

## FR501G THRU FR507G

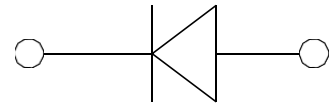
### FAST RECOVERY RECTIFIERS

#### Features

- High efficiency
- High current capability
- High reliability
- High surge current capability
- Low power loss
- Glass passivated chip junction
- Solder dip 275 °C max. 7 s, per JESD 22-B106

#### Mechanical Data

- **Package:** DO-201AD(DO-27)  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD- 002 and JESD22-B102
- **Polarity:** Color band denotes cathode end



#### Maximum Ratings and Electrical Characteristics

PARAMETER	SYMBOL	UNIT	FR501G	FR502G	FR503G	FR504G	FR505G	FR506G	FR507G	
Device marking code			FR501G	FR502G	FR503G	FR504G	FR505G	FR506G	FR507G	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	V	50	100	200	400	600	800	1000	
Maximum RMS Voltage	$V_{RMS}$	V	35	70	140	280	420	560	700	
Maximum DC blocking Voltage	$V_{DC}$	V	50	100	200	400	600	800	1000	
Average Forward Current @60Hz sine wave, Resistance load, $T_a=50^{\circ}C$	$I_{F(AV)}$	A	5.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_j=25^{\circ}C$	$I_{FSM}$	A	200							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, $T_j=25^{\circ}C$			400							
Current squared time @1ms $\leq t \leq 8.3ms$ $T_j=25^{\circ}C$ , Rating of per diode	$I^2t$	A <sup>2</sup> s	166							
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	$C_j$	pF	70				56			
Storage Temperature	$T_{stg}$	$^{\circ}C$	-55 ~ +150							
Junction Temperature	$T_j$	$^{\circ}C$	-55 ~ +150							

#### Electrical Characteristics ( $T_a=25^{\circ}C$ Unless otherwise specified )

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	FR501G	FR502G	FR503G	FR504G	FR505G	FR506G	FR507G
Maximum instantaneous forward voltage drop per diode	$V_F$	V	$I_{FM}=5.0A$	1.3						
Maximum DC reverse current at rated DC blocking voltage per diode	$I_R$	$\mu A$	$T_j=25^{\circ}C$	2.5						
			$T_j=125^{\circ}C$	100						
Maximum reverse recovery time	$t_r$	ns	$I_F=0.5A, I_R=1.0A, I_R=0.25A$	150			250	500		

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## FAST RECOVERY RECTIFIERS

Thermal Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	FR501G	FR502G	FR503G	FR504G	FR505G	FR506G	FR507G
Typical Thermal Resistance	R <sub>θJA</sub>	°C/W	18						

### Characteristics (Typical)

FIG.1: I<sub>o</sub>-T<sub>a</sub> Curve

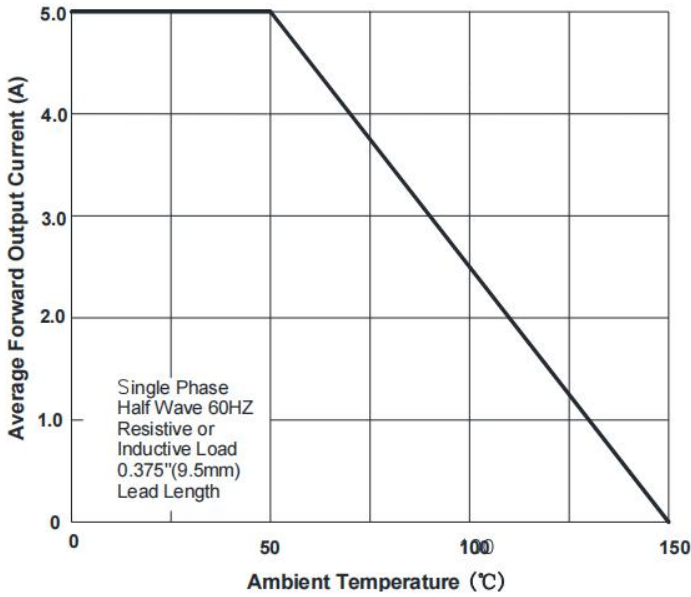


FIG.2: Forward Surge Current Capability

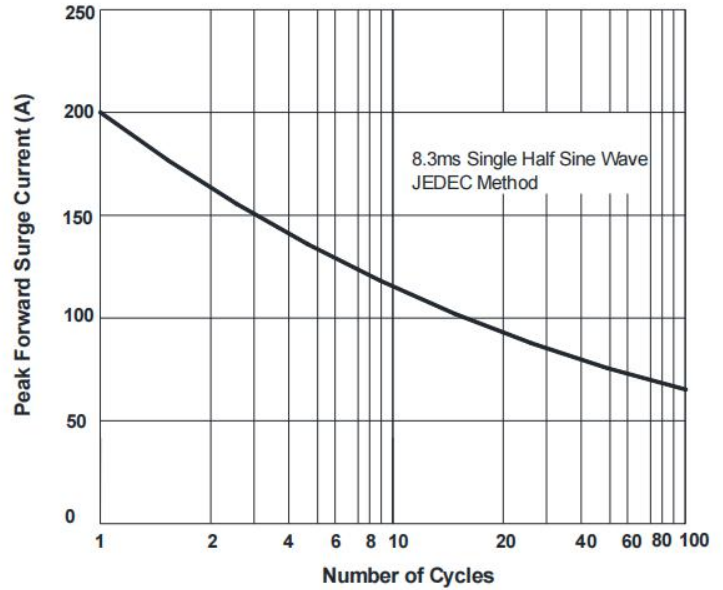


FIG.3: Forward Voltage

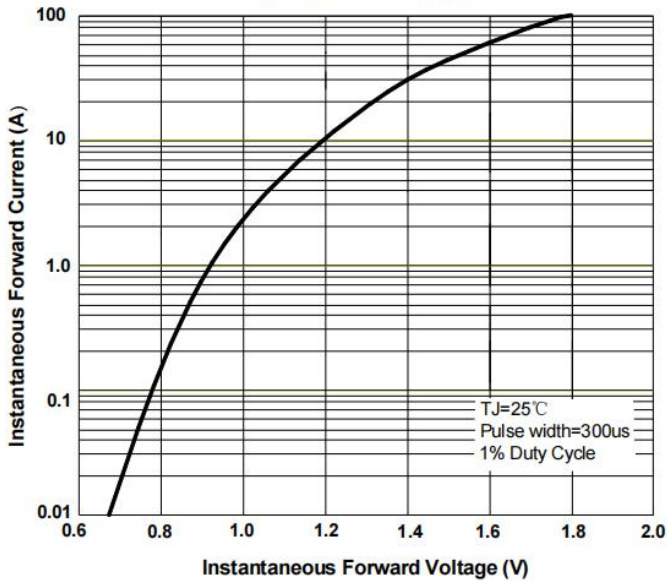
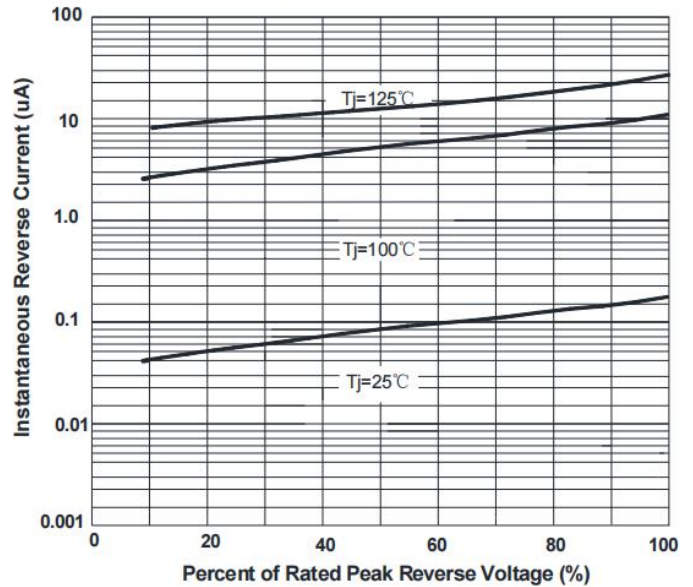
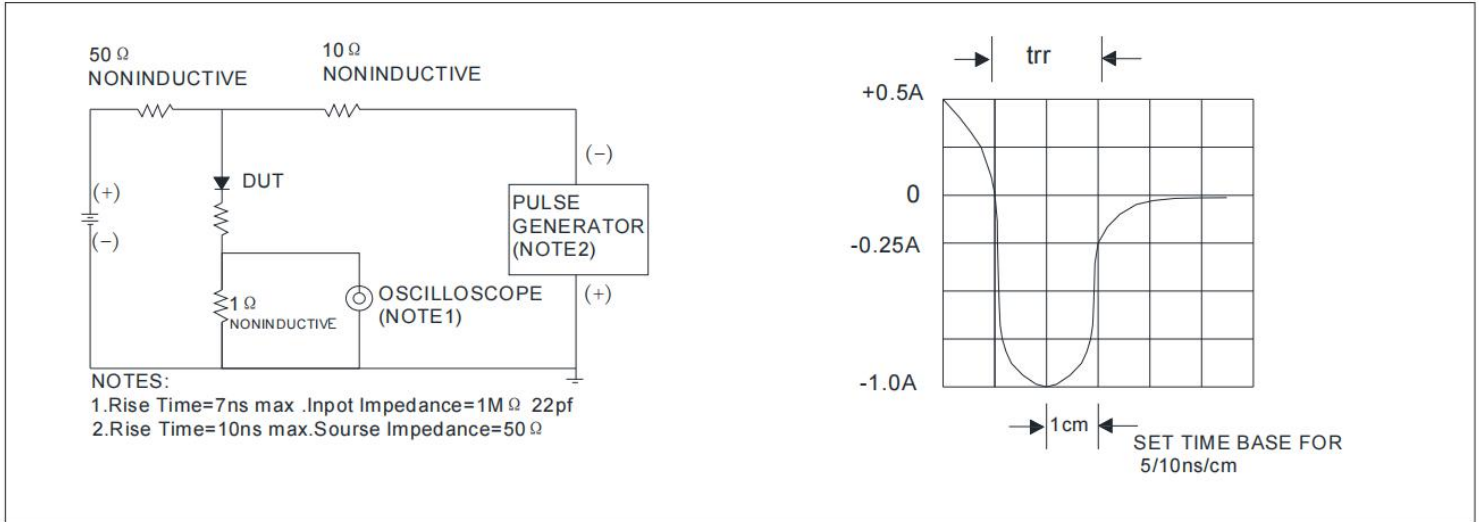


FIG.4: Typical Reverse Characteristics

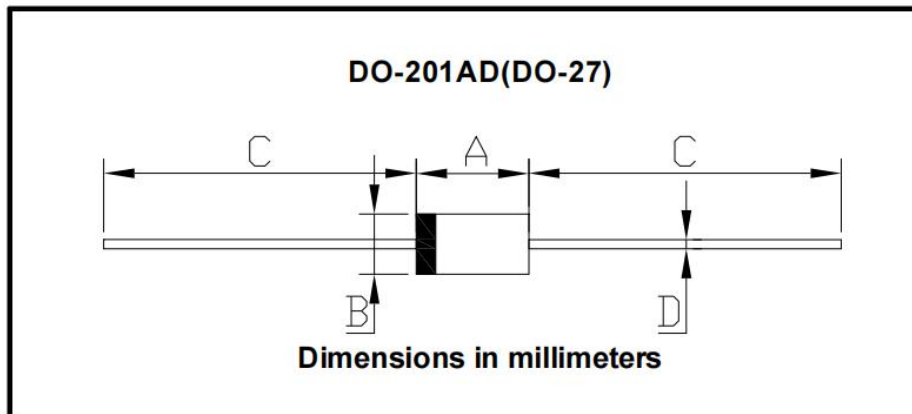


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FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



### Outline Dimensions



DO-201AD(DO-27)		
Dim	Min	Max
A	8.50	9.50
B	5.00	5.60
C	25.4	/
D	1.20	1.30