



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



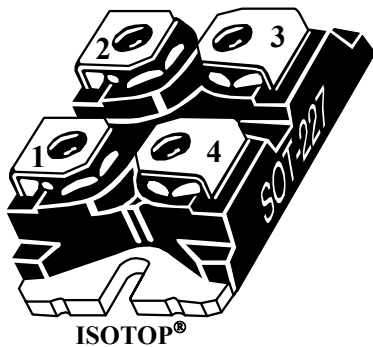
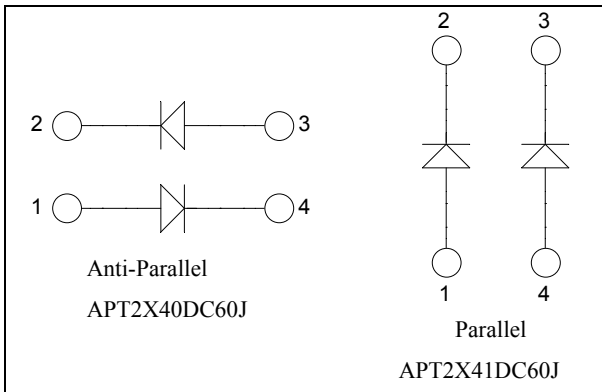
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**ISOTOP<sup>®</sup> SiC Diode**  
**Power Module**
 $V_{RRM} = 600V$   
 $I_F = 40A @ T_C = 100^{\circ}C$ 

**Application**

- Uninterruptible Power Supply (UPS)
- Induction heating
- Welding equipment
- High speed rectifiers

**Features**

- **SiC Schottky Diode**
  - Zero reverse recovery
  - Zero forward recovery
  - Temperature Independent switching behavior
  - Positive temperature coefficient on VF
- ISOTOP<sup>®</sup> Package (SOT-227)
- Very low stray inductance
- High level of integration

**Benefits**

- Outstanding performance at high frequency operation
- Low losses
- Low noise switching
- Direct mounting to heatsink (isolated package)
- Low junction to case thermal resistance
- RoHS Compliant

**Absolute maximum ratings (per leg)**

Symbol	Parameter	Max ratings	Unit
$V_R$	Maximum DC reverse Voltage	600	V
$V_{RRM}$	Maximum Peak Repetitive Reverse Voltage		
$I_{F(AV)}$	Maximum Average Forward Current	40	A
$I_{FSM}$	Non-Repetitive Forward Surge Current		
		10 $\mu s$	
		$T_C = 100^{\circ}C$	
		$T_C = 25^{\circ}C$	

**CAUTION:** These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed. See application note APT0502 on [www.microsemi.com](http://www.microsemi.com)

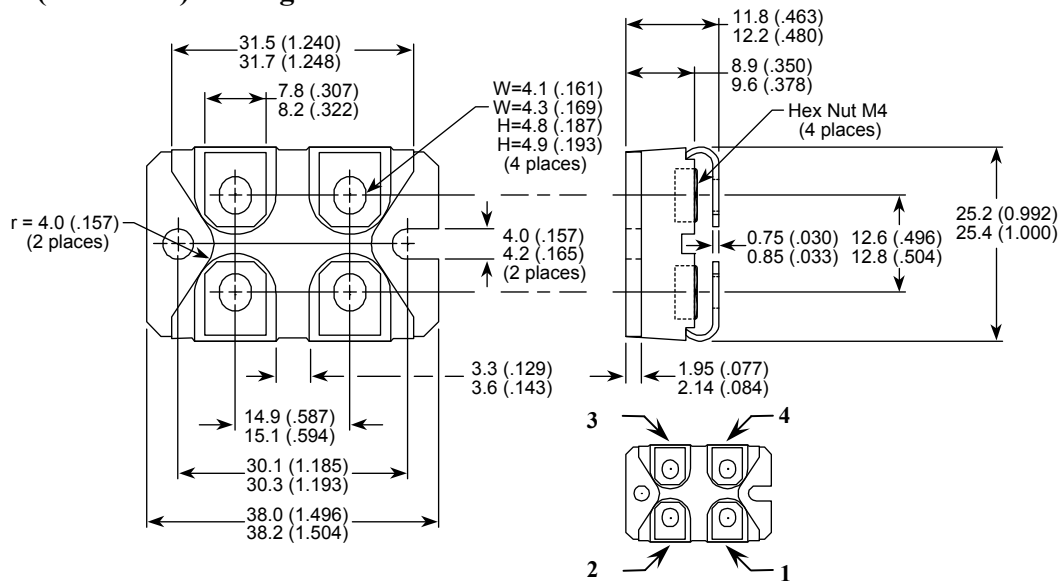
All ratings @  $T_j = 25^\circ\text{C}$  unless otherwise specified

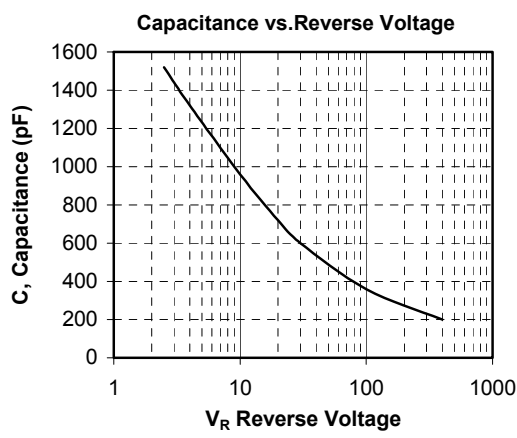
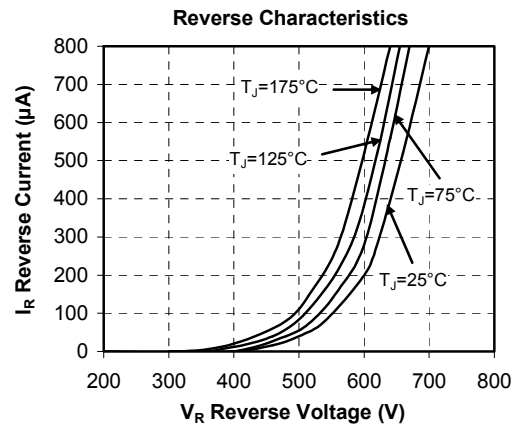
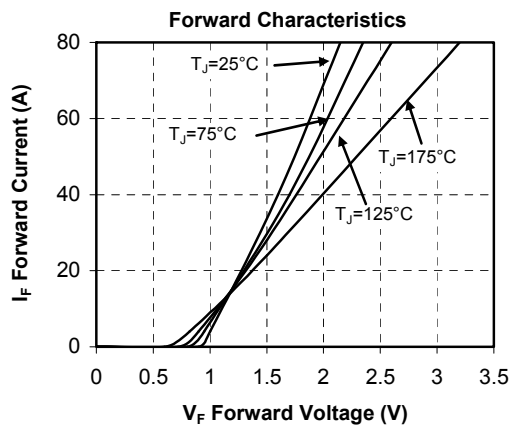
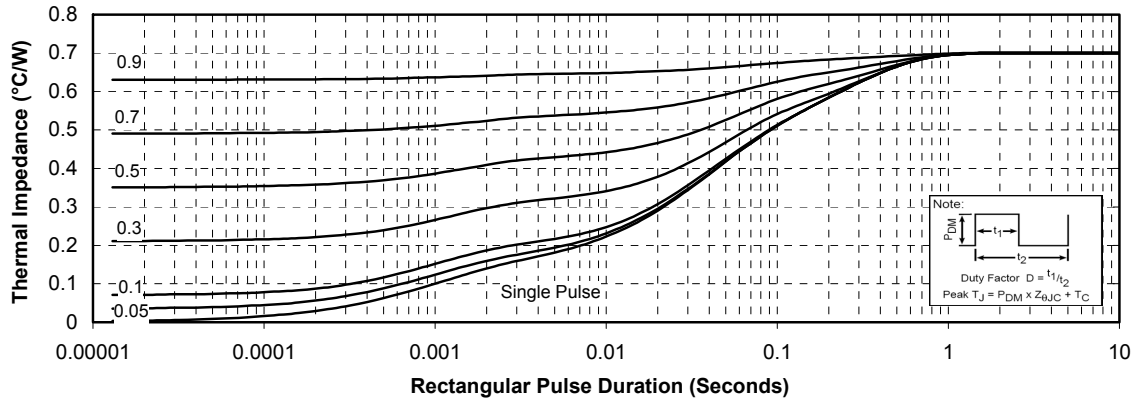
**Electrical Characteristics (per leg)**

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit	
$V_F$	Diode Forward Voltage	$I_F = 40\text{A}$	$T_j = 25^\circ\text{C}$		1.6	1.8	V
			$T_j = 175^\circ\text{C}$		2	2.4	
$I_{RM}$	Maximum Reverse Leakage Current	$V_R = 600\text{V}$	$T_j = 25^\circ\text{C}$		200	800	$\mu\text{A}$
			$T_j = 175^\circ\text{C}$		400	4000	
$Q_C$	Total Capacitive Charge	$I_F = 40\text{A}, V_R = 300\text{V}$ $di/dt = 1200\text{A}/\mu\text{s}$		56		nC	
C	Total Capacitance	$f = 1\text{MHz}, V_R = 200\text{V}$		260		pF	
		$f = 1\text{MHz}, V_R = 400\text{V}$		200			

**Thermal and package characteristics (per leg)**

Symbol	Characteristic	Min	Typ	Max	Unit
$R_{thJC}$	Junction to Case Thermal resistance			0.7	$^\circ\text{C}/\text{W}$
$R_{thJA}$	Junction to Ambient (Diode)			20	$^\circ\text{C}/\text{W}$
$V_{ISOL}$	RMS Isolation Voltage, any terminal to case $t = 1$ min, 50/60Hz	2500			V
$T_j, T_{STG}$	Storage Temperature Range	-55		175	$^\circ\text{C}$
$T_L$	Max Lead Temp for Soldering: 0.063" from case for 10 sec			300	$^\circ\text{C}$
Torque	Mounting torque (Mounting = 8-32 or 4mm Machine and terminals = 4mm Machine)			1.5	N.m
Wt	Package Weight		29.2		g

**SOT-227 (ISOTOP<sup>®</sup>) Package Outline**


**Typical Diode Performance Curve**
**Maximum Effective Transient Thermal Impedance, Junction to Case vs Pulse Duration**


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Buyer agrees not to use Products in any Life Support Applications and to the extent it does it shall conduct extensive testing of the Product in such applications and further agrees to indemnify and hold Seller, and its officers, employees, subsidiaries, affiliates, agents, sales representatives and distributors harmless against all claims, costs, damages and expenses, and attorneys' fees and costs arising, directly or indirectly, out of any claims of personal injury, death, damage or otherwise associated with the use of the goods in Life Support Applications, even if such claim includes allegations that Seller was negligent regarding the design or manufacture of the goods.

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