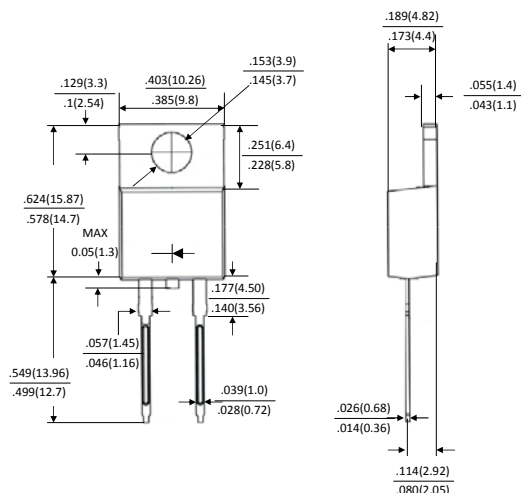


Super Fast Recovery Rectifiers Glass Passivation Junction



TO-220AC

Dimensions in inches and (millimeters)



Ordering Information

Part Number	Remark
SF8xS	General
SF8xS-H	Halogen Free
SF8xS-Q	Automotive

PRIMARY CHARACTERISTICS

I_F	8A
V_{RRM}	50~600V
I_{FSM}	125A
V_F	1.0V, 1.35V, 1.75V
$T_J \text{ max}$	150°C

Features

- Guardring for overvoltage protection
- Very small conduction losses
- Low forward voltage drop
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 qualified

Mechanical Data

- Cases: TO-220AC
- 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: 1.899 grams (approximate)

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

PARAMETER	SYMBOL	SF81S	SF82S	SF83S	SF84S	SF85S	SF86S	SF88S	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	8.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	125.0							A
Maximum Instantaneous Forward Voltage IF=8A @ 25°C	V _F	1.00				1.35		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	130				60			pF
Maximum Reverse Recovery Time (NOTE2)	T _{rr}	35				50			nS
Typical thermal resistance	R _{θJA}	3							°C/W
Operating Temperature Range	T _J	-55 ~ 150							°C
Storage Temperature Range	T _{STG}	-55 ~ 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

Super Fast Recovery Rectifiers Glass Passivation Junction

FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

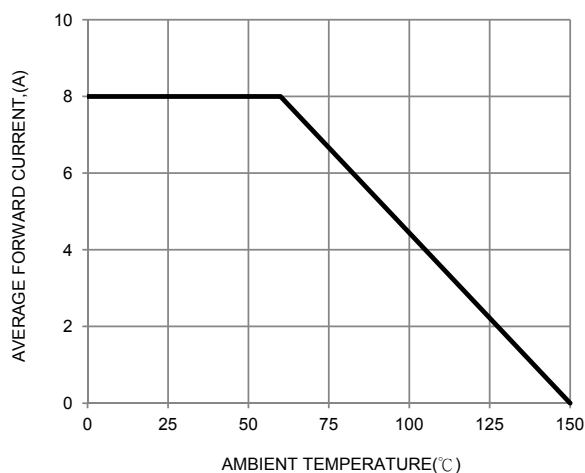


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

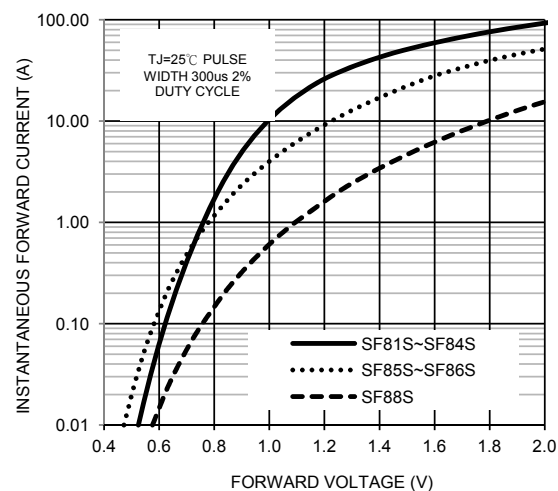


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

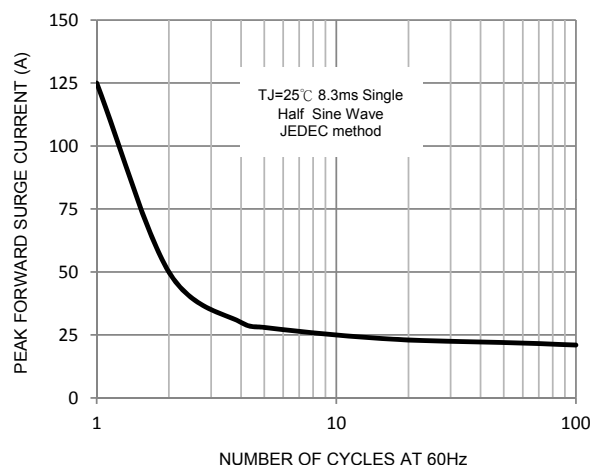


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

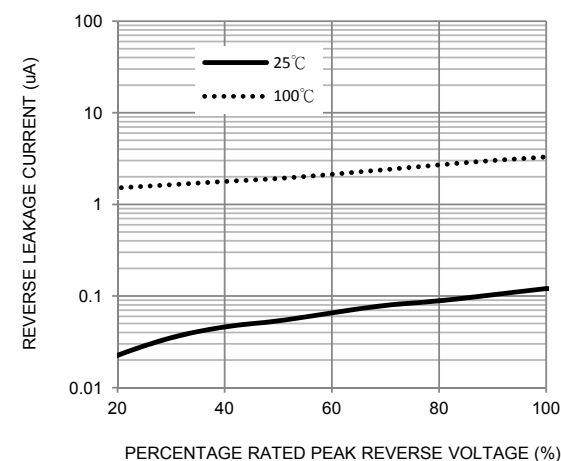


FIG. 5-TYPICAL JUNCTION CAPACITANCE

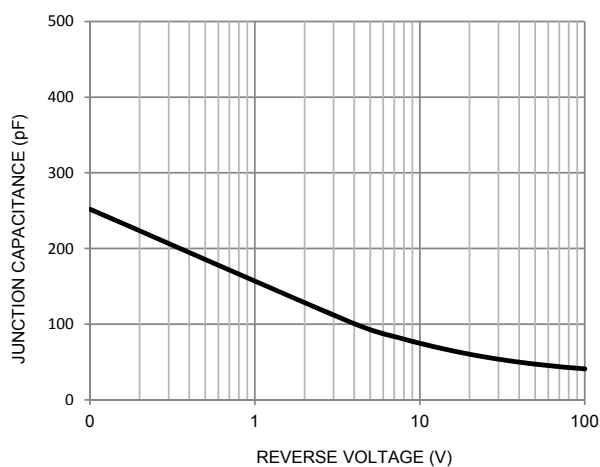


FIG. 6-Reverse Recovery Time Characteristic and Test Circuit

