

**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

Designer's Data Sheet**Part Number/Ordering Information ^{1/}****SDR 15**

Screening ^{2/}
 — = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

Package

J = TO-257
 S.5 = SMD.5

Family/Voltage

10 = 1000 Volts
 12 = 1200 Volts

Current

15 = 15 Amps

SDR1510JUF & S.5UF

SDR1512JUF & S.5UF

15 AMP
ULTRAFAST RECTIFIER
1000 - 1200 VOLTS
75 nsec

FEATURES:

- Ultrafast Recovery: 75 nsec maximum
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Custom Lead Forming Available
- Eutectic Die Attach
- TX, TXV, and S Level Screening Available

Maximum Ratings^{3/}

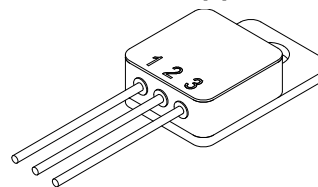
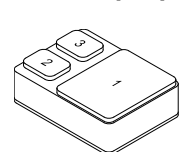
		Symbol	Value	Unit
Peak Repetitive Reverse and DC Blocking Voltage	SDR1510	V_{RRM}	1000	V
	SDR1512	V_{RWM}	1200	
		V_R		
Average Rectified Forward Current (Resistive load, 60 Hz sine wave, $T_A = 25^\circ\text{C}$)		I_o	15	A
Peak Surge Current (8.3 ms pulse, half sine wave, $T_A = 25^\circ\text{C}$)		I_{FSM}	150	A
Operating & Storage Temperature		$T_{OP} \text{ \& } T_{STG}$	-65 to +175	$^\circ\text{C}$
Maximum Total Thermal Resistance Junction to Case	TO-257 (J)	$R_{\theta JC}$	1.5	$^\circ\text{C/W}$
	SMD.5 (S.5)		1.0	

NOTES:

- ^{1/} For ordering information, price, and availability, contact factory.
^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.
^{3/} Unless otherwise specified, all electrical characteristics @25°C. Anode pins connected together.

Available in the following configurations:

SDR1510JUF, SDR1510JUFDB, SDR1510JUFUB, and SDR1510S.5UF
 SDR1512JUF, SDR1512JUFDB, SDR1512JUFUB, and SDR1512S.5UF

TO-257 (J)**Isolated****SMD.5 (S.5)****Hot Case**

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

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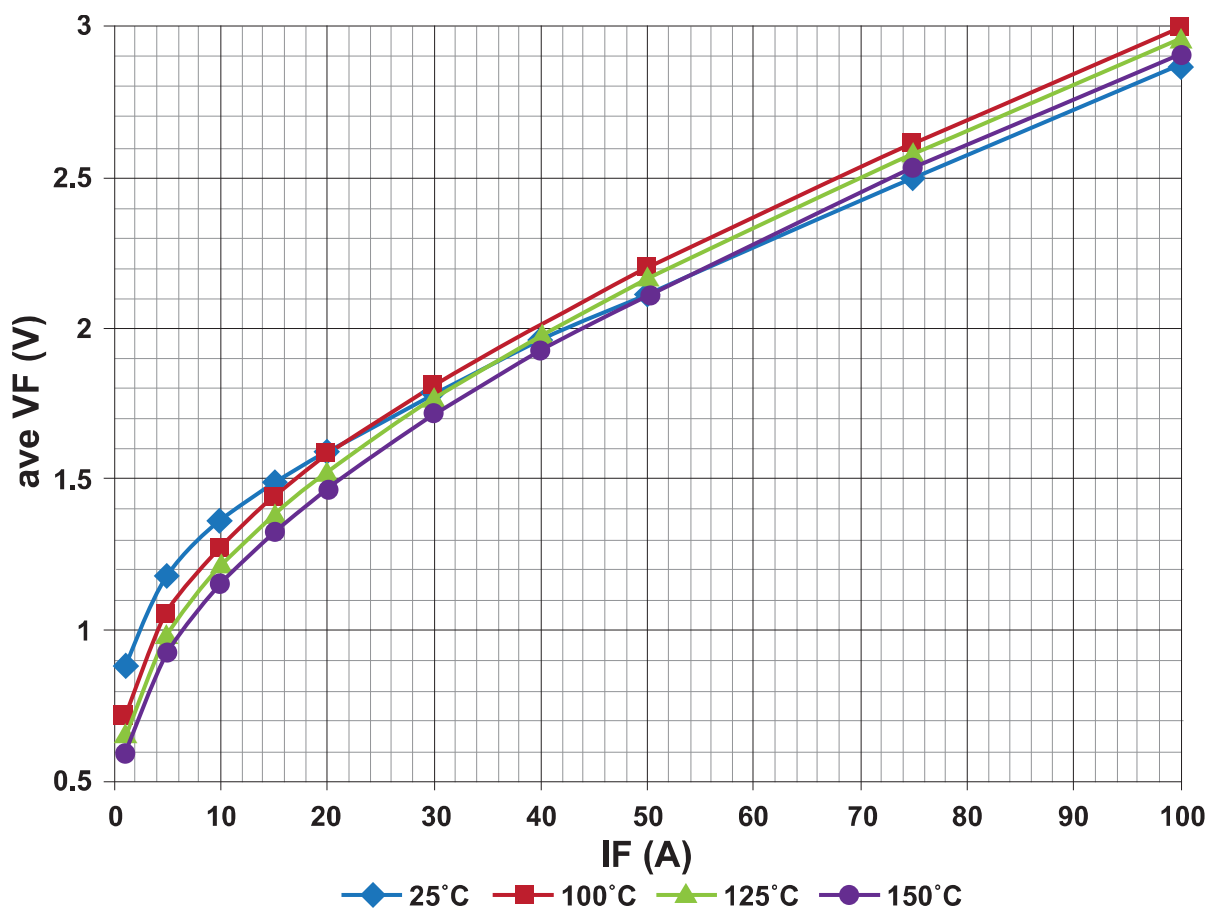


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SDR1510JUF & S.5UF SDR1512JUF & S.5UF

Electrical Characteristic ^{3/}		Symbol	Typ	Maximum	Unit
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 μsec pulse)	$I_F = 5\text{ A}$	V_{F1}	1.18	1.40	V
	$I_F = 10\text{ A}$	V_{F2}	1.36	1.50	
	$I_F = 15\text{ A}$	V_{F3}	1.50	1.65	
Instantaneous Forward Voltage Drop ($T_A = 100^\circ\text{C}$, 300 μsec pulse)	$I_F = 5\text{ A}$	V_{F4}	1.05	1.30	V
	$I_F = 10\text{ A}$	V_{F5}	1.28	1.45	
	$I_F = 15\text{ A}$	V_{F6}	1.45	1.60	
Instantaneous Forward Voltage Drop ($T_A = -55^\circ\text{C}$, 300 μsec pulse)	$I_F = 5\text{ A}$	V_{F7}	1.20	1.50	V
	$I_F = 10\text{ A}$	V_{F8}	1.30	1.60	
	$I_F = 15\text{ A}$	V_{F9}	1.40	1.70	
Reverse Leakage Current (80% of rated V_R , 300 μs pulse min.)	$T_A = 25^\circ\text{C}$	I_{R1}	2	20	μA
	$T_C = 100^\circ\text{C}$	I_{R2}	100	750	
	$T_C = 150^\circ\text{C}$	I_{R3}	1150	-	
Junction Capacitance ($V_R = 10\text{ V}$, $T_A = 25^\circ\text{C}$, $f = 1\text{ MHz}$)		C_J	70	100	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_{RR}	50	75	nsec



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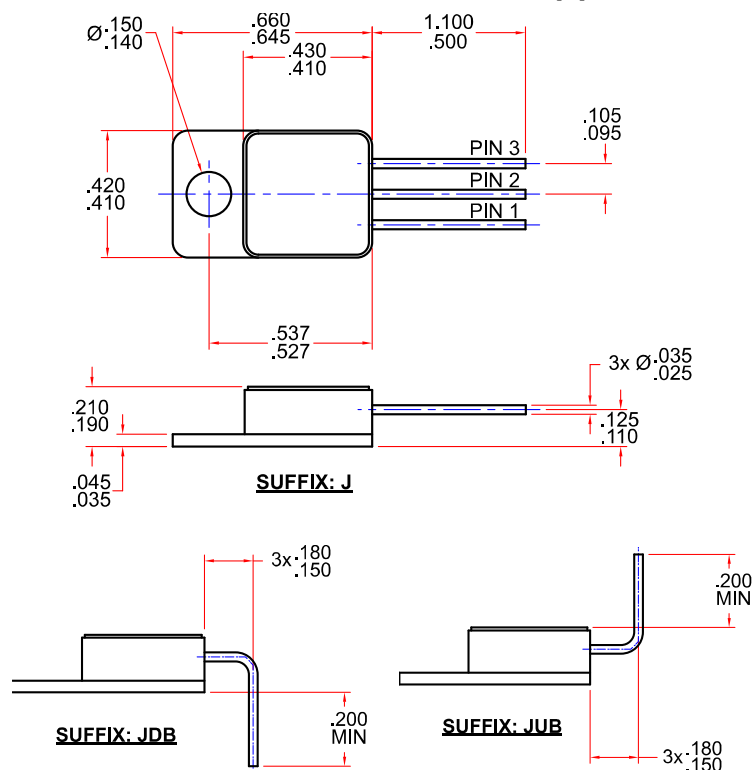
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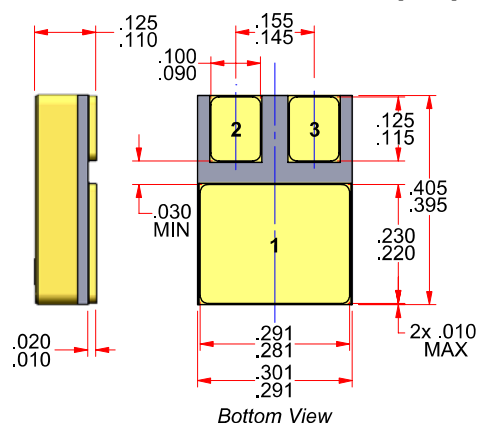
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SDR1510JUF & S.5UF SDR1512JUF & S.5UF

CASE OUTLINE: TO-257 (J)



CASE OUTLINE: SMD.5 (S.5)



PIN ASSIGNMENT

CODE	FUNCTION	PIN 1	PIN 2	PIN 3
J	Rectifier	Cathode	Anode	Anode
S.5	Rectifier	Cathode	Anode	Anode

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