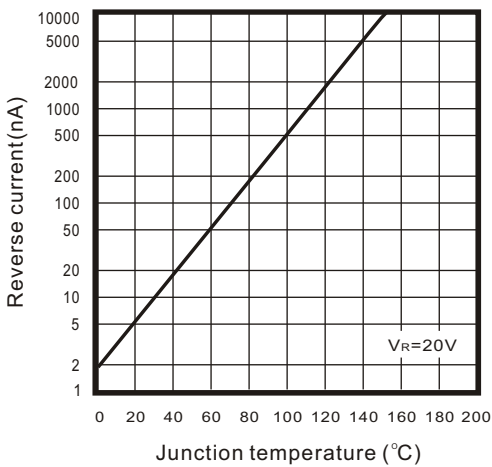


Fig.6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration

