



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
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**SPD645-1 thru SPD649-1
 and
 SPD645-1SMS thru SPD649-1SMS**

**400 mAMPS
 225 – 600 VOLTS
 STANDARD 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

- 645-1 = 225V
- 646-1 = 300V
- 647-1 = 400V
- 648-1 = 500V
- 649-1 = 600V

FEATURES:

- Standard Reverse Recovery (Faster Versions Available)
- V_R to 600 Volts (Higher Voltages Available)
- Hermetically Sealed Glass Package
- Metallurgically Bonded
- High Surge Capability
- No Thermal Fatigue
- Available in Axial & Square Tab Versions
- TX, TXV, and S-Level Screening Available ^{2/}
- Replacement for: 1N645-1, UR-1 thru 1N649-1, UR-1

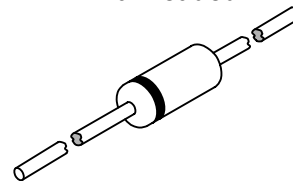
MAXIMUM RATINGS ^{3/}

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	645-1	V_{RRM} V_{RWM} V_R	225	Volts
	646-1		300	
	647-1		400	
	648-1		500	
	649-1		600	
Average Rectified Forward Current	$T_A = 25^\circ C$	I_{O1}	400	mAmps
	$T_A = 150^\circ C$	I_{O2}	150	
Power Dissipation (at 3/8" from the body, $T_L = 75^\circ C$)		P_{tot}	600	mWatts
Surge Current ($T_A = 25^\circ C$ to $150^\circ C$, for 1 Second)		I_{FSM}	3	Amps
Operating & Storage Temperature		T_O and T_{STG}	-65 to +175	$^\circ C$
Thermal Impedance		Z_{qjX}	35	$^\circ C/W$

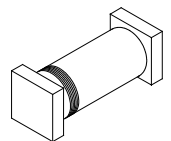
NOTES:

- ^{1/} For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.
- ^{2/} Screened to MIL-PRF-19500.
- ^{3/} Unless Otherwise Specified, All Electrical Characteristics @25°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 #: RC0109A

DOC



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ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Minimum Breakdown Voltage (100 μ A)	645-1	275	Volts
	646-1	360	
	647-1	480	
	648-1	600	
	649-1	720	
Maximum Forward Voltage Drop (I _F = 400mA)	V _F	1.0	Volts
Maximum Reverse Leakage Current (Rated V _R , T _A = +25°C)	I _{R1}	200	nA
Maximum Reverse Leakage Current (Rated V _R , T _A = +100°C)	645-1	15	μ A
	646-1	15	
	647-1	20	
	648-1	20	
	649-1	25	
Typical Junction Capacitance (-12 V)	C _O	9	pF

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- 2/ Screened to MIL-PRF-19500.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

Package Outlines:

DIMENSIONS (inches)			DIMENSIONS (inches)		
DIM.	Minimum	Maximum	DIM	Minimum	Maximum
A	.060	.090	A	.098	.102
B	.120	.200	B	.170	.250
C	1.00	---	C	.022	.028
D	.018	.022	D	.002	---

AXIAL

SMS