

CSIC10-1200**SILICON CARBIDE
SCHOTTKY RECTIFIER
10 AMP, 1200 VOLT**www.centrasemi.com**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CSIC10-1200 is a silicon carbide Schottky rectifier designed for high frequency systems where energy efficiency and thermal performance are critical design elements.

MARKING: FULL PART NUMBER**TO-220-2 CASE****FEATURES:**

- Positive temperature coefficient
- High reverse voltage
- High operating temperature (175°C MAX)
- Stable switching over temperature extremes

APPLICATIONS:

- Power inverters
- Industrial motor drives
- Switch-mode power supplies
- Power factor correction
- Over-current protection

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

| | SYMBOL | | UNITS |
|---|----------------|-------------|--------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 1200 | V |
| Peak Reverse Surge Voltage | V_{RSM} | 1200 | V |
| DC Blocking Voltage | V_R | 1200 | V |
| Average Rectified Forward Current ($T_C=130^\circ\text{C}$) | I_O | 10 | A |
| Continuous Forward Current ($T_C=130^\circ\text{C}$) | I_F | 14 | A |
| Peak Forward Surge Current, $t_p=8.3\text{ms}$ | I_{FSM} | 50 | A |
| Power Dissipation | P_D | 150 | W |
| Power Dissipation ($T_C=130^\circ\text{C}$) | P_D | 42 | W |
| Operating and Storage Junction Temperature | T_J, T_{stg} | -55 to +175 | $^\circ\text{C}$ |
| Thermal Resistance | θ_{JC} | 1.0 | $^\circ\text{C/W}$ |

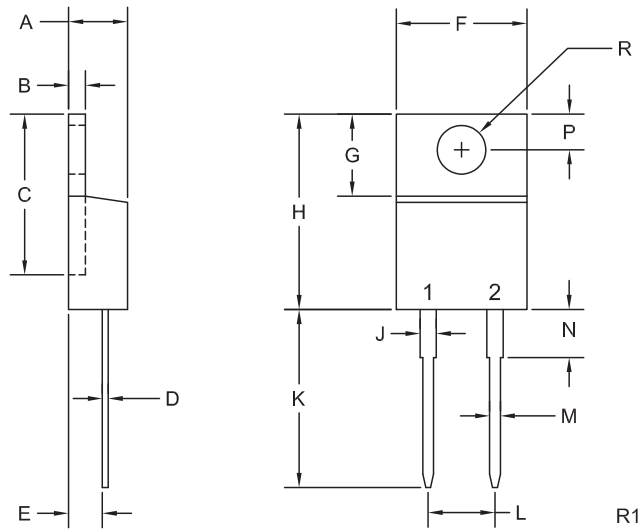
ELECTRICAL CHARACTERISTICS: ($T_J=25^\circ\text{C}$ unless otherwise noted)

| SYMBOL | TEST CONDITIONS | TYP | MAX | UNIT |
|--------|--|------|-----|---------------|
| I_R | $V_R=1200\text{V}$ | 60 | 400 | μA |
| I_R | $V_R=1200\text{V}, T_J=175^\circ\text{C}$ | 0.09 | 1.0 | mA |
| V_F | $I_F=10\text{A}$ | 1.55 | 1.8 | V |
| V_F | $I_F=10\text{A}, T_J=175^\circ\text{C}$ | 2.3 | 3.0 | V |
| Q_C | $V_R=800\text{V}, I_F=10\text{A}, di/dt=750\text{A}/\mu\text{s}$ | 54 | | nC |
| C_J | $V_R=1.0\text{V}, f=1.0\text{MHz}$ | 477 | | pF |
| C_J | $V_R=300\text{V}, f=1.0\text{MHz}$ | 50 | | pF |
| C_J | $V_R=600\text{V}, f=1.0\text{MHz}$ | 41 | | pF |

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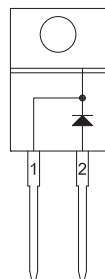
TO-220-2 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Cathode
- 2) Anode
- Tab is Common to Pin 1

MARKING: FULL PART NUMBER



| SYMBOL | INCHES | | MILLIMETERS | |
|---------|--------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.170 | 0.190 | 4.32 | 4.83 |
| B | 0.045 | 0.055 | 1.14 | 1.40 |
| C | 0.460 | 0.507 | 11.68 | 12.88 |
| D | 0.013 | 0.024 | 0.33 | 0.61 |
| E | 0.080 | 0.115 | 2.03 | 2.92 |
| F | 0.380 | 0.420 | 9.65 | 10.67 |
| G | 0.230 | 0.270 | 5.84 | 6.86 |
| H | 0.570 | 0.615 | 14.48 | 15.62 |
| J | 0.044 | 0.070 | 1.14 | 1.78 |
| K | 0.500 | 0.580 | 12.70 | 14.73 |
| L | 0.200 | | 5.08 | |
| M | 0.025 | 0.036 | 0.64 | 0.91 |
| N | 0.120 | 0.240 | 3.05 | 6.10 |
| P | 0.100 | 0.120 | 2.54 | 3.05 |
| R (DIA) | 0.143 | 0.156 | 3.63 | 3.96 |

TO-220-2 (REV: R1)

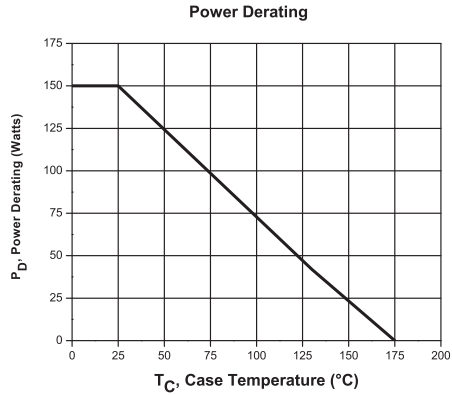
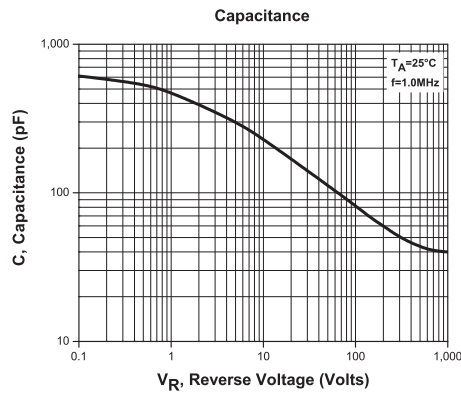
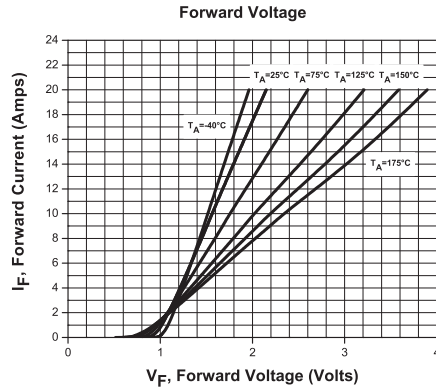
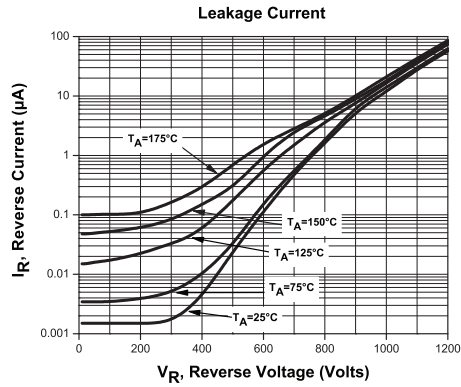
R2 (4-February 2013)

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TYPICAL ELECTRICAL CHARACTERISTICS



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