



SOLID STATE DEVICES, INC.

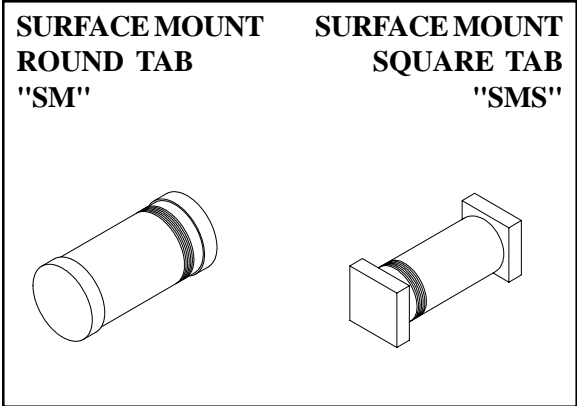
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Designer's Data Sheet

- FEATURES:**
- **Hyper Fast Recovery: 5 nsec maximum**
 - **Subminiature Surface Mount Package**
 - **Round and Square Tab Mounting**
 - **Hermetically Sealed**
 - **Planar Passivated Chip**
 - **For High Efficiency Applications**
-
- **TX, TXV, and Space Level Screening Available**

**SPD6642SM
SPD6642SMS**

**300 mAMP
75 VOLTS
5 nsec
HYPER FAST
RECTIFIER**



Maximum Ratings	SYMBOL	VALUE	UNITS
Peak Repetitive Reverse and DC Blocking Voltage	V_{RRM} V_{RWM} V_R	75	Volts
Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, $T_A = 25\text{ }^\circ\text{C}$)	I_o	300	mAmps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_o , allow junction to reach equilibrium between pulses, $T_A = 25\text{ }^\circ\text{C}$)	I_{FSM}	2.5	Amps
Operating and Storage Temperature	T_{OP} & T_{STG}	-65 TO +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to End Tab	$R_{\theta JE}$	0.35	$^\circ\text{C/mW}$

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RH0004A

SPD6642SM
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Electrical Characteristics		SYMBOL	MAXIMUM	UNITS
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 - 500 μs Pulse)	$I_F = 10\text{mA}$	V_{F1}	1.0	V_{DC}
	$I_F = 100\text{mA}$	V_{F2}	1.2	
Instantaneous Forward Voltage Drop ($I_F = 10\text{mA}$, $T_A = 150^\circ\text{C}$, 300 - 500 μs Pulse)		V_{F3}	0.8	V_{DC}
Reverse Leakage Current ($T_A = 25^\circ\text{C}$, 300 μs minimum Pulse)	$V_R = 20\text{V}$	I_{R1}	25	nA
	$V_R = 75\text{V}$	I_{R2}	500	
Reverse Leakage Current ($T_A = 150^\circ\text{C}$, 300 μs minimum Pulse)	$V_R = 20\text{V}$	I_{R3}	50	μA
	$V_R = 75\text{V}$	I_{R4}	100	
Junction Capacitance ($V_R = 1.5V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{ MHz}$)		C_J	2.8	pF
Reverse Recovery Time ($I_F = 10\text{ mA}$, $I_R = 10\text{ mA}$, $I_{RR} = 1\text{ mA}$, $T_A = 25^\circ\text{C}$)		t_{RR}	5	nsec

CASE OUTLINE: ROUND TAB "SM"	DIMENSIONS			CASE OUTLINE: SQUARE TAB "SMS"	DIMENSIONS		
	DIM	MIN.	MAX.		DIM	MIN.	MAX.
	A	.130	.146"		A	.180	.200"
	B	.054"	.064"		B	.065"	.085"
	C	.010"	.022"		C	.022"	.028"
	D	.001"	--		D	.001"	--

Diagram of SPD6642SM (Round Tab) showing dimensions A, B, C, D and a circular cross-section.

Diagram of SPD6642SMS (Square Tab) showing dimensions A, B, C, D and a square cross-section.