



**SOLID STATE DEVICES, INC.**

14830 Valley View Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-7855 \* Fax: (562) 404-1773  
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**SDR1210UF / SDR1212UF  
 SERIES**

**12 AMP  
 1000 - 1200 VOLTS  
 75 nsec  
 ULTRA FAST RECTIFIER**

**DESIGNER'S DATA SHEET**

**Part Number /Ordering Information** <sup>1/</sup>

**SDR12 12 J UF UB TX**

Screening: <sup>2/</sup> \_ = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = Space Level

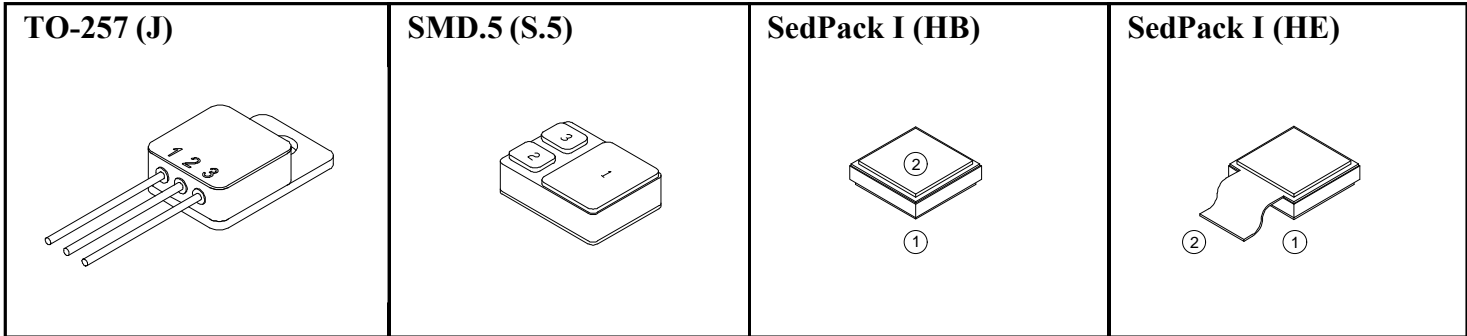
Lead Bending: <sup>3/ 4/</sup>  
 \_ = Straight  
 UB = Up Bend  
 DB = Down Bend

Package: <sup>3/</sup> J = TO-257  
 S.5 = SMD .5  
 HB = SedPack I (Leadless)  
 HE = SepPack I (Leaded)

Voltage: 10 = 1000V  
 12 = 1200V

- FEATURES:**
- Ultra Fast Recovery: 75nsec Maximum
  - High Surge Rating
  - Low Reverse Leakage Current
  - Low Junction Capacitance
  - Hermetically Sealed Package
  - Custom Lead Forming Available
  - Eutectic Die Attach
  - TX, TXV and S Level Screening Available

Maximum Ratings		SYMBOL	VALUE	UNITS
Peak Repetitive Reverse and DC Blocking Voltage	SDR1210 SDR1212	$V_{RRM}$ $V_{RWM}$ $V_R$	1000 1200	Volts
Average Rectified Forward Current. (Resistive load, 60Hz, Sine Wave, $T_A = 25^\circ\text{C}$ )		$I_o$	12	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$ )		$I_{FSM}$	125	Amps
Operating and Storage Temperature		$T_{OP}$ & $T_{stg}$	-65 TO +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	TO-257 (J) SMD.5 (S.5) SedPack I (HB & HE)	$R_{QJC}$	1.4 0.8 0.8	$^\circ\text{C/W}$



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

**DATA SHEET #: RC0066A**

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Electrical Characteristics <sup>5/</sup>		SYMBOL	MIN	MAX	UNITS
<b>Instantaneous Forward Voltage Drop</b> (T <sub>A</sub> = 25°C, 300 - 500µsec Pulse )	I <sub>F</sub> = 8A	V <sub>F1</sub>	--	<b>1.50</b>	V <sub>DC</sub>
	I <sub>F</sub> = 12A	V <sub>F2</sub>	--	<b>1.60</b>	
<b>Instantaneous Forward Voltage Drop</b> (I <sub>F</sub> = 8A, 300 - 500µsec pulse )	T <sub>A</sub> = -55°C	V <sub>F3</sub>	--	<b>1.60</b>	V <sub>DC</sub>
	T <sub>A</sub> = 100°C	V <sub>F4</sub>	--	<b>1.40</b>	
<b>Reverse Leakage Current</b> (80% of Rated V <sub>R</sub> , 300µs pulse min.)	T <sub>A</sub> = 25°C	I <sub>R1</sub>	--	<b>30</b>	mA
	T <sub>A</sub> = 100°C	I <sub>R2</sub>	--	<b>500</b>	
<b>Junction Capacitance</b> (V <sub>R</sub> = 10V <sub>DC</sub> , T <sub>A</sub> = 25°C, f = 1MHz)		C <sub>J</sub>	--	<b>50</b>	pF
<b>Reverse Recovery Time</b> (I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1A, I <sub>RR</sub> = 0.25A, T <sub>A</sub> = 25°C)		t <sub>RR</sub>	--	<b>75</b>	nsec

**NOTES:**

- 1/ For Ordering Information, Price, and Availability Contact Factory.
- 2/ Screening per MIL-PRF-19500.
- 3/ For Package Outlines Contact Factory.
- 4/ Up and Down Bend Configurations Available for M and Z (TO-254 and TO-254Z) Packages Only.
- 5/ All Electrical Characteristics @25°C, Unless Otherwise Specified.

**Available Part Numbers:**

SDR1210JUF	SDR1212JUF
SDR1210JUFDB	SDR1212JUFDB
SDR1210JUFUB	SDR1212JUFUB
SDR1210S.5UF	SDR1212S.5UF
SDR1210HBUF	SDR1212HBUF
SDR1210HEUF	SDR1212HEUF

**PIN ASSIGNMENT**

PACKAGE	Pin 1	Pin 2	Pin 3
TO-257 (J)	Cathode	Anode	Anode
SMD.5 (S.5)	Cathode	Anode	Anode
SedPack 1 (HB)	Cathode	Anode	N/A
SedPack 1 (HE)	Cathode	Anode	N/A