

SF21-SF27 SUPER FAST RECTIFIER

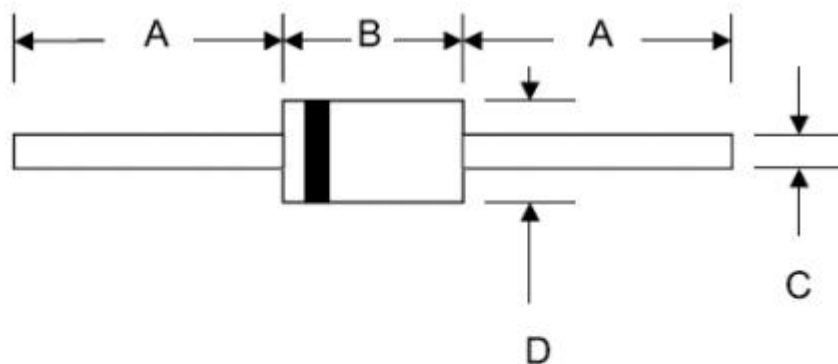
Features:

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Data:

- Case: JEDEC DO-15 molded plastic body
- Lead: MIL-STD-202E, Method 208C guaranteed
- Epoxy: Device has flammability classification 94-0
- Mounting Position: Any
- Weight: 0.35 grams

Mechanical Dimensions: In Inches/mm



DO-15				
Dim	Min	Max	Min	Max
A	25.4	—	1.000	—
B	5.50	7.62	0.217	0.300
C	0.71	0.864	0.028	0.034
D	2.60	3.60	0.102	0.142
	In mm		In inch	

DO-15

Marking Diagram:



Where XXXXX is YYWWL

SF21 = Part Name
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information

Device	Package	Shipping
SF21-SF27	DO-15(Pb-Free)	3000pcs / tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

For capacitive load, derate current by 20%.

Characteristic	Symbol	SF21	SF22	SF23	SF24	SF25	SF26	SF27	Units	
Peak Repetitive Reverse Voltage	V_{RRM}									
Working Peak Reverse Voltage	V_{RWM}	50	100	150	200	300	400	600	V	
DC blocking voltage	V_R									
RMS Reverse Voltage	V_{RMS}	35	70	105	140	210	280	420	V	
Average forward rectified current (Note 1)	$I_{(AV)}$	2.0							A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50							A	
Maximum instantaneous forward voltage at 2.0A	V_F	0.95			1.3		1.7		V	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	5.0					100			μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	35							ns	
Typical Junction Capacitance (Note 2)	C_J	60.0				30.0				pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	50.0							$^\circ\text{C/W}$	
Junction Temperature	T_J	-65 to +125							$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	-65 to +150							$^\circ\text{C}$	

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

2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

3. Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length, P.C.B. mounted

Technical Data
Data Sheet N1020, Rev. -

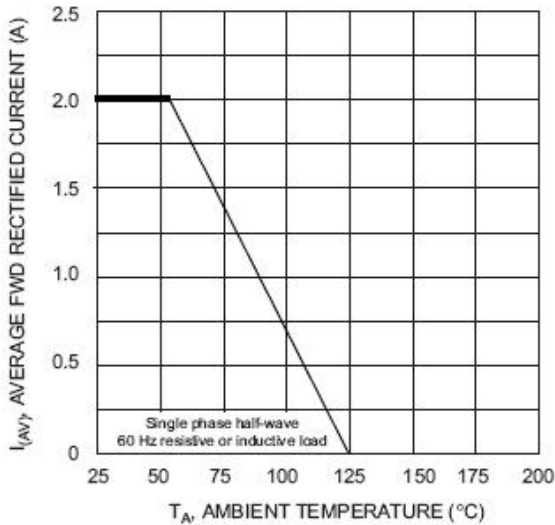


Fig. 1 Forward Current Derating Curve

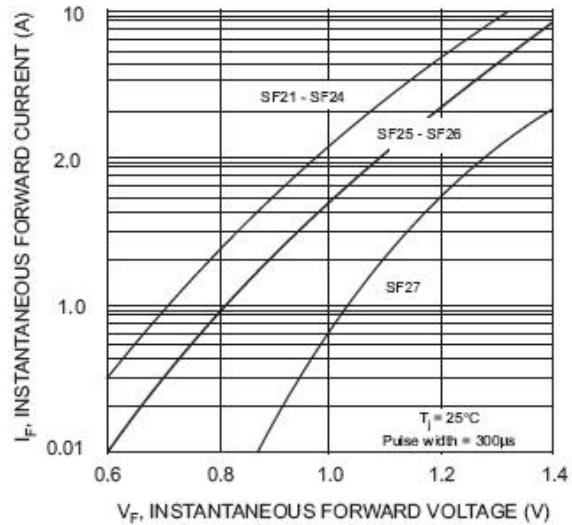


Fig. 2 Typical Forward Characteristics

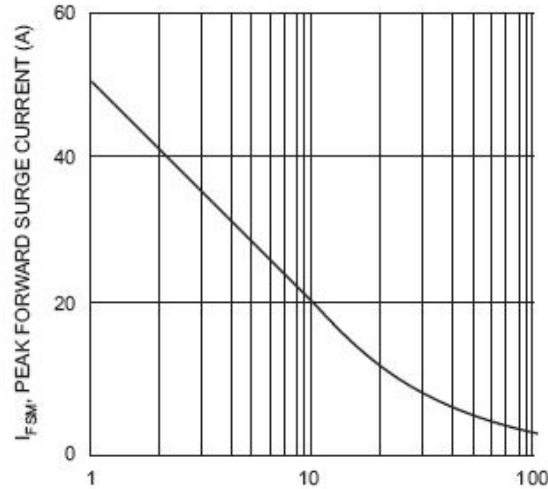


Fig. 3 Peak Forward Surge Current

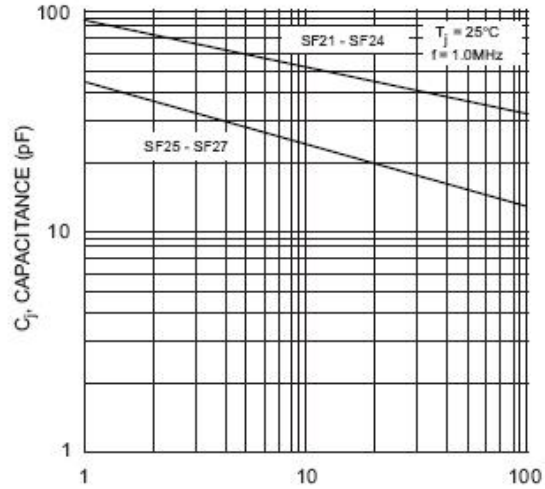
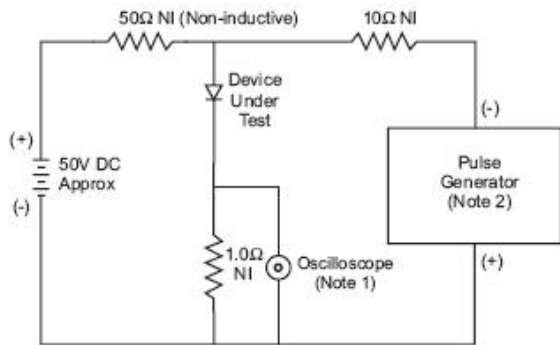
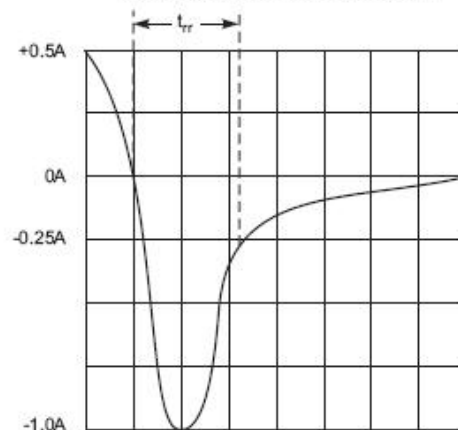


Fig. 4 Typical Junction Capacitance



Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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