

## Features

- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Low Switching Losses and High Efficiency
- Low Reverse Leakage
- Ultrafast Recovery Time
- Planar Structure Die and Soft Recovery Characteristics

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 2°C/W Junction to Case

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|---------------------|-----------------------------|
| MURSB1020CTA    | MURSB1020CTA   | 200V                                   | 140V                | 200V                        |

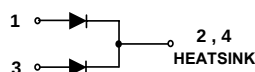
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                      |             |                                       |                                                                                                     |
|------------------------------------------------------|-------------|---------------------------------------|-----------------------------------------------------------------------------------------------------|
| Average Rectified Forward Current                    | $I_{F(AV)}$ | 10A                                   | $T_C = 130^\circ\text{C}$                                                                           |
| Peak Forward Surge Current                           | $I_{FSM}$   | 70A                                   | 8.3ms, Half Sine                                                                                    |
| Instantaneous Forward Voltage                        | $V_F$       | 0.90V(Typ)<br>1.0V(Max)<br>0.85V(Max) | $I_F=5A; T_J=25^\circ\text{C}$<br>$I_F=5A; T_J=25^\circ\text{C}$<br>$I_F=5A; T_J=125^\circ\text{C}$ |
| Maximum Reverse Current At Rated DC Blocking Voltage | $I_R$       | 5μA<br>50μA                           | $T_J=25^\circ\text{C};$<br>$T_J=125^\circ\text{C}$                                                  |
| Maximum Reverse Recovery Time                        | $t_{rr}$    | 35ns                                  | $I_F=0.5A; I_R=1.0A;$<br>$I_{RR}=0.25A$                                                             |
| Typical Junction Capacitance                         | $C_J$       | 40pF                                  | Measured at 1.0MHz, $V_R=4.0V$                                                                      |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

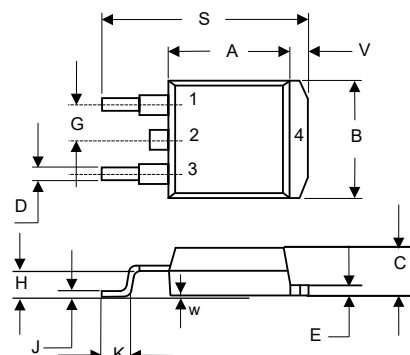
2. High temperature solder exemption applied, see EU directive annex 7a.

## Internal Structure



# 10 Amp FRED Rectifiers 200 Volts

## D<sup>2</sup>-PAK

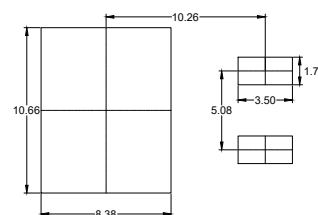


## DIMENSIONS

| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | 0.331  | 0.370 | 8.40  | 9.40  |      |
| B   | 0.378  | 0.417 | 9.60  | 10.60 |      |
| C   | 0.165  | 0.189 | 4.20  | 4.80  |      |
| D   | 0.027  | 0.037 | 0.68  | 0.94  |      |
| E   | 0.045  | 0.055 | 1.14  | 1.40  |      |
| G   | 0.10   |       | 2.54  |       | TYP. |
| H   | 0.096  | 0.134 | 2.43  | 3.40  |      |
| J   | 0.011  | 0.025 | 0.28  | 0.64  |      |
| K   | 0.071  | 0.131 | 1.80  | 3.32  |      |
| S   | 0.575  | 0.625 | 14.60 | 15.87 |      |
| V   | 0.042  | 0.058 | 1.07  | 1.47  |      |
| W   | 0.000  | 0.010 | 0.00  | 0.25  |      |

## Suggested Solder Pad Layout

Unit:mm



## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

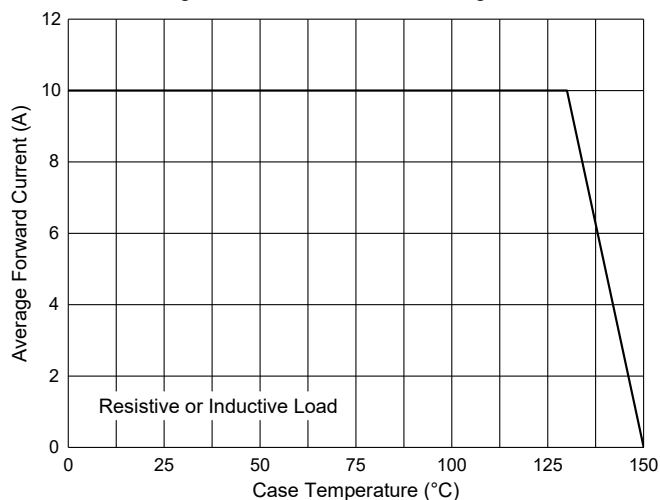


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

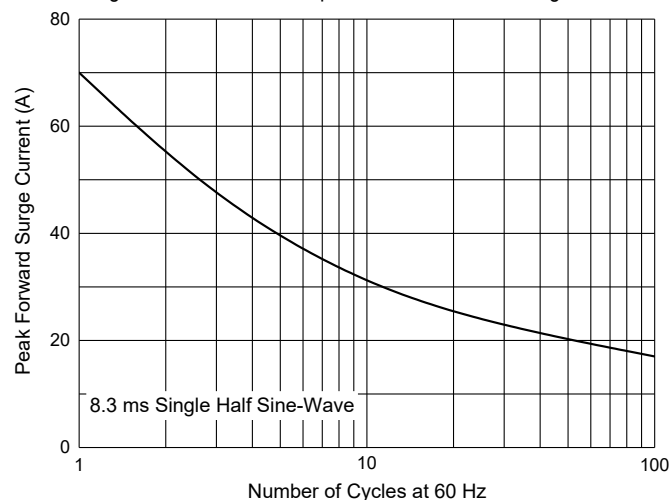


Fig. 3 - Typical Instantaneous Forward Characteristics

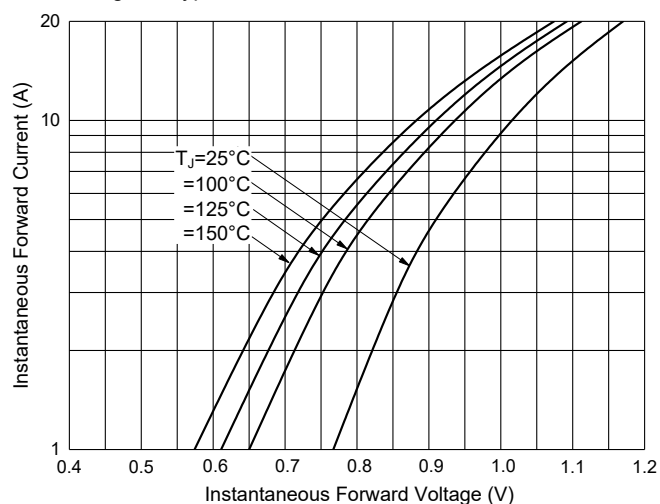
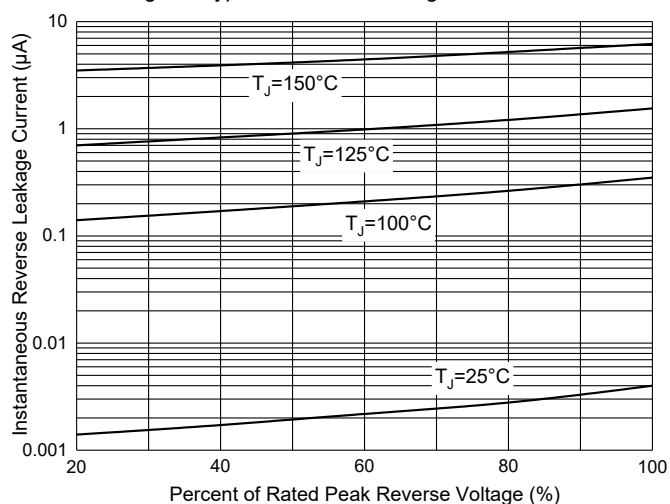


Fig. 4 - Typical Reverse Leakage Characteristics



## Ordering Information

| Device         | Packing                                |
|----------------|----------------------------------------|
| Part Number-TP | Tape&Reel: 800pcs/Reel                 |
| Part Number-BP | Bulk:50pcs/Tube,1Kpcs/Box,5Kpcs/Carton |

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