



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

**SXM4001
 thru
 SXM4006**

**PIN DIODE
 RF POWER SWITCHING
 AND ATTENUATOR**

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SXM40 _ _ _

└─ Screening ^{2/}

_ _ = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

└─ Package Type

_ _ = Axial Leaded
 SMS = Surface Mount Square Tab
 C = Case Style C
 V = Isolated Ministud V

└─ Voltage Range

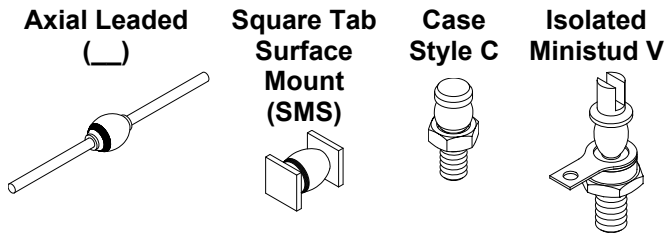
01 = 100V
 02 = 200V
 06 = 600V

- FEATURES:**
- Operating Frequency from HF to beyond 1 Ghz
 - Voltage Ratings to 600 Volts
 - High Power Handling
 - 100kW Peak Pulse Power Dissipation
 - For RF Switches and Attenuator Applications
 - Long Carrier Life Time Design
 - Hermetically Sealed
 - Axial, Surface Mount, Case Style C and Ministud Version Available – Contact Factory
 - Custom Design Upon Request
 - TX, TXV, and Space Level Screening Available ^{2/}

MAXIMUM RATINGS^{3/}		Symbol	Value	Units
Reverse Voltage	SXM4001	V_R	100	Volts
	SXM4002		200	
	SXM4006		600	
Power Dissipation	Axial Leaded ^{4/}	P_D	12	Watts
	Axial Leaded ^{5/}		2.5	
	SMS ^{6/}		17.5	
	Case Style C		23	
Thermal Resistance	Isolated Ministud	17.5		
	Axial Leaded ^{4/}	R_{θJL}	12.5	°C/W
	Axial Leaded ^{5/}	R_{θJL}	--	
	SMS ^{6/}	R_{θJE}	8.5	
Case Style C	R_{θJC}	6.5		
Peak Power Dissipation	100 μs	PP_D	5	kW
	1 μs		100	
Operating and Storage Temperature		T_{OP} & T_{stg}	-65 to +175	°C

NOTES:

- ^{1/} For ordering information, price, operating curves, and availability- contact factory.
- ^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.
- ^{3/} @25°C unless otherwise specified
- ^{4/} 1/4" total length to 25°C contact/derate linearly to 175°C for TL>25°C
- ^{5/} Free air
- ^{6/} Junction to End Tab, de-rate linearly to 175°C for Te>25°C





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ELECTRICAL CHARACTERISTICS^{3/}		Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (at 10 μ A)	SXM4001	B_{VR}	100	--	--	V
	SXM4002		200	--	--	
	SXM4006		600	--	--	
Forward Voltage Drop (at I _F = 0.1A)		V_F	--	--	1.0	V
Reverse Leakage Current (at rated V _R)		I_R	--	--	1	μA
Junction Capacitance (V _R = 100V, 1MHz)		C_J	--	--	2.2	pF
Carrier Lifetime (at I _F = 10 mA)		τ	6	--	--	μsec
Intrinsic Region Width		W	--	175	--	μm
Series Resistance (I _F = 100mA, 100MHz)		R_S	--	--	0.5	Ω
RF Parallel Resistance (V _R = 100V, 100MHz)		R_P	20	--	--	KΩ

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- 4/ 1/4" total length to 25°C contact/derate linearly to 175°C for TL>25°C
- 5/ Free air
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DIMENSIONS (inches)		
	MIN	MAX
A	—	0.140
B	—	0.230
C	.975	—
D	0.039	0.041

Case Outline: Axial

DIMENSIONS (inches)		
	MIN	MAX
A	.175	.180
B	—	.290
C	.020	.028
D	.002	—

Case Outline: SMS

Note: Dimensions prior to soldering.

Case Outline: Case Style C

Case Outline: Isolated Ministud V