Chatsworth, CA
Microsemi
Progress Powered by Technology

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SF31 THRU SF310

3 Amp Glass Passivated Super Fast Recovery Rectifier 50 to 1000 Volts

Features

- High Surge Capability
- Low Leakage
- Low Forward Voltage Drop
- High Current Capability
- Super Fast Switching Speed For High Efficiency

Maximum Ratings

- Operating Temperature: -65°C to +150°C
- Storage Temperature: -65°C to +150°C

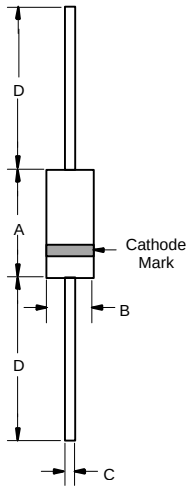
Microsemi Catalog Number	Device Marking	Maximum Reccurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
SF31	---	50V	35V	50V
SF32	---	100V	70V	100V
SF33	---	150V	105V	150V
SF34	---	200V	140V	200V
SF35	---	300V	210V	300V
SF36	---	400V	280V	400V
SF37	---	600V	420V	600V
SF38	---	800V	560V	800V
SF310	---	1000V	700V	1000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	3 A	T_A = 55°C
Peak Forward Surge Current	I_{FSM}	125A	8.3ms, half sine
Maximum Instantaneous Forward Voltage SF31-35 SF36-310	V_F	.90V 1.25V	I_{FM} = 3.0A; T_A = 25°C
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	10µA 50µA	T_A = 25°C T_A = 55°C
Maximum Reverse Recovery Time	T_{rr}	36ns	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
Typical Junction Capacitance SF31-35 SF36-3100	C_J	50pF 30pF	Measured at 1.0MHz, V_R=4.0V

*Pulse Test: Pulse Width 300µsec, Duty Cycle 1%

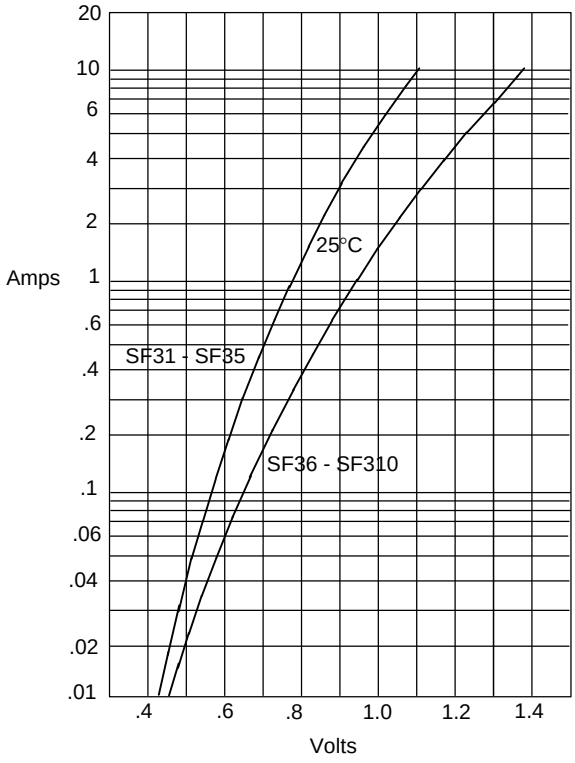
DO-201AD



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	---	.370	---	9.50	
B	---	.250	---	6.40	
C	.048	.052	1.20	1.30	
D	1.000	---	25.40	---	

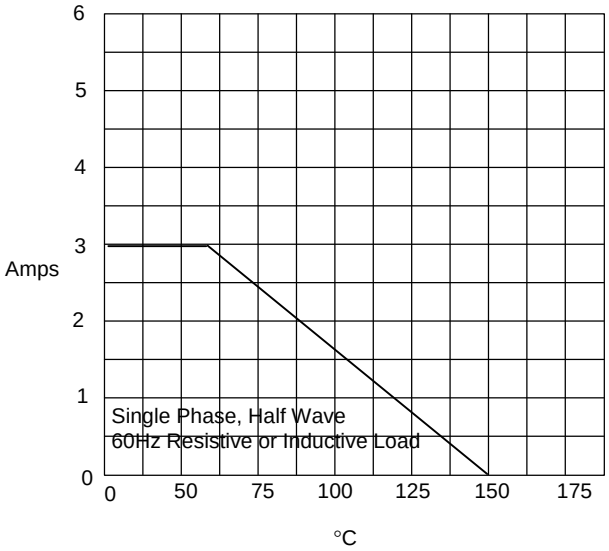
SF31 thru SF310

Figure 1
Typical Forward Characteristics



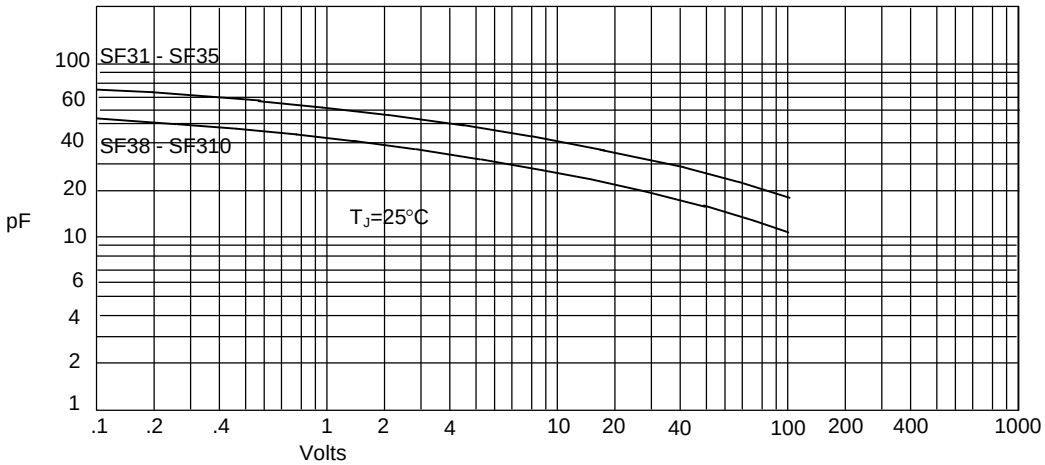
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



Average Forward Rectified Current - Amperes *versus*
Ambient Temperature -°C

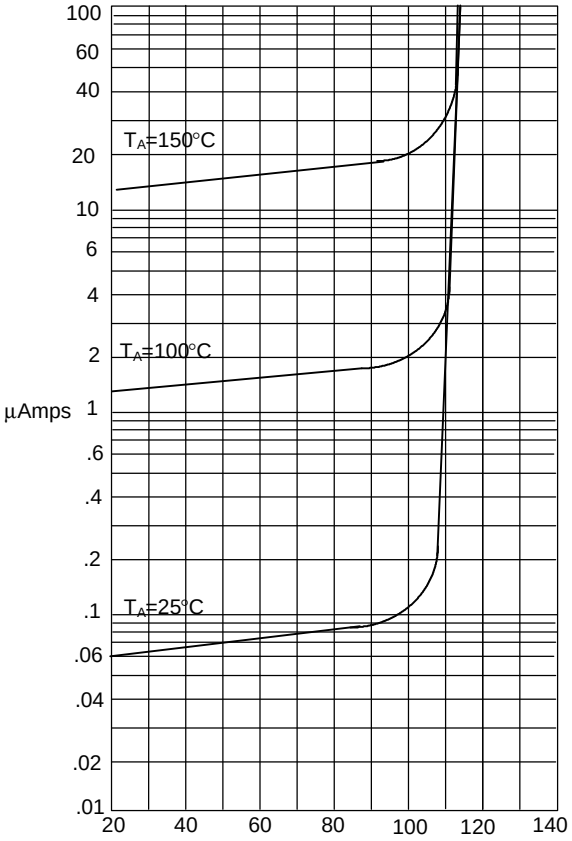
Figure 3
Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts

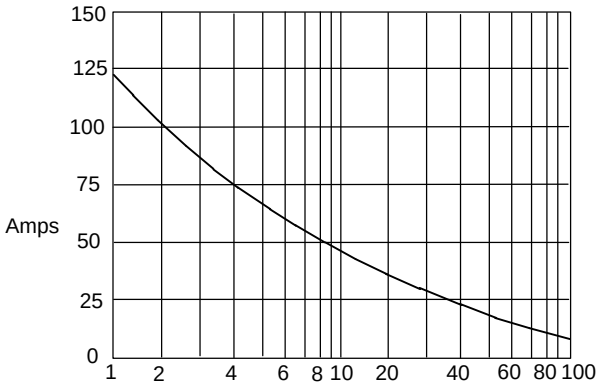
SF31 thru SF310

Figure 4
Typical Reverse Characteristics



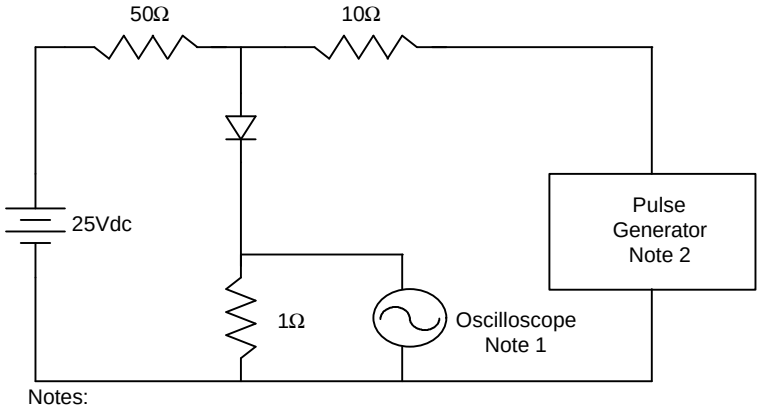
Instantaneous Reverse Leakage Current - MicroAmperes *versus*
Percent Of Rated Peak Reverse Voltage - Volts

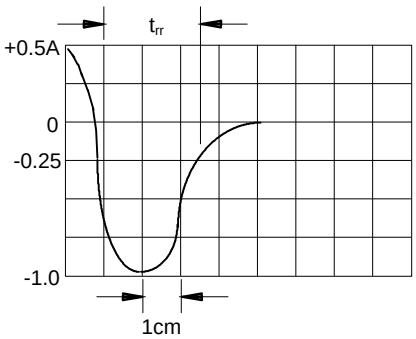
Figure 5
Peak Forward Surge Current



Peak Forward Surge Current - Amperes *versus*
Number Of Cycles At 60Hz - Cycles

Figure 6
Reverse Recovery Time Characteristic And Test Circuit Diagram





Set Time Base for 20/100ns/cm

Notes:
1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
2. Rise Time = 10ns max.
Source impedance = 50 ohms
3. Resistors are non-inductive