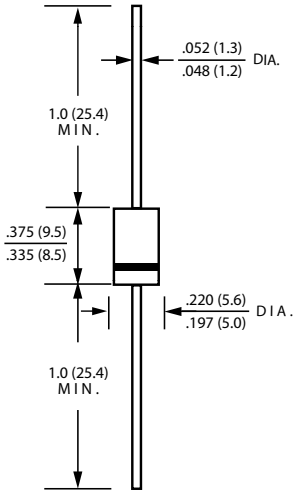
SF31 thru SF38

Super Fast Recovery Rectifiers
Plastic Passivation Junction



DO-201AD

Dimensions in inches and (millimeters)

Ordering Information	
Part Number	**Remark**
SF3x	General
SF3x-H	Halogen Free

PRIMARY CHARACTERISTICS	
I_F	3A
V_{RRM}	50~600V
I_{FSM}	80A
V_F	0.98V, 1.30V, 1.75V
T_J max	125°C

Features

- Guardring for overvoltage protection
- Very small conduction losses
- Low forward voltage drop
- Component in accordance to RoHS 2002/95/EC

Mechanical Date

- Cases: DO-201
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead free Plating (Tin Finish) Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.066 grams (approximate)

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	SF31	SF32	SF33	SF34	SF35	SF36	SF38	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	I_F	3.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	80.0							A
Maximum Instantaneous Forward Voltage IF=3A @ 25°C	V_F	0.98				1.30		1.75	V
Maximum DC Reverse Current @ Tc=25°C at Rated DC Blocking Voltage @ Tc=100°C	I_R	5 100							uA
Typical Junction Capacitance(NOTE1)	C_j	100							pF
Maximum Reverse Recovery Time (NOTE2)	Trr	35							nS
Typical thermal resistance	$R_{\theta JA}$	20							°C/W
Operating Temperature Range	T_J	-55 to +125							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

NOTES:1.Measured at 1.0MHZ and applied reverse voltage of 4.0V DC

2.Measured with IF=0.5A,IR=1A,IRR=0.25A

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FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

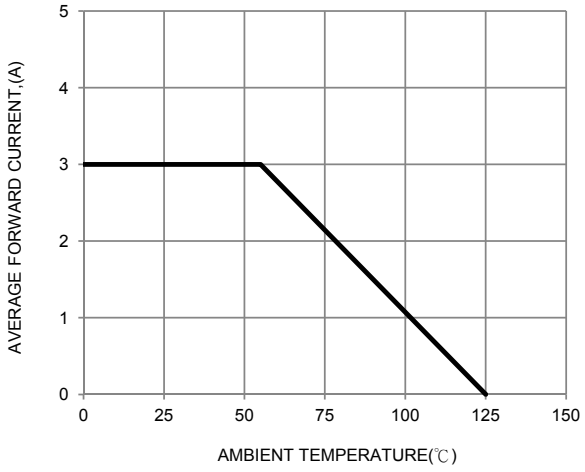


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

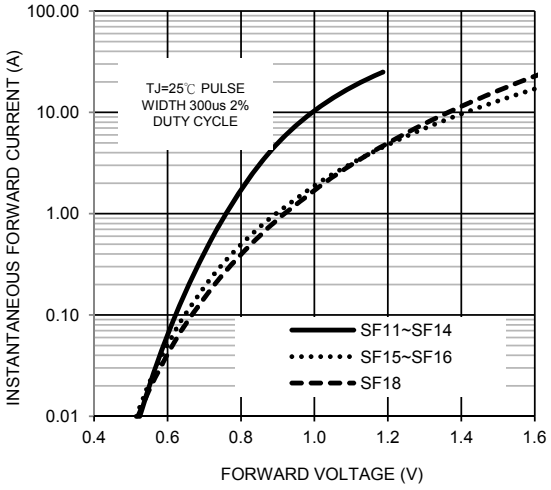


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

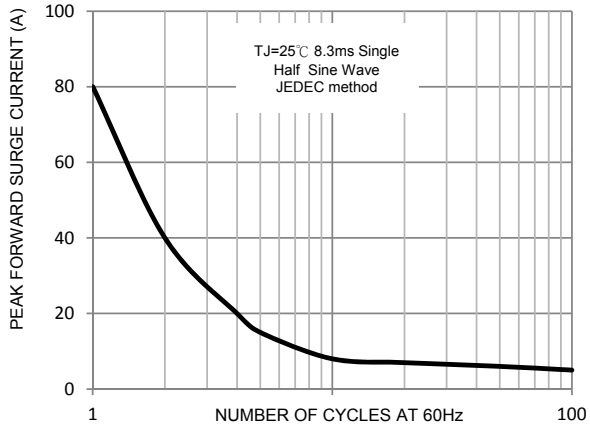


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

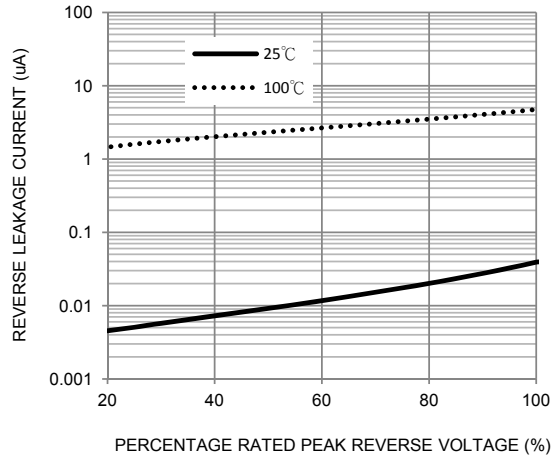


FIG. 5-TYPICAL JUNCTION CAPACITANCE

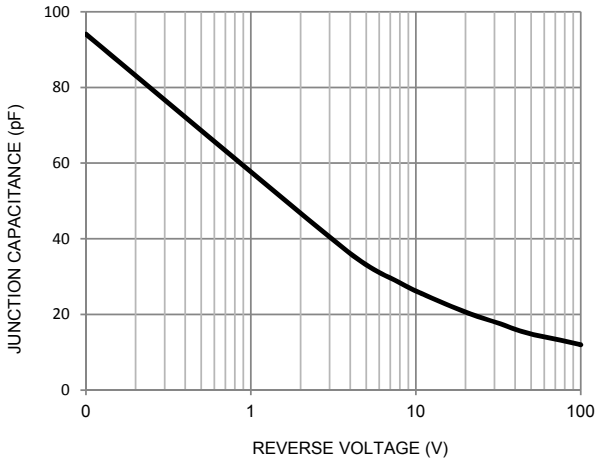
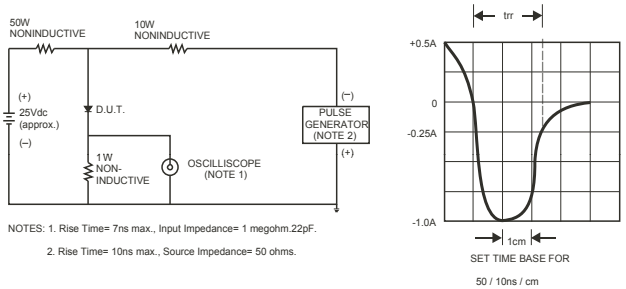


FIG. 6-Reverse Recovery Time Characteristic and Test Circuit



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.