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transforming specialty electronics

Silicon Carbide Schottky Diode 600 Volt 5 Amp Hermetic
MYXDS0600-05AAS

Product Overview

Features

- High voltage 600V isolation in a small package outline
- High current 5A
- 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 motor drive
- Harsh environment regulators

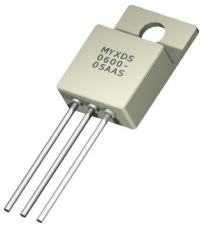

Figure 1: TO-257

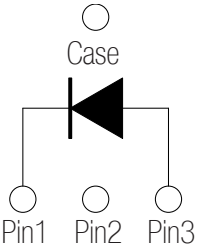

Figure 2: Circuit Diagram

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 (no AC component)	5.0	Amps
I_{FRM}	Repetitive Peak Forward Current (T_p=10ms, Half Sine Wave)	27	Amps
I_{FSM}	Surge Peak Forward Current (T_p=10ms, Half Sine Wave)	44	Amps
P_D	Total Power Dissipation	7.9	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	23.5	^{0}C / Watt

March 2014 Rev 1.0

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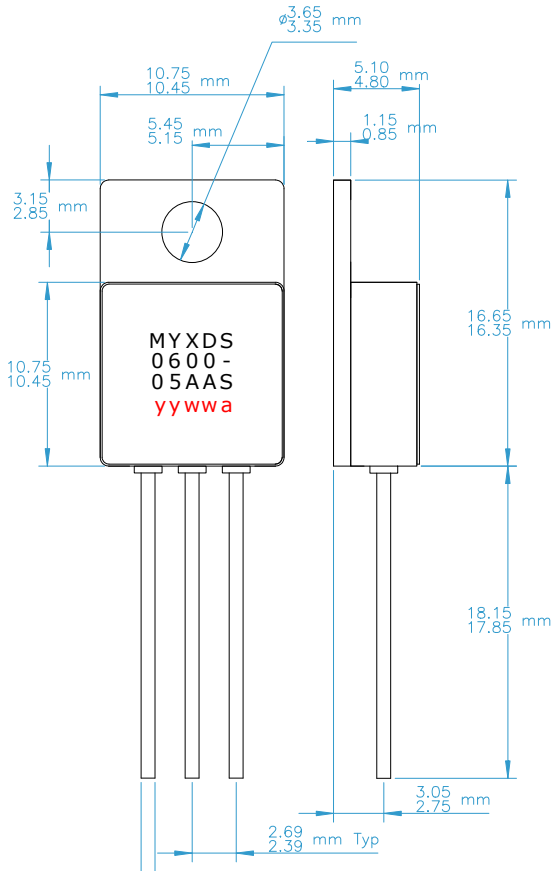
Electrical Characteristics

Symbols	Parameters	Test Conditions	Typ	Max	Units
V_F	Forward Voltage	I_F = 5A, T_J = 25°C		1.8	Volts
		I_F = 5A, T_J = 210°C		2.8	
I_R	Reverse Current	V_R = 600V, T_J = 25°C	10	50	µAmps
		V_R = 600V, T_J = 210°C	20	250	
Q_C	Total Capacitive Charge	V_R = 600V, T_J = 25°C, I_F = 3 A, di/dt = 200 A/µs	16		nC
C	Total Capacitance	V_R = 0V, T_J = 25°C, f= 1MHz	294		pF
		V_R = 200V, T_J = 25°C, f= 1MHz	27		
		V_R = 400V, T_J = 25°C, f= 1MHz	26		



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 5 Amp Hermetic MYXDS0600-05AAS

Revision History

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