

Product Overview

Features

- High voltage 650V isolation
- High current 10A
- High temperature 210°C
- BeO free and RoHS compliant
- HMP solder tinned leads available
- Electrically isolated flange
- Silicon Carbide (SiC) Schottky diodes exhibit low forward voltage and superior high temperature performance
- No reverse recovery time
- Screening options available
 - Commercial high temperature
 - In accordance with MIL-PRF-19500
 - Other options available on request
- Other packaging options available

Benefits

- Essentially no switching losses
- Higher efficiency
- Reduction of heat sink requirements

Applications

- Harsh environment rectification
- Harsh environment regulators

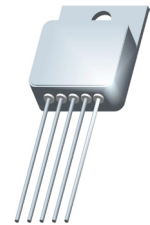


Figure 1: TO-258 5 PIN

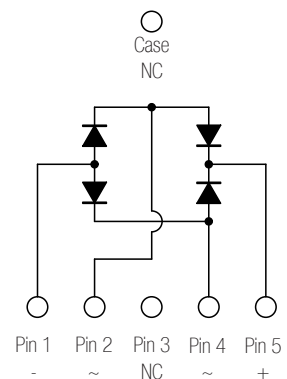


Figure 2: Circuit Diagram

Absolute Maximum Ratings* (Per single diode)

| Symbols | Parameters | Values | Units |
|--------------|---|-------------|-------|
| V_R | DC Reverse Voltage | 650 | Volts |
| V_{RRM} | Repetitive Peak Reverse Voltage | 650 | Volts |
| $I_{F(AVG)}$ | Average Forward Current | 10 | Amps |
| I_{FRM} | Repetitive Peak Forward Current ($\tau_p=10ms$, Half Sine Wave) | 60 | Amps |
| I_{FSM} | Surge Peak Forward Current ($\tau_p=10\mu s$, Half Sine Wave) | 100 | Amps |
| P_D | Total Power Dissipation | 29 | Watts |
| T_J | Junction Temperature Range | -55 to +210 | °C |
| T_{stg} | Storage Temperature Range | -55 to +210 | °C |

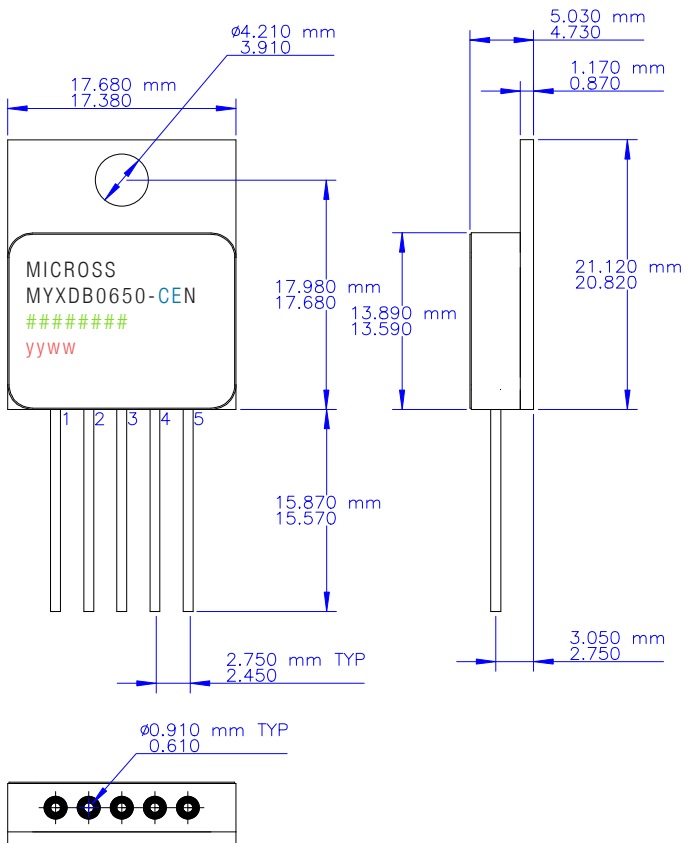
Thermal Properties

| Symbols | Parameters | Values | Units |
|-----------------|--------------------------------------|--------|-----------|
| $R_{\theta JC}$ | Thermal Resistance, Junction To Case | 1.6 | °C / Watt |

Electrical Characteristics

| Symbols | Parameters | Test Conditions | Typ | Max | Units |
|----------------|----------------------------|--|-----|------|-------|
| V _F | Forward Voltage ## | I _F = 10A, T _j = 25°C | 2.2 | 2.5 | Volts |
| | | I _F = 10A, T _j = 210°C | 3.2 | 4.1 | |
| I _R | Reverse Current ## | V _R = 650V, T _j = 25°C | 10 | 100 | μAmps |
| | | V _R = 650V, T _j = 210°C | 140 | 1000 | |
| Q _C | Total Capacitive Charge ## | V _R = 650V, T _j = 25°C, I _F = 10A, di/dt = 500 A/μs | 28 | | nC |
| C | Total Capacitance ## | V _R = 0V, T _j = 25°C, f = 1MHz | 550 | | pF |
| | | V _R = 200V, T _j = 25°C, f = 1MHz | 65 | | |
| | | V _R = 400V, T _j = 25°C, f = 1MHz | 50 | | |

Calculated per single diode



CE = TO-258 5 PIN
= Batch code
yyww = Date code

yy = year
ww = week

(Font and text colour is not representative of actual parts produced)

Figure 3: Package Dimensions

* Absolute Maximum Ratings Disclaimer

Stresses greater than the values listed under the Absolute Maximum Ratings table may cause permanent damage to the device. These values are stress ratings, functional operation of the device at these or conditions greater than those listed is not implied herein. Exposure to absolute maximum conditions for any duration may affect device reliability and operational life.

Document Title

Silicon Carbide Diode Rectifier Bridge 650 Volt 10 Amp Hermetic MYXDB0650-10CEN

Revision History

| Revision # | History | Release Date | Status |
|------------|-----------------|--------------|-------------|
| 1.0 | Initial release | March 2014 | Preliminary |