



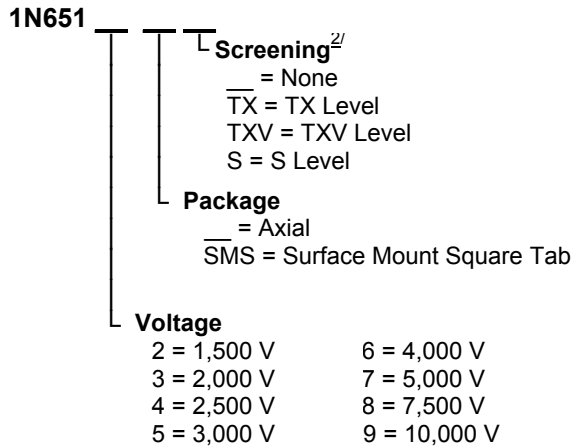
Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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1N6512 – 1N6519 Series

Designer's Data Sheet

Part Number / Ordering Information ^{1/}



0.5 – 1.5 AMP 1,500 V – 10,000 V ULTRA FAST RECOVERY HIGH VOLTAGE RECTIFIER

FEATURES:

- Fast recovery: 70 nsec maximum
- PIV to 10 KV
- Hermetically sealed axial and surface mount package
- Void-free ceramic frit glass construction
- High temperature Category I eutectic metallurgical bond
- Excellent thermal shock performance
- For use in high voltage systems
- 175°C maximum operating temperature
- TX, TXV, and Space level screening available^{2/}

MAXIMUM RATINGS^{3/}

Part Number	V _{RWM}	I _{FSM}	I _o		t _{RR}	R _{θJL1}	R _{θJL2}	R _{θJEC}
Conditions		t _p = 8.3 ms	4/	5/	25°C	L = .25" (6.35 mm) (Air)	L = .25" (6.35 mm) (Oil Bath) ^{6/}	7/
Units	V _{DC}	A (pk)	A _{DC}	A _{DC}	ns	°C/W	°C/W	°C/W
1N6512, SMS	1,500	100	1.5	1.0	70	16	12	4
1N6513, SMS	2,000	100	1.5	1.0	70	16	12	4
1N6514, SMS	2,500	60	1.0	0.65	70	16	12	4
1N6515, SMS	3,000	60	1.0	0.65	70	16	12	4
1N6516, SMS	4,000	40	0.75	0.5	70	16	12	5
1N6517, SMS	5,000	40	0.75	0.5	70	16	12	5
1N6518, SMS	7,500	25	0.5	0.35	70	16	12	5
1N6519, SMS	10,000	25	0.5	0.35	70	16	12	5

MAXIMUM RATINGS^{3/}

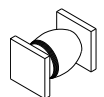
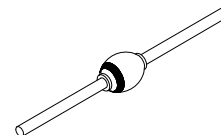
	Symbol	Value	Unit
Storage Temperature	T _{STG}	-65 to +200	°C
Operating Temperature	T _J	-65 to +175	°C

Notes:

- 1/ For ordering information, price, and availability – Contact factory.
- 2/ Screening based on MIL-PRF-19500/575. Screening flows available on request.
- 3/ Unless otherwise specified, T_A = 25°C.
- 4/ Derate linearly for air (+55°C ≤ T_A ≤ +100°C. I_o at T_A = +55°C to I_o at T_A = +100°C), for oil bath (+80°C ≤ T_L ≤ +100°C. I_o at T_L = +80°C to I_o at T_A = +100°C), and for end cap (+100°C ≤ T_A ≤ +125°C. I_o at T_{EC} = +100°C to I_o at T_{EC} = +125°C).
- 5/ Derate linearly for air (+100°C ≤ T_A ≤ +175°C. I_o at T_A = +100°C to I_o = 0A at T_A = +175°C), for oil bath (+100°C ≤ T_L ≤ +175°C. I_o at T_L = +100°C to I_o = 0A at T_A = +175°C), and for end cap (+125°C ≤ T_A ≤ +175°C. I_o at T_{EC} = +125°C to I_o = 0A at T_A = +175°C).
- 6/ Oil or fluorocarbon fluid with leads heat sunk at specified L.
- 7/ R_{θJEC} is junction to end-cap thermal impedance with "SMS" suffix identification, i.e., 1N6512SMS.

Axial

Surface Mount Square Tab



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

DATA SHEET #: RC0170C

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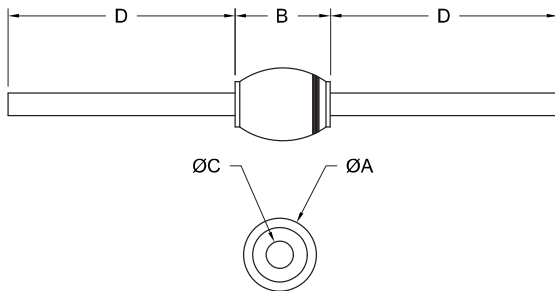
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ELECTRICAL CHARACTERISTICS

Part Number	V_{RWM}	I_o	I_{R1}	V_{F1}	C
Conditions		$T_A = +55^\circ C$	$T_A = 25^\circ C$	@ I_o	$V_R = 50V$ $F_O = 1\text{ kHz}$
Units	V_{DC}	A_{DC}	μA_{DC}	$V_{(pk)}$	pF
1N6512, SMS	1,500	1.5	1.0	3.5	25
1N6513, SMS	2,000	1.5	1.0	3.5	25
1N6514, SMS	2,500	1.0	1.0	6.0	20
1N6515, SMS	3,000	1.0	1.0	6.0	20
1N6516, SMS	4,000	0.75	1.0	8.0	16
1N6517, SMS	5,000	0.75	1.0	8.0	16
1N6518, SMS	7,500	0.5	1.0	13.0	8
1N6519, SMS	10,000	0.5	1.0	13.0	8

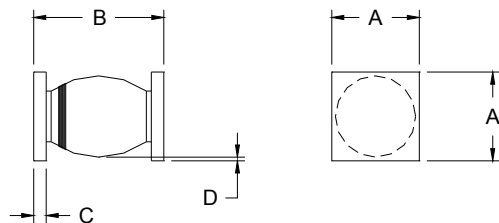
PACKAGE OUTLINE: Axial



DIMENSIONS

Part Number	A		B		C		D	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1N6512	.155	.215	.25	.31	.037	.043	1.0	1.3
1N6513	.155	.215	.25	.31	.037	.043	1.0	1.3
1N6514	.155	.215	.27	.33	.037	.043	1.0	1.3
1N6515	.155	.215	.27	.33	.037	.043	1.0	1.3
1N6516	.155	.215	.29	.35	.037	.043	1.0	1.3
1N6517	.155	.215	.29	.35	.037	.043	1.0	1.3
1N6518	.155	.215	.34	.40	.037	.043	1.0	1.3
1N6519	.155	.215	.34	.40	.037	.043	1.0	1.3

PACKAGE OUTLINE: Surface Mount Square Tab



DIMENSIONS

Part Number	A		B		C		D	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1N6512SMS	.170	.180	.225	.245	.026	.036	1.0	1.3
1N6513SMS	.170	.180	.225	.245	.026	.036	1.0	1.3
1N6514SMS	.170	.180	.245	.265	.026	.036	1.0	1.3
1N6515SMS	.170	.180	.245	.265	.026	.036	1.0	1.3
1N6516SMS	.170	.180	.265	.285	.026	.036	1.0	1.3
1N6517SMS	.170	.180	.265	.285	.026	.036	1.0	1.3
1N6518SMS	.170	.180	.325	.345	.026	.036	1.0	1.3
1N6519SMS	.170	.180	.325	.345	.026	.036	1.0	1.3

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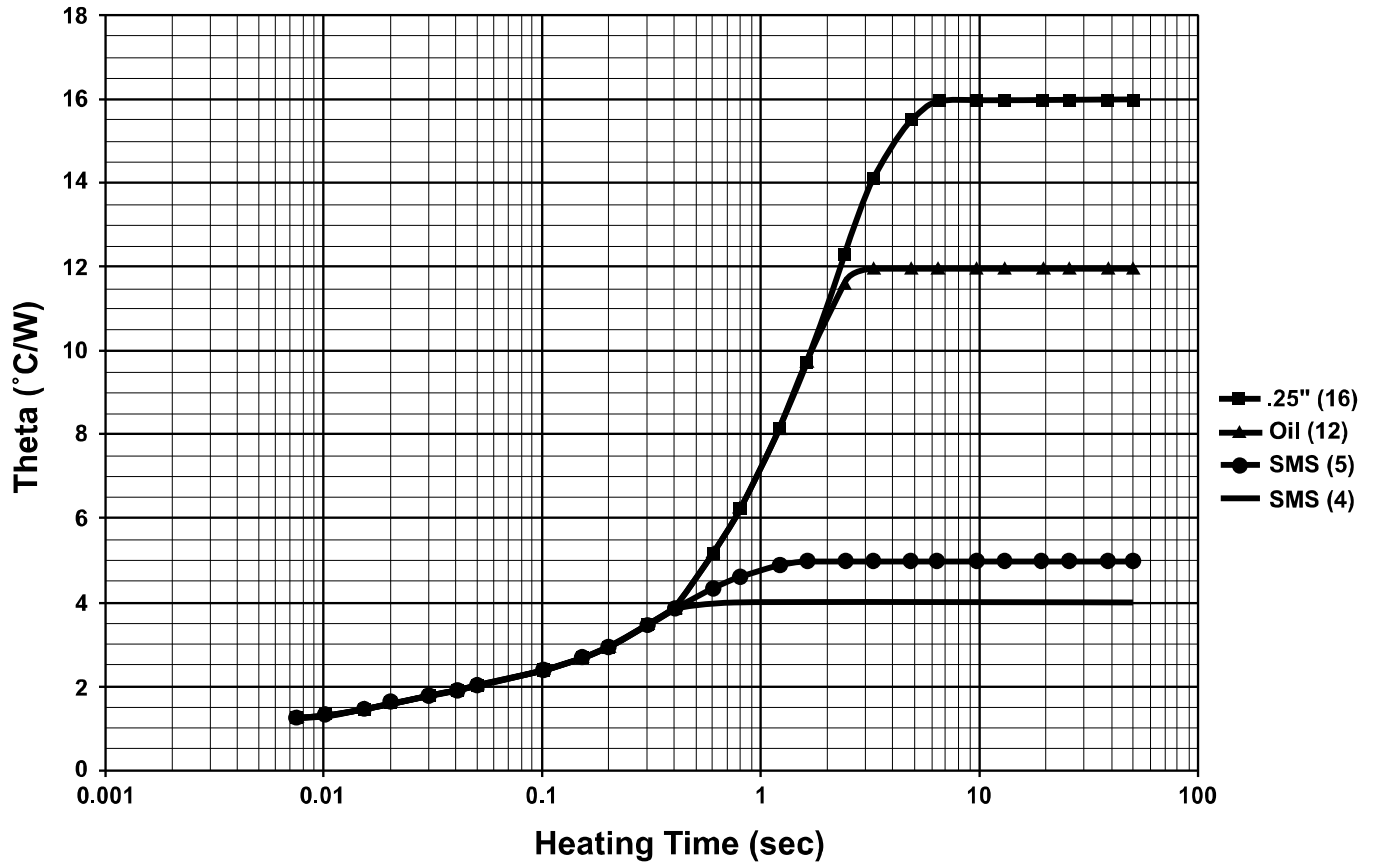


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Maximum Thermal Impedance



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