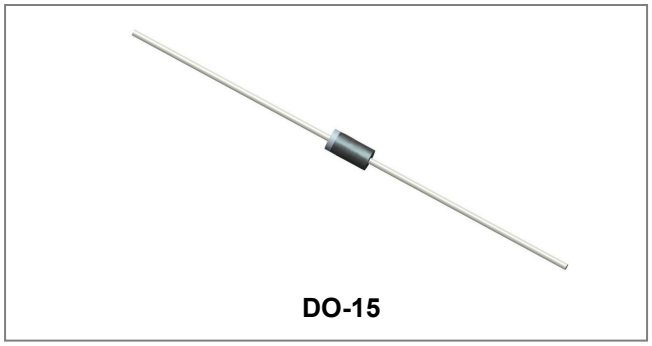
Technical Data
Data Sheet N1020, Rev. A

SF21-SF27 SUPER FAST RECTIFIER



DO-15

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

Circuit Diagram

Mechanical Data

- Case: JEDEC DO-15 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.014 ounce, 0.40 grams

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	SF21	SF22	SF23	SF24	SF25	SF26	SF27	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC blocking voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	600	V
RMS Reverse Voltage	V_{RMS}	35	70	105	140	210	280	420	V
Average forward rectified current (Note 1) @ T_A=55℃	$I_{(AV)}$	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 ℃ at rated DC blocking voltage T_A=100 ℃	I_R	5.0 100							μA
Maximum Reverse Recovery Time (Note 1)	Trr	35							ns
Typical Junction Capacitance (Note 2)	C_J	60.0				30.0			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	50.0							°C/W
Junction Temperature	T_J	-65 to +125							°C
Storage Temperature Range	T_{STG}	-65 to +150							°C

Note: 1. Reverse recovery condition IF=0.5A, IR=1.0A. Irr=0.25A
2. Measured at 1MHz 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.

Ratings and Characteristics Curves

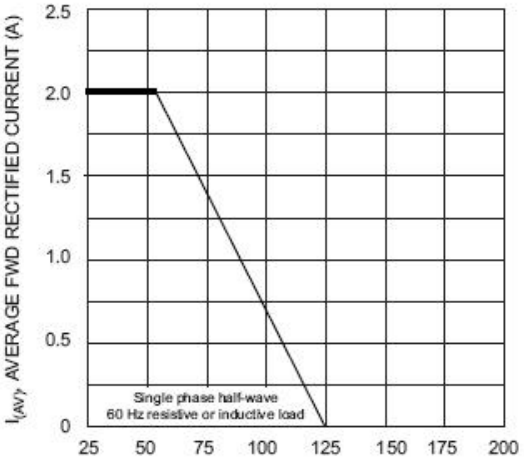


Fig. 1 Forward Current Derating Curve

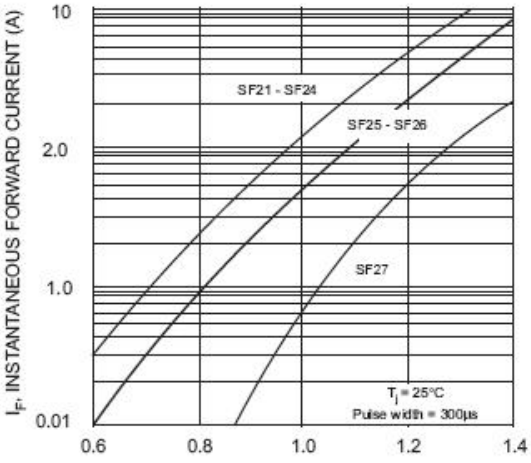


Fig. 2 Typical Forward Characteristics

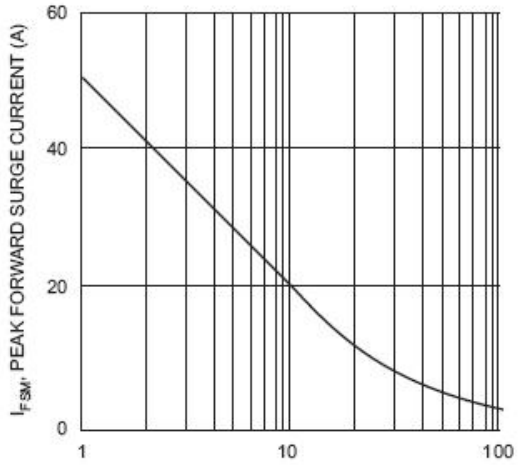


Fig. 3 Peak Forward Surge Current

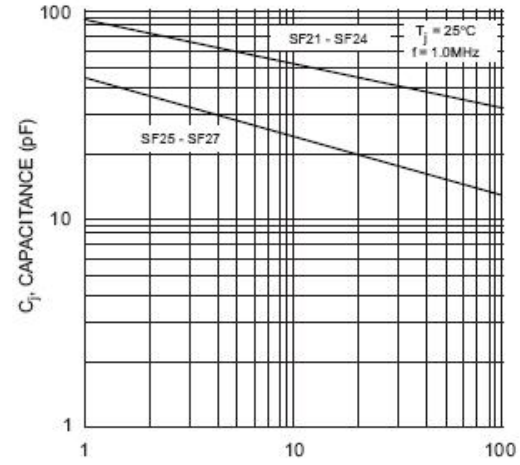
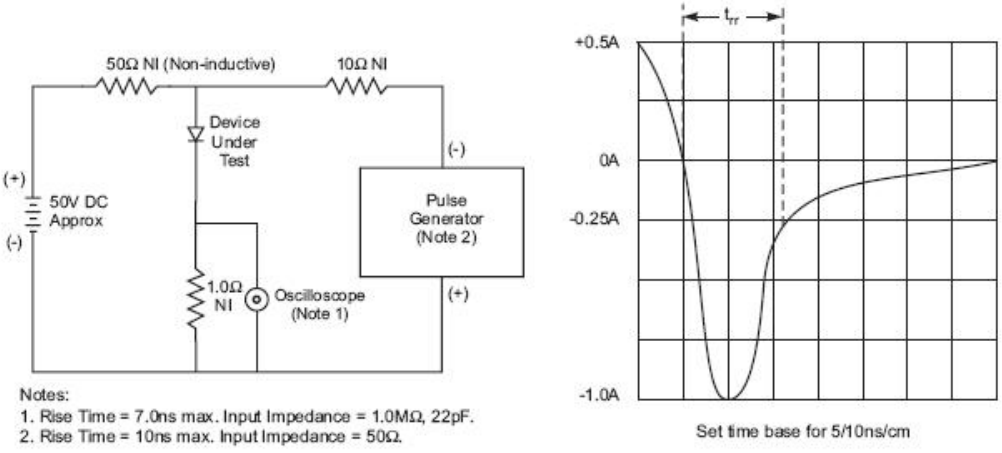


Fig. 4 Typical Junction Capacitance

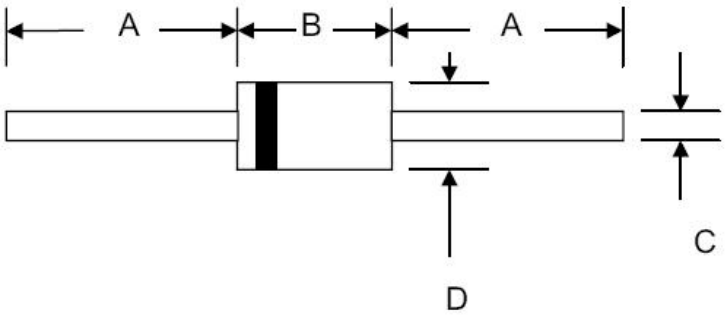


Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Technical Data
Data Sheet N1020, Rev. A

Mechanical Dimensions DO-15



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	5.5	7.62	0.217	0.300
C	0.7	0.9	0.028	0.034
D	2.6	3.6	0.104	0.140

Ordering Information

Device	Package	Shipping
SF21 THRU 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.

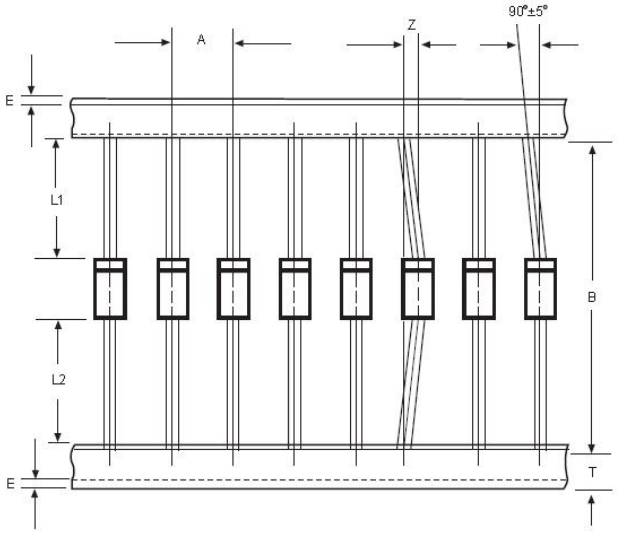
Marking Diagram

Where XXXXX is YYWWL

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

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

Carrier Tape Specification DO-15



SYMBOL	Millimeters	
	Min.	Max.
A	4.50	5.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

Technical Data
Data Sheet N1020, Rev. A

RoHS

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