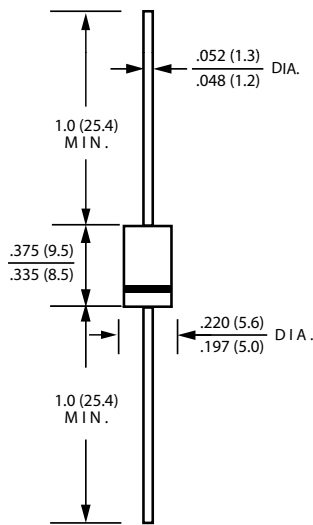




FR501 thru FR507



Fast Recovery Rectifiers Plastic Passivation Junction



DO-201AD

Dimensions in inches and (millimeters)



Ordering Information	
Part Number	Remark
FR50x	General
FR50x-H	Halogen Free

PRIMARY CHARACTERISTICS	
I_F	5A
V_{RRM}	50~1000V
I_{FSM}	100A
V_F	1.3 V
$T_J \text{ max}$	125°C

Features

- Ideal for surface mount applications
- Easy pick and place
- Built-in strain relief
- Fast switching speed

Mechanical Data

- Cases: DO-201AD
- 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	FR501	FR502	FR503	FR504	FR505	FR506	FR507	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	5.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	100.0							A
Maximum Instantaneous Forward Voltage $I_F=5A @ 25^\circ C$	V_F	1.3							V
Maximum DC Reverse Current @ $T_c=25^\circ C$ at Rated DC Blocking Voltage @ $T_c=100^\circ C$	I_R	10 100							μA
Maximum Reverse Recovery Time(NOTE2)	t_{rr}	150			250		500		ns
Typical Junction Capacitance(NOTE1)	C_j	100							pF
Typical Thermal Resistance	$R_{\theta JA}$	70							°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 $I_F=0.5A, I_R=1A, I_{RR}=0.25A$



Fast Recovery Rectifiers Plastic Passivation Junction

FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

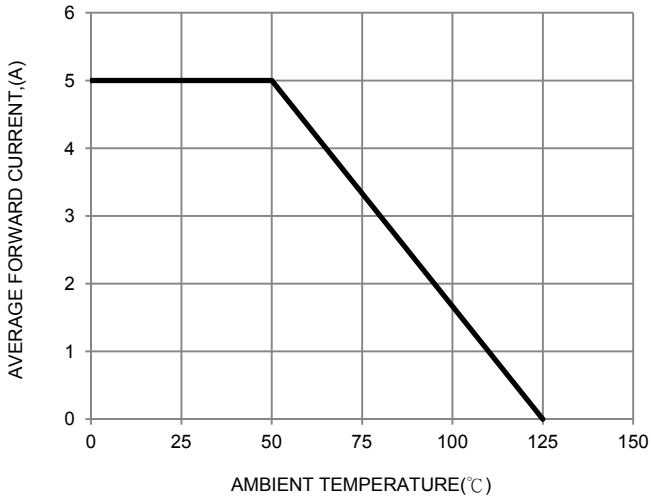


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

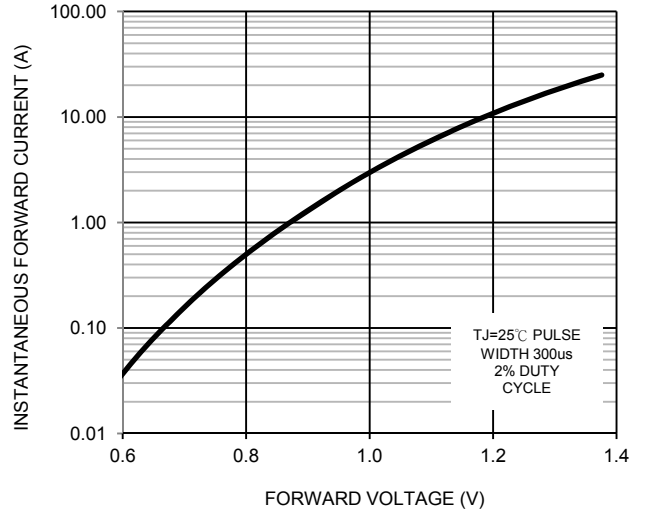


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

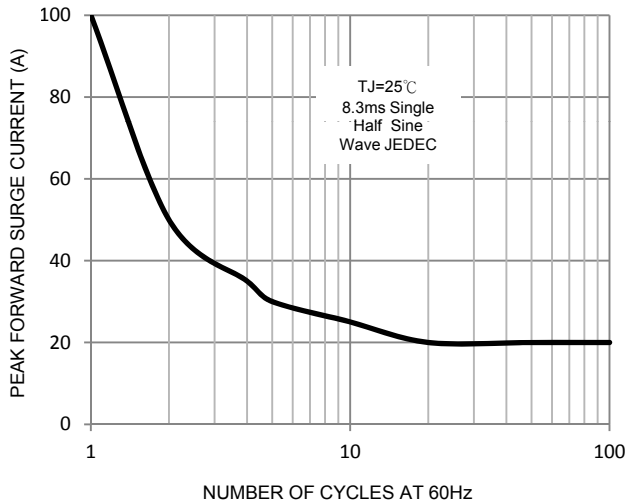


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

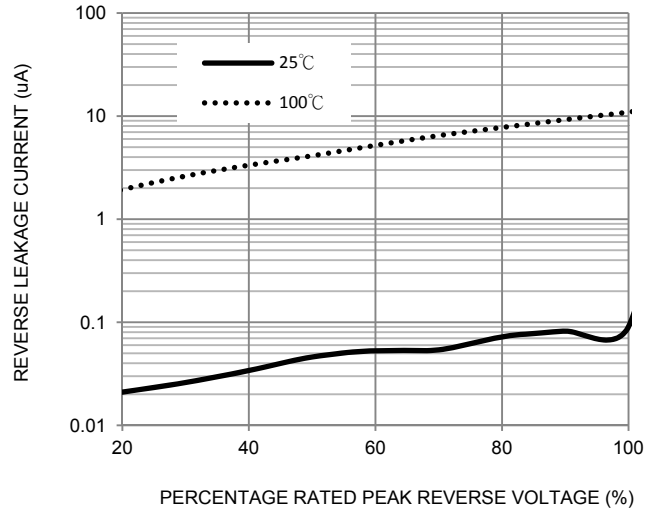


FIG. 5-TYPICAL JUNCTION CAPACITANCE

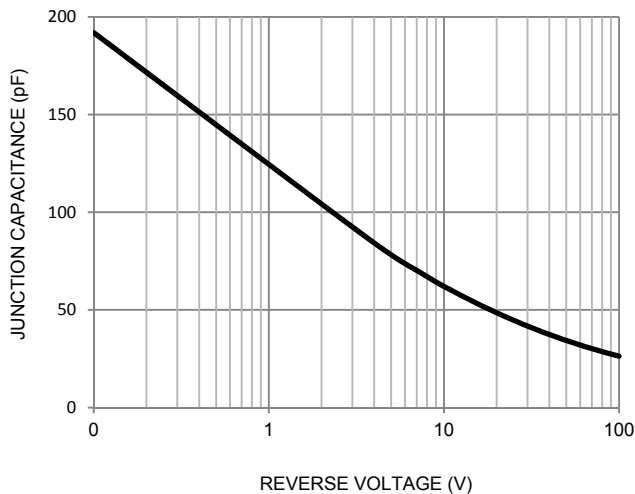


FIG. 6-Reverse Recovery Time Characteristic and Test Circuit

