



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

SPD205 thru SPD230 and SPD205SMS thru SPD230SMS

2.0 AMPS
50 – 300 VOLTS
**25 ns HYPERFAST 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

205 = 50V

210 = 100V

220 = 200V

230 = 300V

FEATURES:

- Hyper Fast Reverse Recovery: 25ns Maximum ^{4/}
- PIV to 300 Volts
- Hermetically Sealed
- Low Forward Voltage Drop
- Void Free Chip Construction
- For High Efficiency Applications
- Available in Axial & Square Tab Versions
TX, TXV, and S-Level Screening Available ^{2/}
- Replacement for: 1N 5802, US thru 1N5806, US

MAXIMUM RATINGS ^{3/}

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SPD205	V_{RRM}	50	Volts
	SPD210		100	
	SPD220	V_{RWM}	200	
	SPD230		V_R	
Average Rectified Forward Current	(Resistive Load, 60Hz, Sine Wave, $T_A = 25^\circ\text{C}$)	I_O	2.0	Amps
Peak Surge Current	(8.3ms pulse, half sine wave superimposed on I_O , allow junction to reach equilibrium between pulses, $T_A = 25^\circ\text{C}$)	I_{FSM}	50	Amps
Operating & Storage Temperature		T_J and T_{STG}	-65 to +175	$^\circ\text{C}$
Thermal Resistance	Junction to Lead for Axial, $L = .375"$	$R_{\theta JL}$	38	$^\circ\text{C/W}$
	Junction to End Tab for Surface Mount	$R_{\theta JE}$	25	

NOTES:

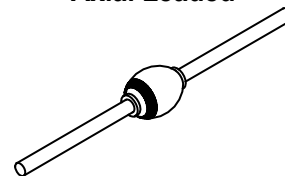
^{1/} For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

^{2/} Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

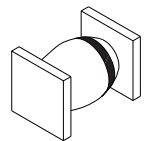
^{3/} Unless Otherwise Specified, All Electrical Characteristics @25 $^\circ\text{C}$.

^{4/} $I_F = 500\text{mA}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{mA}$, $T_A = 25^\circ\text{C}$

Axial Leaded



SMS



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

DATA SHEET #: RH0099F

DOC



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**SPD205 thru SPD230
 and
 SPD205SMS thru SPD230SMS**

ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
		MAX	
Instantaneous Forward Voltage Drop $I_F = 2.0 \text{ Adc}, T_A = +25^\circ\text{C}, 300 - 500\mu\text{s pulse}$ $I_F = 2.0 \text{ Adc}, T_A = -55^\circ\text{C}, 300 - 500\mu\text{s pulse}$	V_{F1} V_{F2}	1.0 1.2	Vdc
Reverse Leakage Current (Rated $V_R, T_A = +25^\circ\text{C}$) (Rated $V_R, T_A = +100^\circ\text{C}$)	I_{R1} I_{R2}	10 1	μA mA
Junction Capacitance $V_R = 10 \text{ Vdc}, f = 1\text{MHz}, T_A = 25^\circ\text{C}$	C_J	45	pF
Maximum 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}	25	ns

Package Outlines:

DIMENSIONS (inches)			DIMENSIONS (inches)		
DIM.	Minimum	Maximum	DIM.	Minimum	Maximum
A	---	.140	A	.134	.155
B	.190	.230	B	.230	.280
C	.027	.033	C	.022	.028
D	1.00	---	D	.002	---

