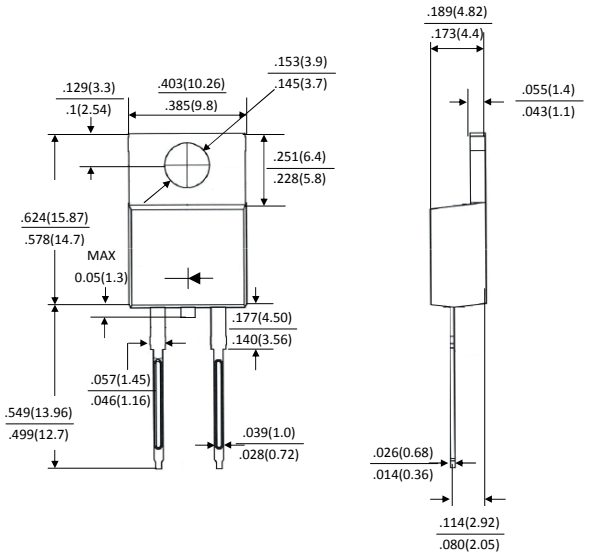
FR801S Thru FR807S

Fast Recovery Rectifiers
Glass Passivation Junction



TO-220AC

Dimensions in inches and (millimeters)

Ordering Information	
Part Number	**Remark**
FR80xS	General
FR80xS-H	Halogen Free
FR80xS-Q	Automotive

PRIMARY CHARACTERISTICS	
I_F	8A
V_{RRM}	50~1000V
I_{FSM}	125A
V_F	1.3V
T_J max	150°C

Features

- Easy pick and place
- Built-in strain relief
- Fast switching speed
- AEC-Q101 qualified

Mechanical Date

- 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: 1.909 grams (approximate)

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

PARAMETER	SYMBOL	FR 801S	FR 802S	FR 803S	FR 804S	FR 805S	FR 806S	FR 807S	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	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	1.30							V
Maximum DC Reverse Current @ Tc=25°C at Rated DC Blocking Voltage @ Tc=100°C	I_R	10 120							uA
Typical Junction Capacitance(NOTE1)	C_j	150							pF
Maximum Reverse Recovery Time(NOTE2)	Trr	150				250	500		ns
Typical Thermal Resistance	$R_{\theta JC}$	3							°C/W
Operating Temperature Range	T_J	-55 to +150							°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

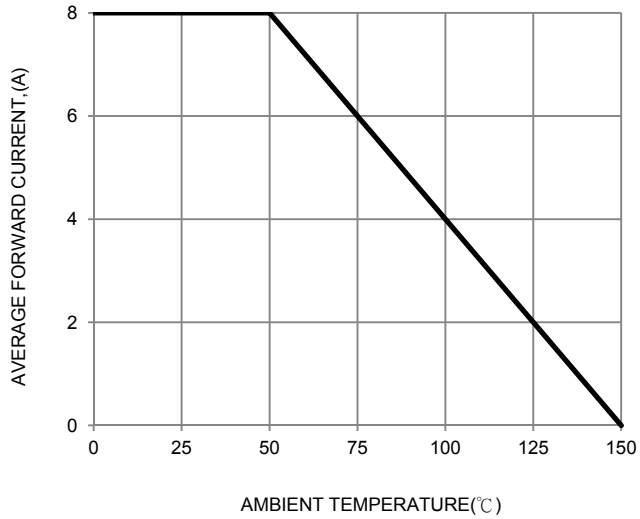


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

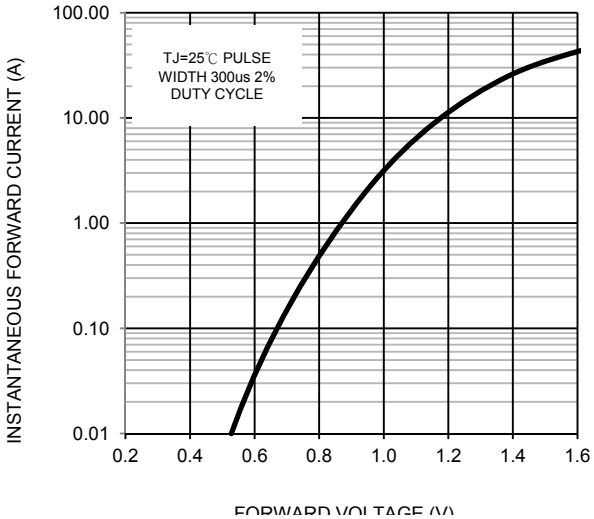


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

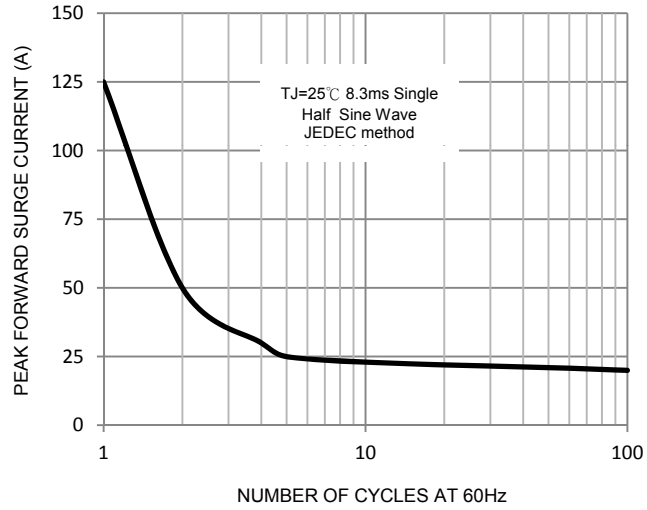


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

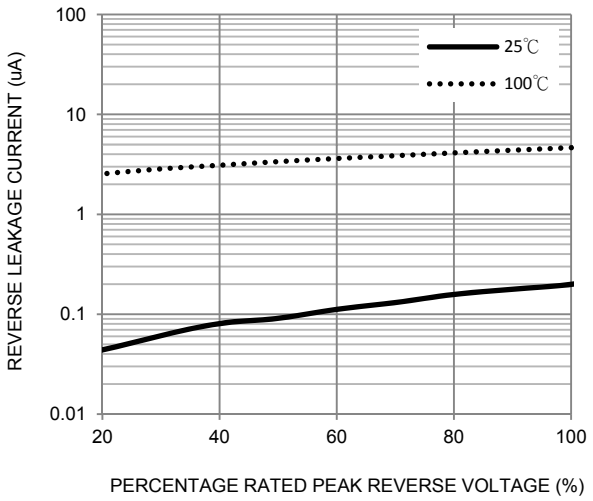


FIG. 5-TYPICAL JUNCTION CAPACITANCE

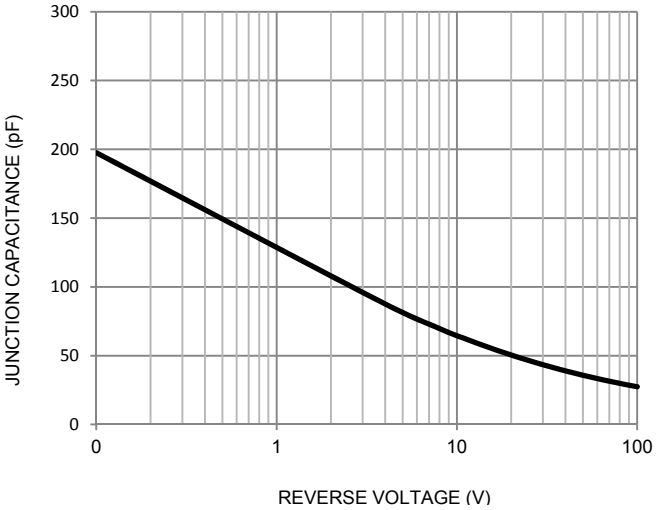
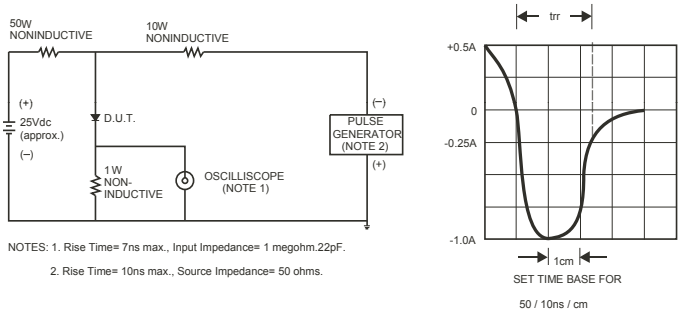


FIG. 6-Reverse Recovery Time Characteristic and Test Circuit



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

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