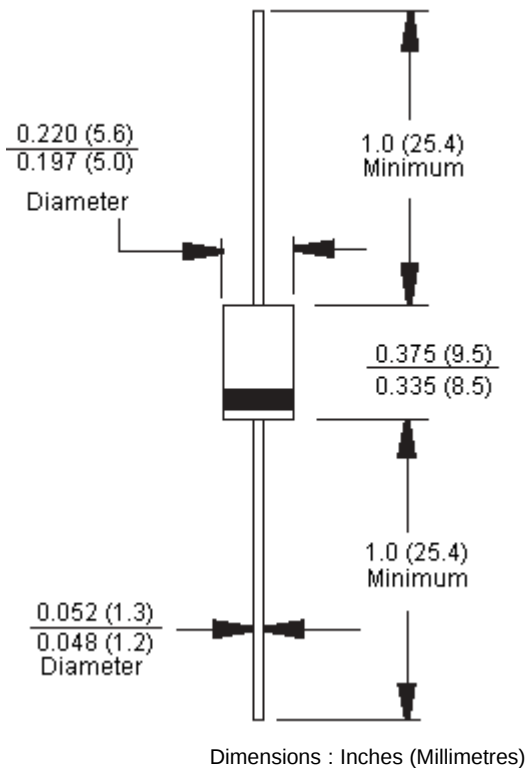




Features:

- High efficiency, low V_F .
- High current capability.
- High reliability.
- High surge current capability.
- Low power loss.
- For use in low voltage, high frequency inverter, free wheeling, and polarity protection application.

DO-201AD



Mechanical Data:

Cases	: Moulded plastic.
Lead	: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed.
Polarity	: Colour band denotes cathode end.
High temperature soldering guaranteed	: 260°C/10 seconds/0.375 inch, (9.5mm) lead lengths at 5lbs., (2.3kg) tension.
Weight	: 1.2 grams.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%.

Type Number	Symbol	SF51	SF52	SF54	SF56	SF58	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	
Maximum Average Forward Rectified Current 0.375 (9.5mm) Lead Length at T _A = 55°C	I _(AV)	5.0					A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	150					
Maximum Instantaneous Forward Voltage at 5.0A	V _F	0.975		1.3	1.7		V
Maximum DC Reverse Current at T _A = 25°C at Rated DC Blocking Voltage at T _A = 100°C	I _R	5.0 100					μA μA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	35					nS
Typical Junction Capacitance (Note 2)	C _j	120		60			pF
Typical Thermal Resistance (Note 3)	R _{θJA} R _{θJL}	20 5.0					°C/W
Operating Temperature Range	T _J	-65 to +125					°C
Storage Temperature Range	T _{STG}	-65 to +150					

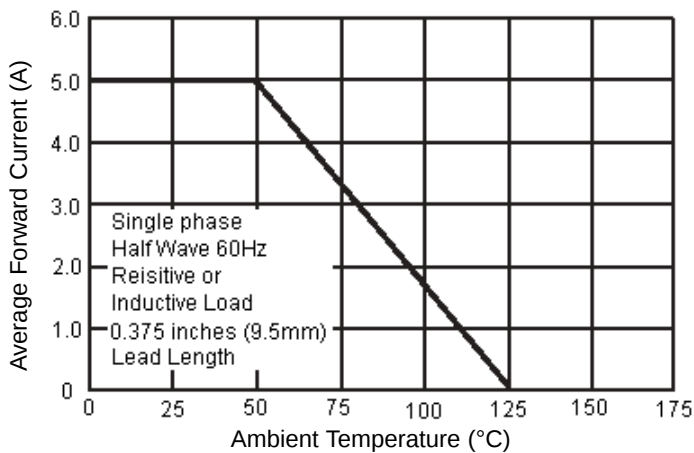
Note: 1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$.

2. Measured at 1MHz and Applied Reverse Voltage of 4.0V dc.

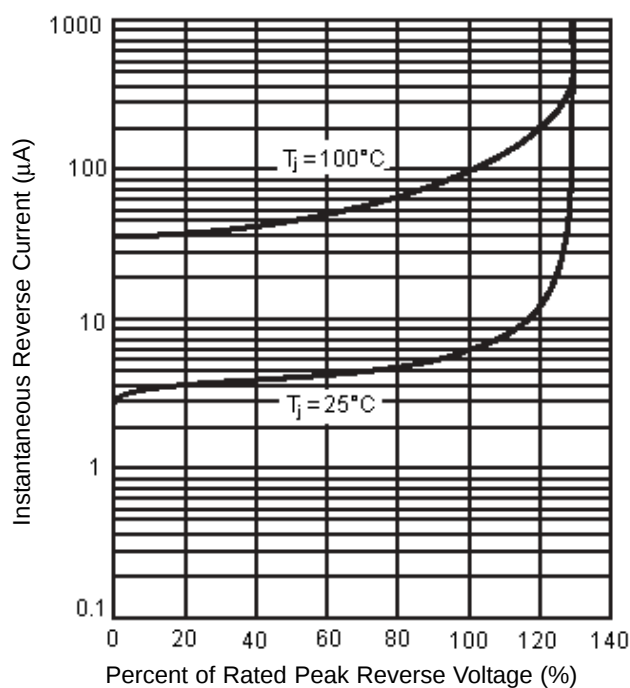
3. Mount on Cu-Pad Size 16mm x 16mm on PCB.

Ratings and Characteristic Curves (SF51, SF52, SF54, SF56, SF58)

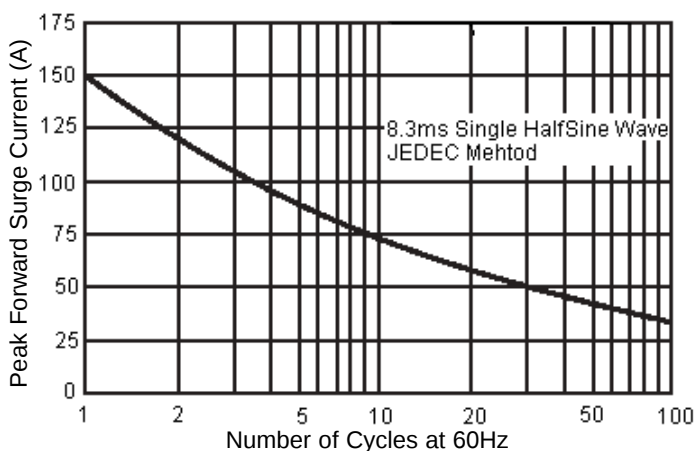
Maximum Forward Current Derating



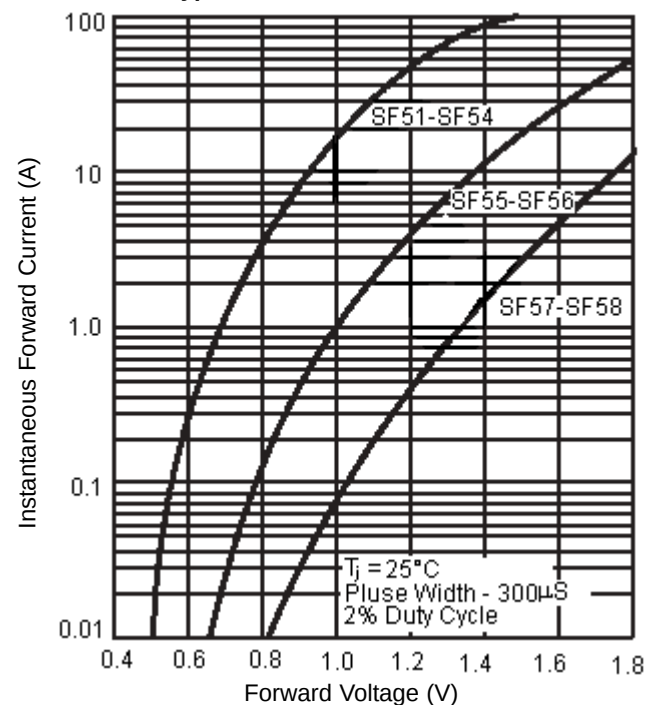
Typical Reverse Characteristics



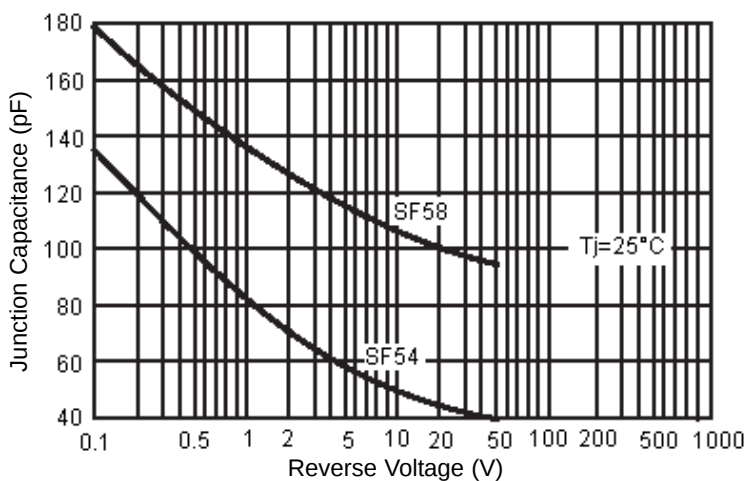
Maximum Non-Repetitive Forward Surge Current



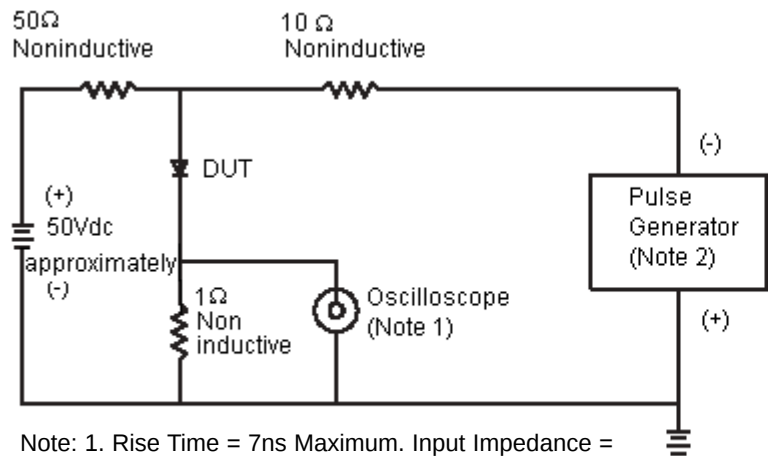
Typical Forward Characteristics



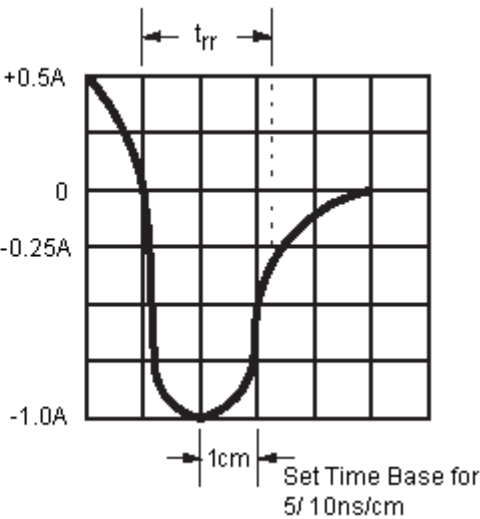
Typical Junction Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram



Note: 1. Rise Time = 7ns Maximum. Input Impedance = 1 Megohm 22pf
2. Rise Time = 10ns Maximum Source Impedance = 50 ohms



Part Number Table

Description	Part Number
Diode, Ultra-Fast, 5A, 50V	SF51
Diode, Ultra-Fast, 5A, 100V	SF52
Diode, Ultra-Fast, 5A, 200V	SF54
Diode, Ultra-Fast, 5A, 400V	SF56
Diode, Ultra-Fast, 5A, 600V	SF58

Notes:

International Sales Offices:

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