



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/}

SDR75 _ U _ _ _

L Screening ^{2/}

_ = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Lead Bend Options (TO-254, Z)

DB = Down Bend
UB = Up Bend

Package

S1 = SMD1
M = TO-254
Z = TO-254Z

Recovery Time

U = Ultrafast

Family/Voltage 010 = 100V
 015 = 150V
 020 = 200V

SDR75010U thru SDR75020U

**75 AMP
ULTRAFast RECTIFIER**
100 - 200 VOLTS
50 nsec

FEATURES:

- Ultrafast Recovery: 45 ns typical
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Package, Isolated (TO-254, Z) or Hot Case (SMD1)
- Gold Eutectic Die Attach Available
- Ultrasonic Aluminum Wire Bonds
- TX, TXV, or Space Level Screening Available

Maximum Ratings		Symbol	Value	Unit
Peak Repetitive Reverse and DC Blocking Voltage^{3/}	SDR75010	V_{RRM}	100	V
	SDR75015	V_{RWM}	150	
	SDR75020	V_R	200	
Average Rectified Forward Current^{4/} (Resistive Load, 60 Hz Sine Wave, $T_C = 100^\circ\text{C}$)		I_O	75	A
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$, per leg)		I_{FSM}	350	A
Operating & Storage Temperature		$T_{OP} \text{ \& } T_{STG}$	-65 to +200	$^\circ\text{C}$
Maximum Total Thermal Resistance Junction to Case, SMD1 Junction to Case, TO-254, Z		$R_{\theta JC}$	1.0	$^\circ\text{C/W}$
			1.2	

NOTES:

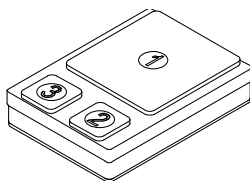
^{1/} For ordering information, price, and availability, contact factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

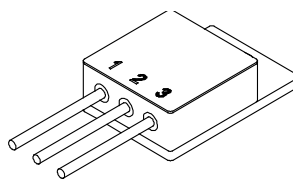
^{3/} Higher voltages available.

^{4/} For best electrical performance, connect the two anode pins together.

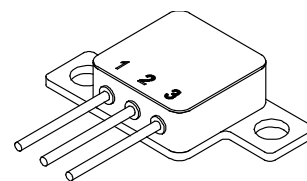
SMD1



TO-254



TO-254Z



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

DATA SHEET #: RC0148D

DOCX

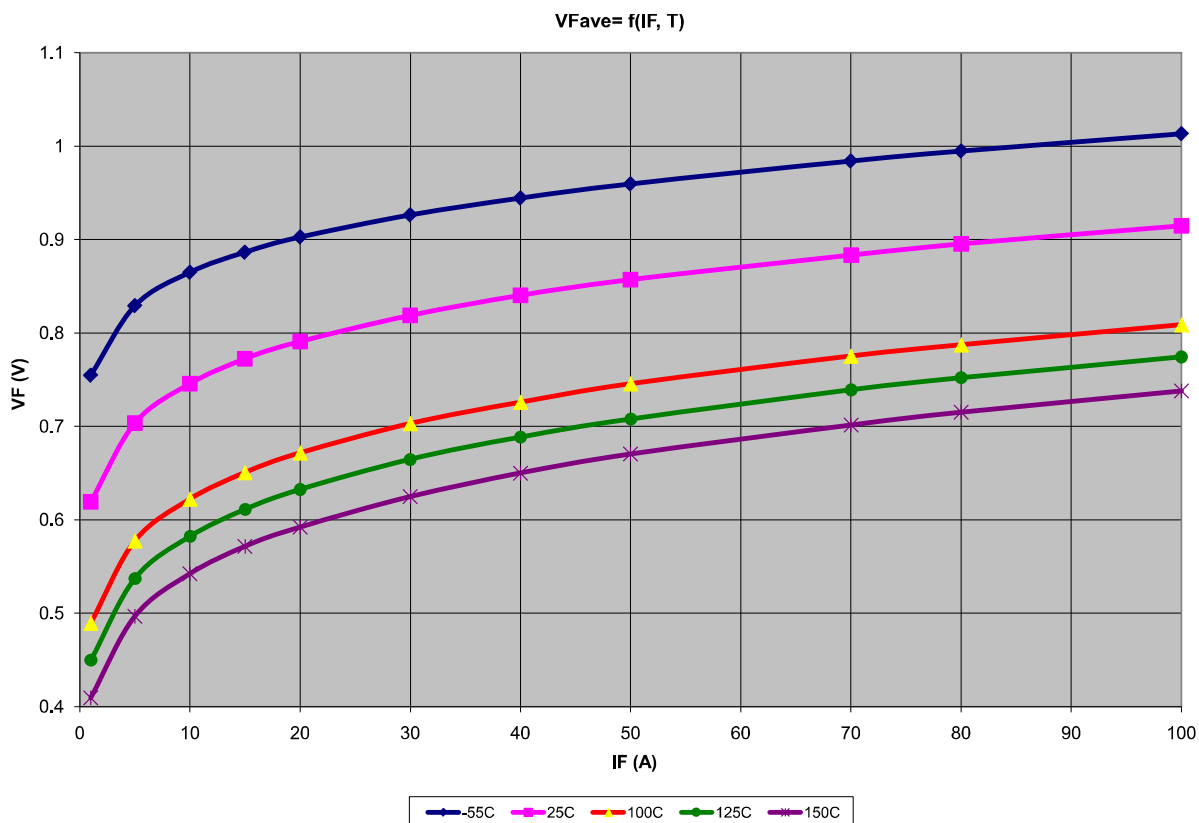


Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SDR75010U thru SDR75020U

Electrical Characteristic		Symbol	Typ	Max	Unit
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 20\text{ A}$	V_{F1}	0.85	0.95	V_{DC}
	$I_F = 50\text{ A}$	V_{F2}	1.00	1.10	
	$I_F = 80\text{ A}$	V_{F3}	1.15	1.25	
Instantaneous Forward Voltage Drop ($T_A = -55^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 20\text{ A}$	V_{F4}	0.93	1.10	V_{DC}
	$I_F = 50\text{ A}$	V_{F5}	1.05	1.20	
	$I_F = 80\text{ A}$	V_{F6}	1.18	1.30	
Instantaneous Forward Voltage Drop ($T_A = 125^\circ\text{C}$, 300 – 500 μsec Pulse)	$I_F = 20\text{ A}$	V_{F7}	0.72	0.85	V_{DC}
	$I_F = 50\text{ A}$	V_{F8}	0.93	1.05	
	$I_F = 80\text{ A}$	V_{F9}	1.10	1.20	
Reverse Leakage Current (100% of rated V_R , 300 μs pulse min.)	$T_A = 25^\circ\text{C}$	I_{R1}	0.3	25	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	10	-	
	$T_A = 125^\circ\text{C}$	I_{R3}	30	250	
	$T_A = 150^\circ\text{C}$	I_{R4}	100	-	
Reverse Recovery Time ($I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{RR} = 0.25\text{ A}$, $T_A = 25^\circ\text{C}$)		t_{RR1}	45	50	nsec
Reverse Recovery Time ($I_F = 10\text{ A}$, $di_F/dt = 100\text{ A}/\mu\text{s}$)	$T_A = 25^\circ\text{C}$	t_{RR2}	65	-	nsec
		I_{RM2}	5.5	-	A
Junction Capacitance ($T_A = 25^\circ\text{C}$, $f = 1\text{ MHz}$)	$V_R = 5\text{ V}_{DC}$	C_J	1000	-	pF
	$V_R = 10\text{ V}_{DC}$		760	900	



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

DATA SHEET #: RC0148D

DOCX

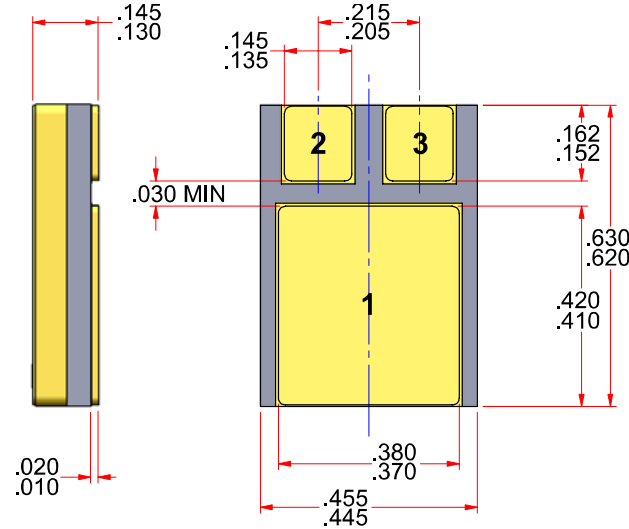


Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

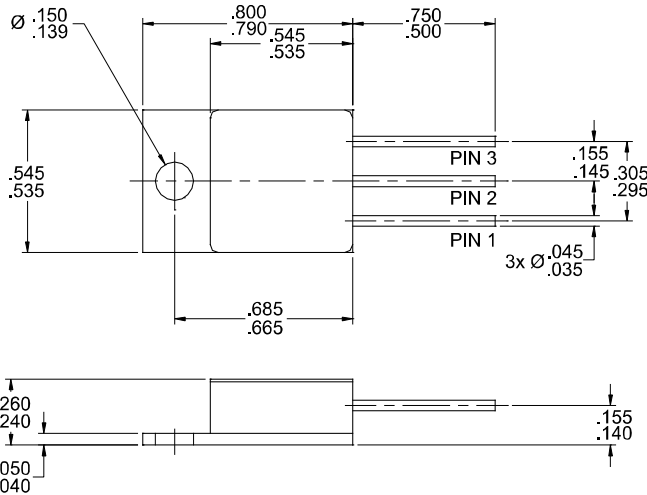
SDR75010U thru SDR75020U

CASE OUTLINE: SMD1

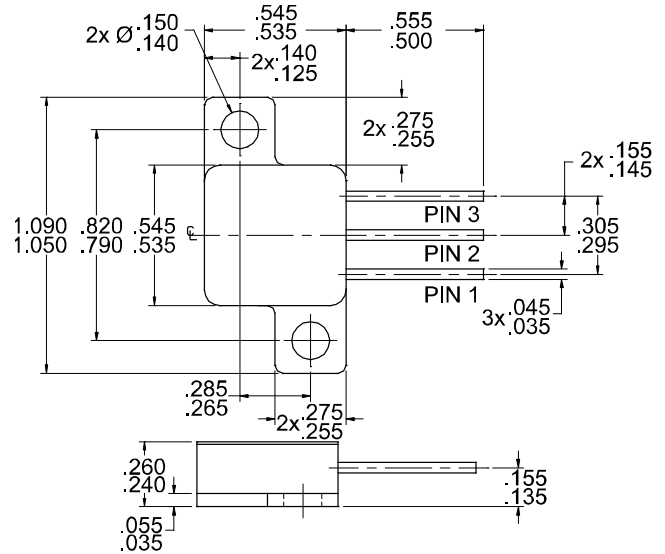


Bottom View

CASE OUTLINE: TO-254

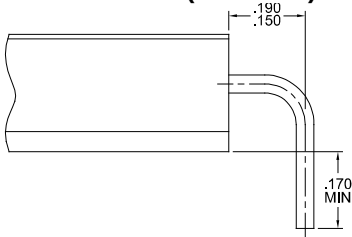


CASE OUTLINE: TO-254Z

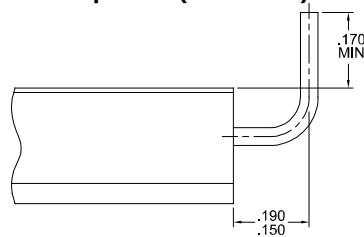


Optional Lead Bent Configuration

Down Bent (DB Suffix)



Up Bent (UB Suffix)



Pin Assignment

Package	Pin 1	Pin 2	Pin 3
SMD1	Cathode	Anode	Anode
TO-254	Cathode	Anode	Anode
TO-254Z	Cathode	Anode	Anode

For information on curves, contact the Factory Representative for Engineering Assistance.

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

DATA SHEET #: RC0148D

DOCX