SF51 THRU SF58

Super Fast Recovery Recitifiers

Reverse Voltage - 50 to 600 Volts

Forward Current - 5.0 Amperes

Features

- Fast switching for high efficiency
- Low cost
- Low reverse leakage current
- High current capability
- Low forward voltage drop
- Meet UL flammability classification 94V-0

Mechanical Data

- Case: JEDEC DO-27 Molded plastic
- Polarity: Color band denotes cathode
- Mounting position: Any

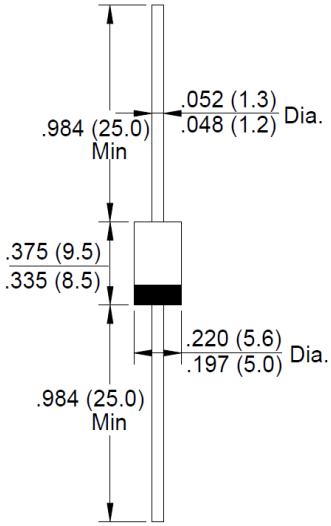
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Applications

- For use in SMPS, high frequency inverters, PWM and polarity protection applications

DO-27

RoHS COMPLIANT





Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	Symbol	SF51	SF52	SF53	SF54	SF55	SF56	SF58	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current @T_A=55℃	$I_{(AV)}$	5.0							A
Peak Forward Surge Current, 8.3mS Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)	I_{FSM}	150							A
Peak Forward Voltage at 5.0A DC (Note1)	V_F	0.95				1.3		1.7	V
Maximum DC Reverse Current @T_J=25℃	I_R	5.0							μA
at Rated DC Blocking Voltage @T_J=100℃		100							
Maximum Reverse Recovery Time (Note 2)	T_{RR}	35							nS
Typical Junction Capacitance (Note3)	C_J	90				75			pF
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	10							℃/W
Operating Junction Temperature Range	T_J	-55 to +150							℃
Storage Temperature Range	T_{STG}	-55 to +150							℃

Notes: 1. 300uS pulse width, 2%duty cycle.

2. Measured with IF=0.5A,IR=1A,IRR=0.25A .
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
4. The typical data above is for reference only.

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Fig. 1 - Forward Current Derating Curve

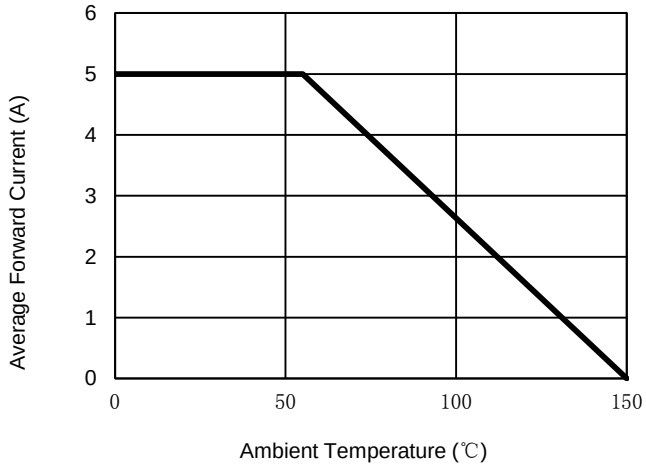


Fig. 2 - Maximum Non-Repetitive Surge Current

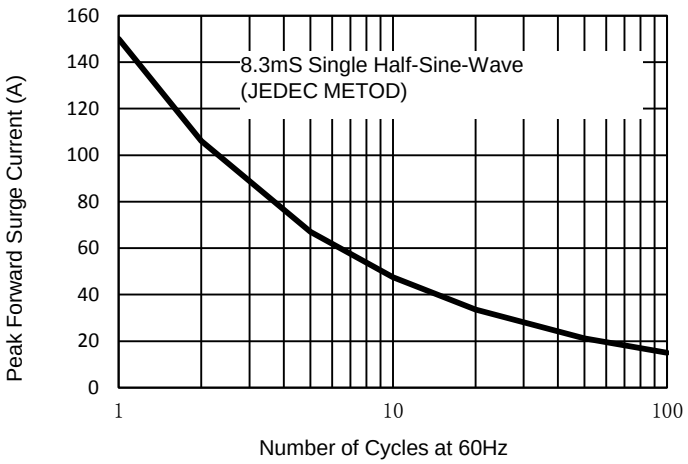


Fig. 3 - Typical Junction Capacitance

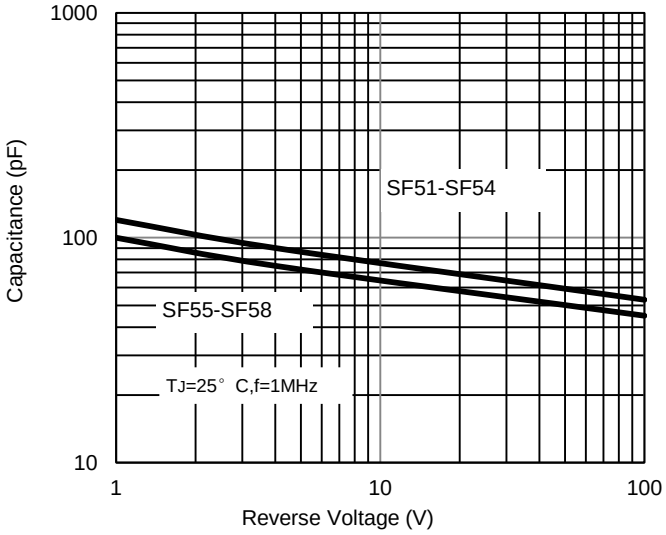


Fig. 4 - Typical Forward Characteristics

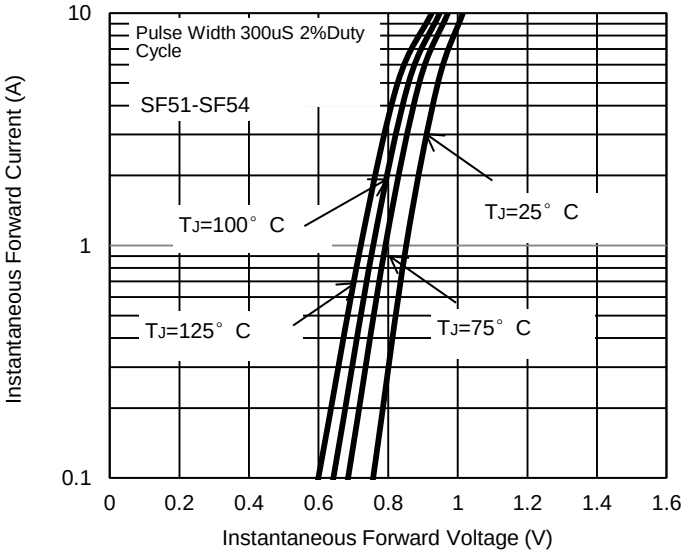


Fig. 5 - Typical Forward Characteristics

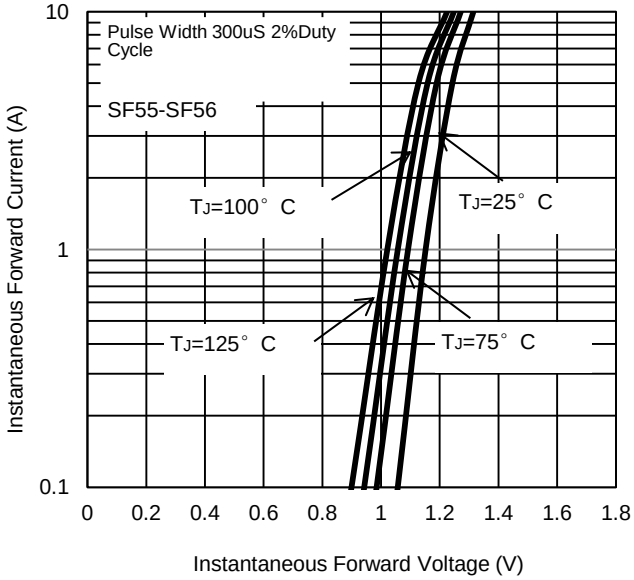
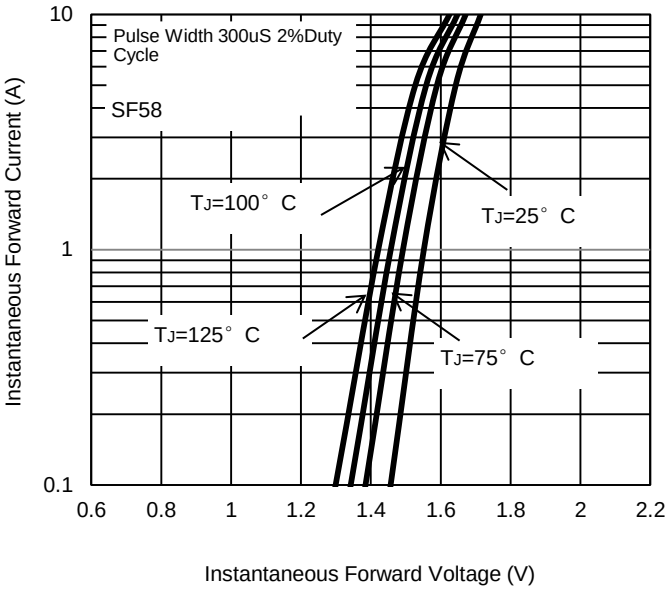


Fig. 6 - Typical Forward Characteristics



The curve above is for reference only.

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