

## Product Overview

### Features

- High voltage 600V isolation in a small package outline
- High current 3A
- 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
- Surface mount
- Other packaging options available

### Benefits

- Essentially no switching losses
- Higher efficiency
- High reliability

### Applications

- Harsh environment motor drive
- Harsh environment regulators

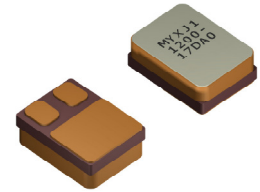


Figure 1: SMD 0.5

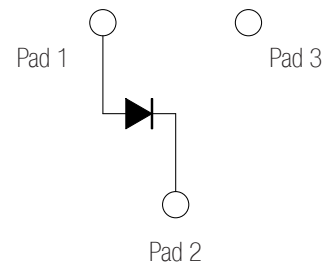


Figure 2: Circuit Diagram

## Absolute Maximum Ratings

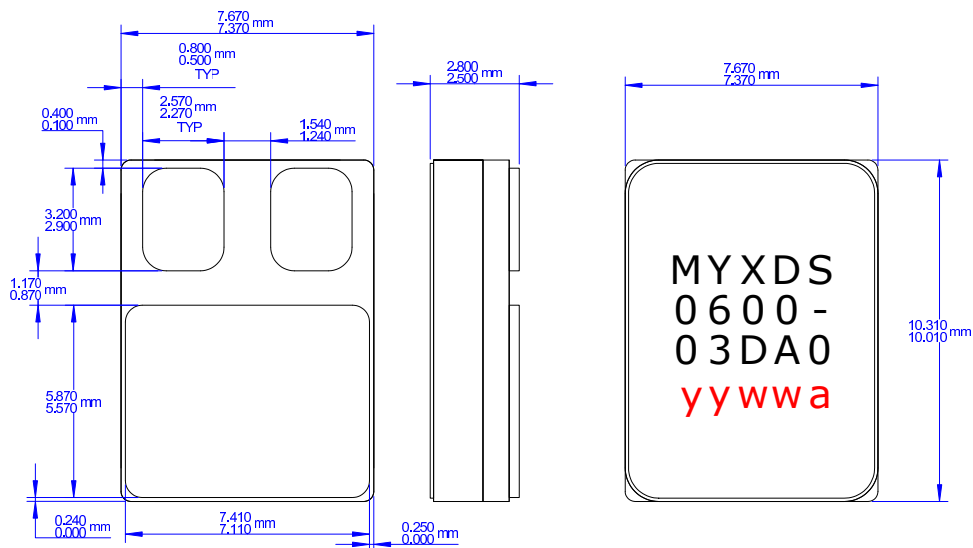
Symbols	Parameters	Values	Units
$V_R$	DC Reverse Voltage	600	Volts
$V_{RRM}$	Repetitive Peak Reverse Voltage	600	Volts
$I_{F(AVG)}$	Average Forward Current	3	Amps
$I_{FRM}$	Repetitive Peak Forward Current ( $\tau_p=10ms$ , Half Sine Wave)	22	Amps
$I_{FSM}$	Surge Peak Forward Current ( $\tau_p=10ms$ , Half Sine Wave)	31.9	Amps
$P_D$	Total Power Dissipation	12	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	15.4	°C / Watt

## Electrical Characteristics

Symbols	Parameters	Test Conditions	Typ	Max	Units
$V_F$	Forward Voltage	$I_F = 3A, T_J = 25^\circ C$	1.5	1.7	Volts
		$I_F = 3A, T_J = 210^\circ C$	2.2	2.9	
$I_R$	Reverse Current	$V_R = 600V, T_J = 25^\circ C$	10	100	$\mu$ Amps
		$V_R = 600V, T_J = 210^\circ C$	30	300	
$Q_c$	Total Capacitive Charge	$V_R = 600V, T_J = 25^\circ C, I_F = 1A, di/dt = 200 A/\mu s$	8.5		nC
C	Total Capacitance	$V_R = 0V, T_J = 25^\circ C, f = 1MHz$	251		pF
		$V_R = 200V, T_J = 25^\circ C, f = 1MHz$	22		
		$V_R = 400V, T_J = 25^\circ C, f = 1MHz$	21		



**yywwa** = Date code and batch

yy = year  
ww = week  
a = batch

(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 Schottky Diode 600 Volt 3 Amp Hermetic SMD MYXDS0600-03DA0

## Revision History

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