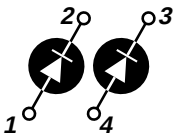
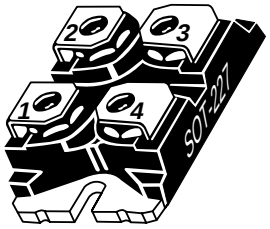


Anti-Parallel
APT2X100S20J



Parallel
APT2X101S20J



ADVANCED POWER TECHNOLOGY®

APT2X100S20J 200V 100A
APT2X101S20J 200V 100A

DUAL DIE ISOTOP® PACKAGE
HIGH VOLTAGE SCHOTTKY DIODES

PRODUCT APPLICATIONS

- **Rectifiers in Switchmode Power Supplies (SMPS)**
- **Free Wheeling Diode in Low Voltage Converters**

PRODUCT FEATURES

- **Ultrafast Recovery Times**
- **Soft Recovery Characteristics**
- **Popular SOT-227 Package**
- **Rugged - Avalanche Energy Rated**
- **Low Forward Voltage**
- **High Blocking Voltage**
- **Low Leakage Current**

PRODUCT BENEFITS

- **Low Losses**
- **Low Noise Switching**
- **Cooler Operation**
- **Higher Reliability Systems**
- **Increased System Power Density**

ADVANCE TECHNICAL INFORMATION

MAXIMUM RATINGS All Ratings are per diode: T_C = 25°C unless otherwise specified.

Symbol	Characteristic / Test Conditions	APT2X100/2X101S20J	UNIT
V_R	Maximum D.C. Reverse Voltage	200	Volts
V_{RRM}	Maximum Peak Repetitive Reverse Voltage		
V_{RWM}	Maximum Working Peak Reverse Voltage		
$I_F(AV)$	Maximum Average Forward Current (T_C = 60°C, Duty Cycle = 0.5)	100	Amps
$I_F(RMS)$	RMS Forward Current	170	
I_{FSM}	Non-Repetitive Forward Surge Current (T_J = 45°C, 8.3mS)	1000	
T_J,T_{STG}	Operating and StorageTemperature Range	-55 to 150	°C
T_L	Lead Temperature: 0.063" from Case for 10 Sec.	300	
E_{AVL}	Avalanche Energy (2A, 50 mH)	100	mJ

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions		MIN	TYP	MAX	UNIT
V_F	Maximum Forward Voltage	I_F = 100A		0.89	0.95	Volts
		I_F = 200A		1.18		
		I_F = 100A, T_J = 150°C			0.80	
I_{RM}	Maximum Reverse Leakage Current	V_R = V_R Rated			2	mA
		V_R = V_R Rated, T_J = 125°C			50	
C_T	Junction Capacitance, V_R = 200V			470		pF
L_S	Series Inductance (Lead to Lead 5mm from Base)			10		nH

APT Website - http://www.advancedpower.com

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053-6023 Rev - 7-2001

DYNAMIC CHARACTERISTICS

Symbol	Characteristic		MIN	TYP	MAX	UNIT
t_{rr1}	Reverse Recovery Time, I_F = 1.0A, di_F/dt = -15A/µs, V_R = 30V, T_J = 25°C			110	TBD	ns
t_{rr2}	Reverse Recovery Time	T_J = 25°C		88		
t_{rr3}	I_F = 100A, di_F/dt = -100A/µs, V_R = 100V	T_J = 100°C		123		
t_{fr1}	Forward Recovery Time	T_J = 25°C		1600		
t_{fr2}	I_F = 100A, di_F/dt = 100A/µs, V_R = 100V	T_J = 100°C		1600		
I_{RRM1}	Reverse Recovery Current	T_J = 25°C		5		Amps
I_{RRM2}	I_F = 100A, di_F/dt = -100A/µs, V_R = 100V	T_J = 100°C		7		
Q_{rr1}	Recovery Charge	T_J = 25°C		253		nC
Q_{rr2}	I_F = 100A, di_F/dt = -100A/µs, V_R = 100V	T_J = 100°C		490		
V_{fr1}	Forward Recovery Voltage	T_J = 25°C		6.0		Volts
V_{fr2}	I_F = 100A, di_F/dt = 100A/µs, V_R = 100V	T_J = 100°C		6.0		
diM/dt	Rate of Fall of Recovery Current	T_J = 25°C		210		A/µs
	I_F = 100A, di_F/dt = -100A/µs, V_R = 100V	T_J = 100°C		250		

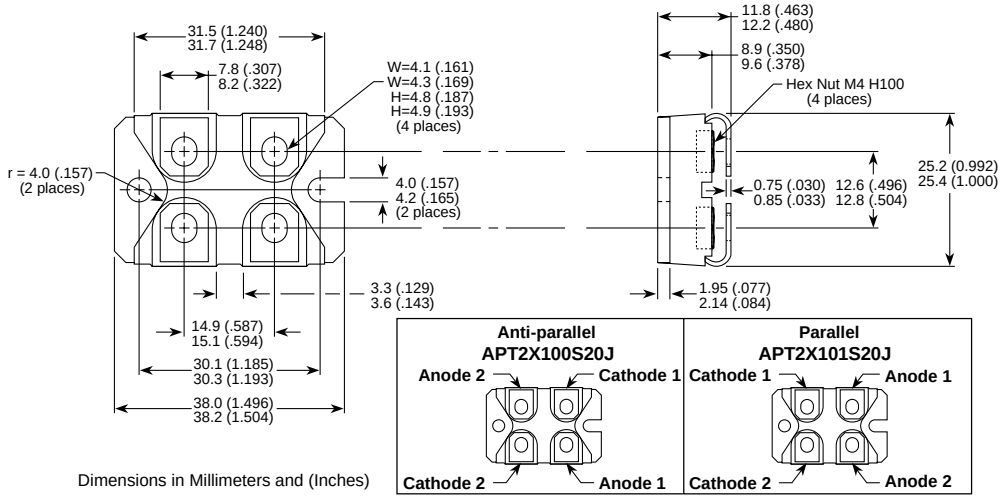
THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction-to-Case Thermal Resistance			0.42	°C/W
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance			20	
$V_{Isolation}$	RMS Voltage (50-60 Hz Sinusoidal Waveform from Terminals to Mounting Base for 1 Min.)	2500			Volts
W_T	Package Weight		1.03		oz
			29.2		gm
Torque	Maximum Torque (Mounting = 8-32 or 4mm Machine and Terminals = 4mm Machine)			13.6	lb•in
				1.5	N•m

ADVANCE TECHNICAL INFORMATION

APT Reserves the right to change, without notice, the specifications and information contained herein.

SOT-227 Package Outline



Dimensions in Millimeters and (Inches)

APT's devices are covered by one or more of the following U.S.patents: 4,895,810 5,045,903 5,089,434 5,182,234 5,019,522 5,262,336 5,256,583 4,748,103 5,283,202 5,231,474 5,434,095 5,528,058

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