



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

**SPD6627, SPD6627SMS,
 SPD6628, and SPD6628SMS**

**4 AMPS, 400 thru 600 VOLTS
 30 nsec
 HYPER FAST RECOVERY
 RECTIFIER**

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SPD _ _ _

 | | |

 | | | **Screening ^{2/}**

 | | | _ = Not Screened

 | | | TX = TX Level

 | | | TXV = TXV

 | | | S = S Level

 | | | **Package Type**

 | | | _ = Axial Leaded

 | | | SMS = Surface Mount Square Tab

 | | | **Voltage/Family**

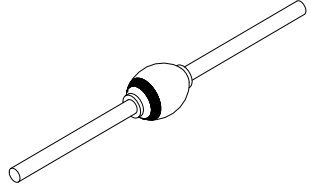
 | | | 6627 = 400V

 | | | 6628 = 600V

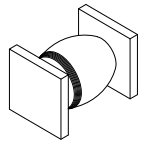
- FEATURES:**
- Hyper Fast Recovery: 30 nsec maximum
 - Guaranteed High Temp. trr: 60 nsec maximum
 - PIV up to 600 Volts
 - Low Reverse Leakage Current
 - Hermetically Sealed
 - Void Free Construction
 - For High Efficiency Applications
 - TX, TXV, and Space Level Screening Available
 - Replacement for 1N6627 and 1N6628

MAXIMUM RATINGS	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SPD6627 SPD6628 V_{RRM} V_{RWM} V_R	400 600	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave)	I_O	4	Amps
Peak Surge Current (Single 8.3 ms Pulse, Half Sine Wave, Superimposed on I_O , $T_A=55^\circ C$)	I_{FSM}	75	Amps
Repetitive Peak Surge Current (8.3 ms Pulse, allow junction to reach equilibrium between pulses, $T_A=55^\circ C$)	I_{FRM}	20	Amps
Operating and Storage Temperature	T_{OP} & T_{stg}	-65 to +175	$^\circ C$
Maximum Thermal Resistance Junction to Lead, $L = 0.375"$ (Axial Lead) Junction to End Tab (Surface Mount)	$R_{\theta JL}$ $R_{\theta JE}$	20 14	$^\circ C/W$

Axial Leaded (_)



Square Tab Surface Mount (SMS)





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ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 μsec Pulse)	$I_F = 3 \text{ Adc}$	V_{F1}	—	1.5	Vdc
	$I_F = 4 \text{ Adc}$	V_{F2}	—	1.6	
Reverse Leakage Current (At Rated V_R , 300 μsec pulse minimum)	$T_A = 25^\circ\text{C}$	I_{R1}	—	10	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	—	1	mA
Junction Capacitance ($V_R = 10 \text{ V}_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1 \text{ MHz}$)		C_J	—	50	pF
Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1 \text{ A}$, $I_{RR} = 250 \text{ mA}$)	$T_A = 25^\circ\text{C}$	t_{rr1}	—	30	nsec
	$T_A = 100^\circ\text{C}$	t_{rr2}	—	60	

Case Outline: (Axial)

DIM	MIN	MAX
A	—	0.165"
B	—	0.220"
C	0.047"	0.053"
D	.950"	—

Case Outline: (SMS)

DIM	MIN	MAX
A	0.172"	0.180"
B	0.180"	0.280"
C	0.022"	0.028"
D	0.002"	—

Note: Dimensions prior to soldering.

NOTES:

- 1/ For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.
- 2/ Screened to MIL-PRF-19500.