



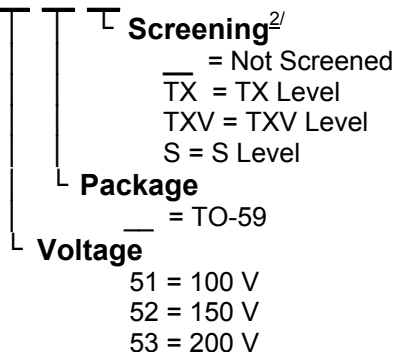
Solid State Devices, Inc.

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/}

1N66



1N6651 thru 1N6653

20 AMP ULTRAFAST RECOVERY RECTIFIER 100 – 200 VOLTS, 35 nsec

FEATURES:

- Isolated case replaces 1N5816 series
- Hyperfast recovery: 35 nsec maximum
- High surge rating
- Low reverse leakage current
- Low forward voltage drop
- Gold eutectic die attach available
- Ultrasonic aluminum wire bonds
- Single chip construction
- Radiation tolerant
- Higher voltage versions available
- TX, TXV, and S-Level Screening Available^{2/}

MAXIMUM RATINGS^{3/}

		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage ^{4/}	1N6651	V_{RRM}	100	Volts
	1N6652	V_{RWM}	150	
	1N6653	V_R	200	
Average Rectified Forward Current Resistive load, 60 Hz, sine wave, $T_A = 25^\circ\text{C}$		I_O	20	Amps
Peak Surge Current 8.3 ms pulse, half sine wave superimposed on I_O , allow junction to reach equilibrium between pulses, $T_A = 25^\circ\text{C}$		I_{FSM}	300	Amps
Operating and Storage Temperature		T_J & T_{stg}	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to case		$R_{\theta JC}$	2.1	$^\circ\text{C/W}$

NOTES:

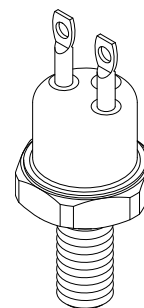
1/ For ordering information, price, operating curves, and availability- contact factory.

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

3/ Unless otherwise specified, all electrical characteristics @ 25°C .

4/ Higher voltage class available.

TO-59



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

DATA SHEET #: RH0063B

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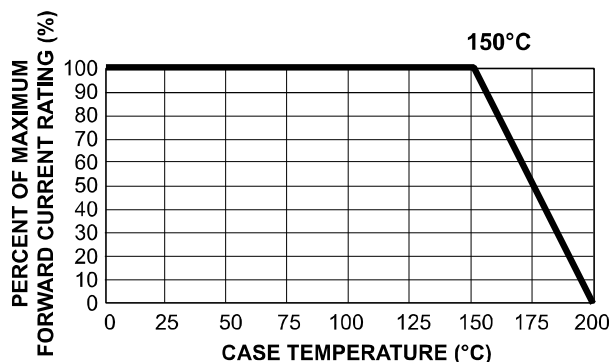
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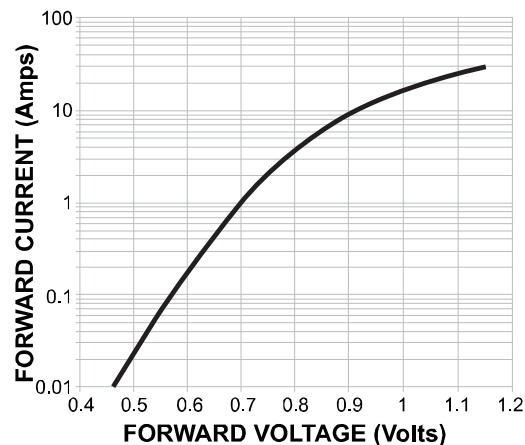
ELECTRICAL CHARACTERISTICS ^{3/}		Symbol	Maximum	Unit
Instantaneous Forward Voltage Drop $T_A = 25^\circ\text{C}$, 300 μs pulse	$I_F = 10\text{A}$	V_{F1}	1.0	V_{DC}
	$I_F = 20\text{A}$	V_{F2}	1.2	
Instantaneous Forward Voltage Drop $I_F = 10\text{A}$, 300 μs pulse	$T_A = 100^\circ\text{C}$	V_{F3}	0.83	V_{DC}
	$T_A = -65^\circ\text{C}$	V_{F4}	1.15	
Reverse Leakage Current Rated V_R , 300 μs pulse min.	$T_A = 25^\circ\text{C}$	I_{R1}	10	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	1.0	mA
Junction Capacitance $V_R = 10\text{V}_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$		C_J	150	pF
Reverse Recovery Time $I_F = 1\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.1\text{A}$, $T_A = 25^\circ\text{C}$		t_{RR}	35	nsec

TYPICAL OPERATING CURVES

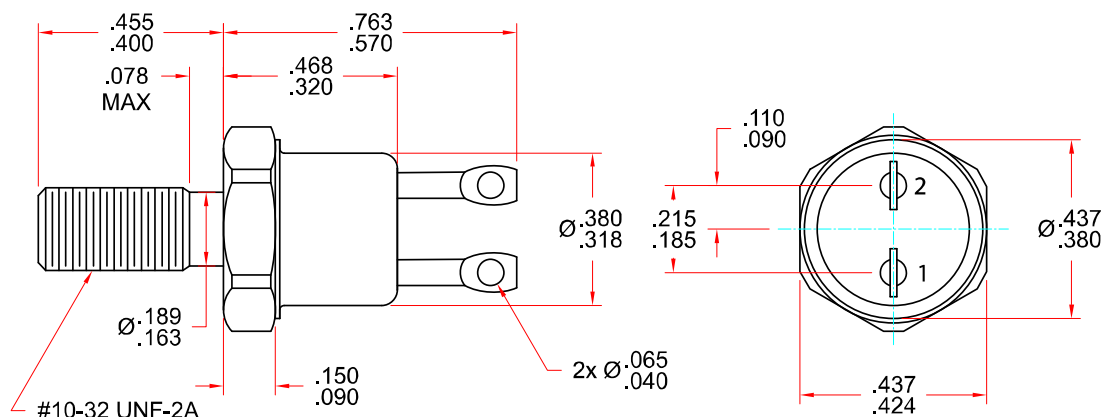
$T_A = 25^\circ\text{C}$ unless otherwise specified



FORWARD VOLTAGE vs. FORWARD CURRENT



PACKAGE OUTLINE: TO-59 (2 PIN)



PIN OUT:

PIN 1: ANODE

PIN 2: CATHODE

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