



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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**SPD805SMS
thru
SPD830SMS**

**8 AMP
50-300 VOLTS
40 nsec
Hyper Fast 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**
 └── SMS = Surface Mount Square Tab

└── **Voltage/Family**
 ├── 805 = 50V
 ├── 810 = 100 V
 ├── 820 = 200 V
 └── 830 = 300 V

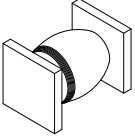
- FEATURES:**
- Hyper Fast Recovery: 40 nsec maximum
 - PIV to 300 Volts
 - Hermetically Sealed
 - Void Free Construction
 - For High Efficiency Applications
 - Low Forward Voltage Drop
 - Square Tab Surface Mount Package
 - Replaces 1N5811 types
 - TX, TXV, and Space Level Screening Available ^{2/}

MAXIMUM RATINGS		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SPD805SMS	V_{RRM}	50	Volts
	SPD810SMS	V_{RWM}	100	
	SPD820SMS	V_R	200	
	SPD830SMS		300	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A = 25^\circ C$)		I_O	8	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_O , allow junction to reach equilibrium between pulses, $T_A = 25^\circ C$)		I_{FSM}	125	Amps
Operating and Storage Temperature		$T_{OP} \ \& \ T_{stg}$	-65 to +175	$^\circ C$
Maximum Thermal Resistance Junction to End Tab		$R_{\theta JE}$	12	$^\circ C/W$

NOTES:

- ^{1/} For Ordering Information, Price, and Availability- Contact Factory.
- ^{2/} Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

Square Tab Surface Mount (SMS)





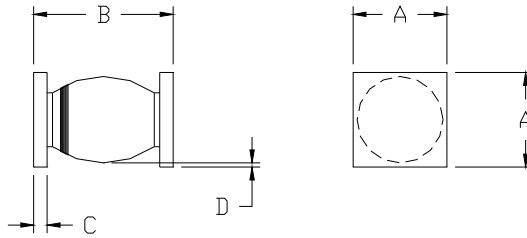
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 thru
 SPD830SMS**

ELECTRICAL CHARACTERISTICS		Symbol	Max	Unit
Instantaneous Forward Voltage Drop ($I_F = 8 \text{ Adc}$, $T_A = 25^\circ\text{C}$, 300Ms pulse)		V_{F1}	1.00	Vdc
Instantaneous Forward Voltage Drop ($I_F = 8 \text{ Adc}$, $T_A = -55^\circ\text{C}$, 300Ms pulse)		V_{F2}	1.10	Vdc
Reverse Leakage Current (At Rated V_R , 300Ms pulse minimum)	$T_A = 25^\circ\text{C}$	I_{R1}	20	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	1	mA
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_{rr}	40	ns
Junction Capacitance ($V_R = 10 \text{ V}_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1 \text{ MHz}$)		C_J	100	pF

Case Outline: (SMS)



DIM	MIN	MAX
A	0.172"	0.180"
B	0.220"	0.290"
C	0.020"	0.035"
D	0.002"	—

Note: Dimensions prior to soldering.

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

DATA SHEET #: RH0093C

DOC