micross components
transforming specialty electronics

SiC Schottky 3 Phase Diode Bridge 650 Volt 10 Amp Hermetic
MYXD30650-10CEN

Product Overview

Features

- High voltage 650V isolation
- 6 off high current 10A diodes
- 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

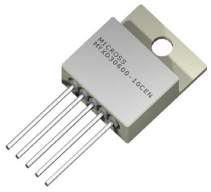

Figure 1: TO-258 5 PIN

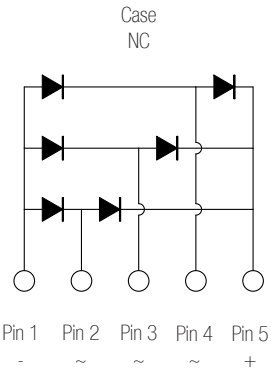

Figure 2: Circuit Diagram

Absolute Maximum Ratings (Per Diode)*

Symbols	Parameters	Values	Units
V_R	DC Reverse Voltage	650	Volts
V_{RRM}	Repetitive Peak Reverse Voltage	650	Volts
$I_{F(MAX)}$	Average Forward Current	10	Amps
I_{FSM}	Surge Peak Forward Current (8.3ms, Half Sine Wave)	60	Amps
P_D	Total Power Dissipation	28	Watts
T_J	Junction Temperature Range	-55 to +210	^{0}C
T_{stg}	Storage Temperature Range	-55 to +210	^{0}C

Thermal Properties

Symbols	Parameters	Values	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	1.1	^{0}C / Watt

Electrical Characteristics (Per Diode)

Symbols	Parameters	Test Conditions	Typ	Max	Units
V_F	Forward Voltage ##	I_F = 10A, T_J = 25°C	1.5	1.7	Volts
		I_F = 10A, T_J = 175°C	3.2	4.1	
I_R	Reverse Current ##	V_R = 650V, T_J = 25°C	25	250	µAmps
		V_R = 650V, T_J = 175°C	140	1000	
Q_C	Total Capacitive Charge ##	V_R = 400V, T_J=25°C, I_F=10A, di/dt=250 A/µs	16		nC
C	Total Capacitance ##	V_R = 1V, T_J=25°C, f=1MHz	290		pF
		V_R = 300V, T_J=25°C, f=1MHz	31		
		V_R = 600V, T_J=25°C, f=1MHz	28		

Calculated per single diode

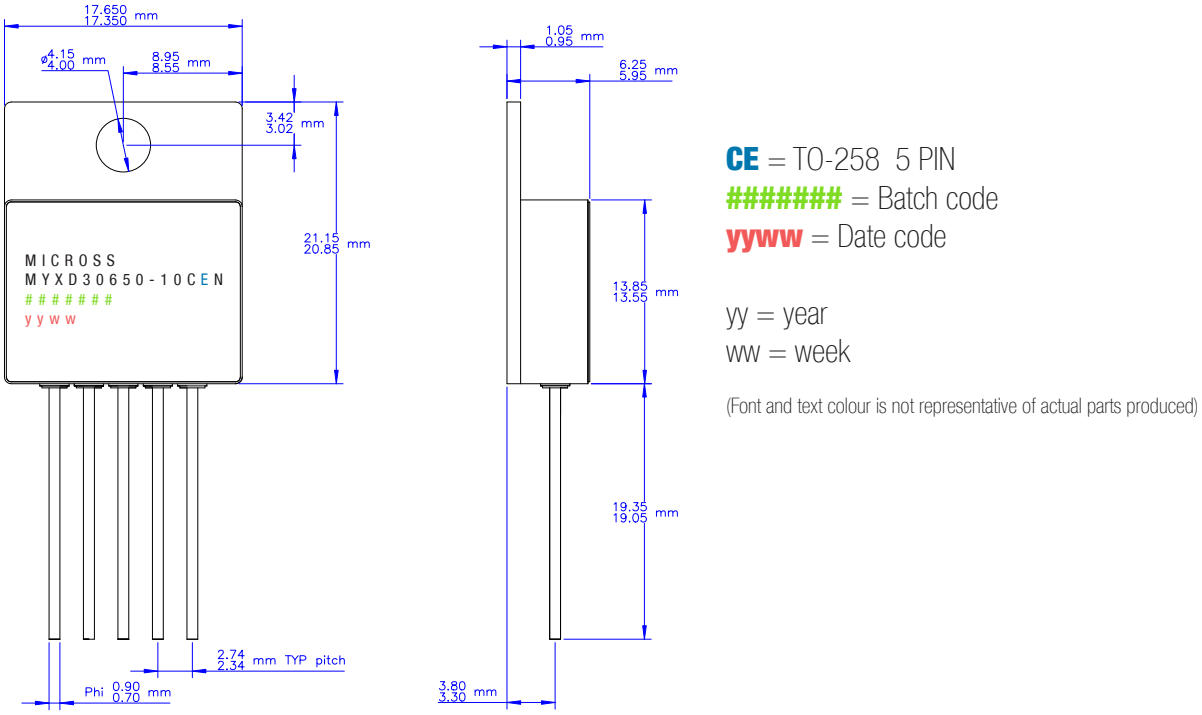

Figure 3: Package Dimensions

* 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 MYXD30650-10CEN

Revision History

Revision #	History	Release Date	Status
1.0	Initial release	April 2014	Preliminary