



PINGWEI ENTERPRISE

## SF31 THRU SF38

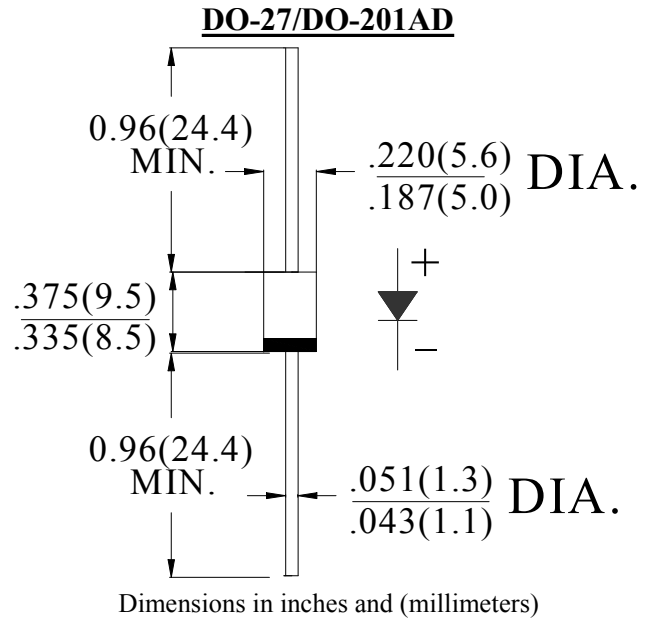
### 3.0AMPS. SUPER FAST RECTIFIERS

#### FEATURE

- . High current capability
- . Low forward voltage drop
- . Low power loss, high efficiency
- . High surge capability
- . High temperature soldering guaranteed  
260°C /10sec/ 0.375" lead length at 5 lbs tension
- . Super fast recovery time for high efficiency.

#### MECHANICAL DATA

- . Terminal: Plated axial leads solderable per MIL-STD 202E, method 208C
- . Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy
- . Polarity: color band denotes cathode
- . Mounting position: any



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

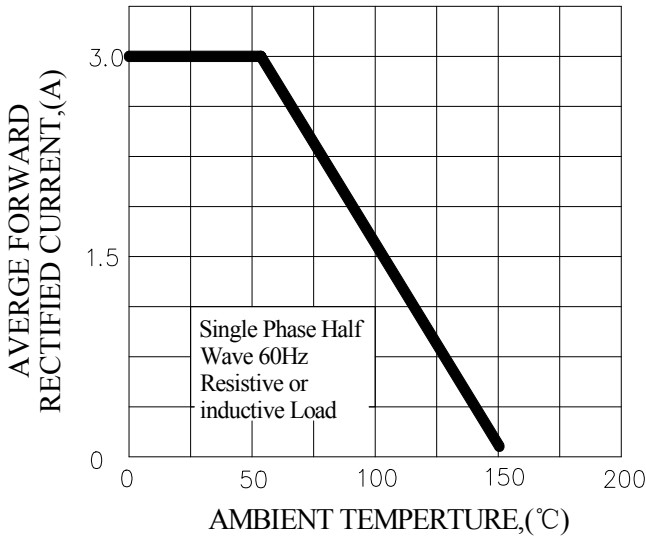
Type Number	SYM BOL	SF 31	SF 32	SF 33	SF 34	SF 35	SF 36	SF 37	SF 38	units	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V	
Maximum DC blocking Voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V	
Maximum Average Forward Rectified Current .375"(9.5mm) lead length at $T_A = 55^\circ\text{C}$	$I_{F(AV)}$	3.0								A	
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	90.0								A	
Maximum Instantaneous forward Voltage at 3.0A DC	$V_F$	0.95			1.3		1.7			V	
Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_A = 100^\circ\text{C}$	$I_R$	5.0					100.0				$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	35								nS	
Typical Junction Capacitance (Note 2)	$C_J$	100				80				pF	
Typical Thermal Resistance (Note 3)	$R_{(JA)}$	50								$^\circ\text{C}/\text{W}$	
Storage Temperature	$T_{STG}$	-55 to +150								$^\circ\text{C}$	
Operation Junction Temperature	$T_J$	-55 to +150								$^\circ\text{C}$	

#### Note:

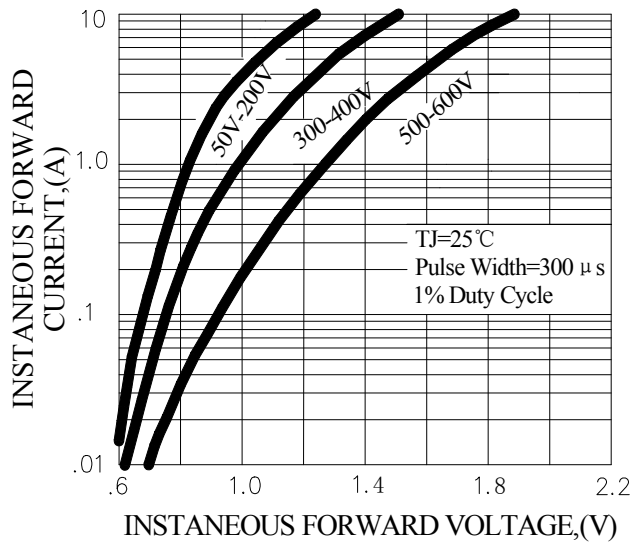
1. Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, vertical P.C.Board Mounted.

**RATING AND CHARACTERISTIC CURVES (SF31 THRU SF38)**

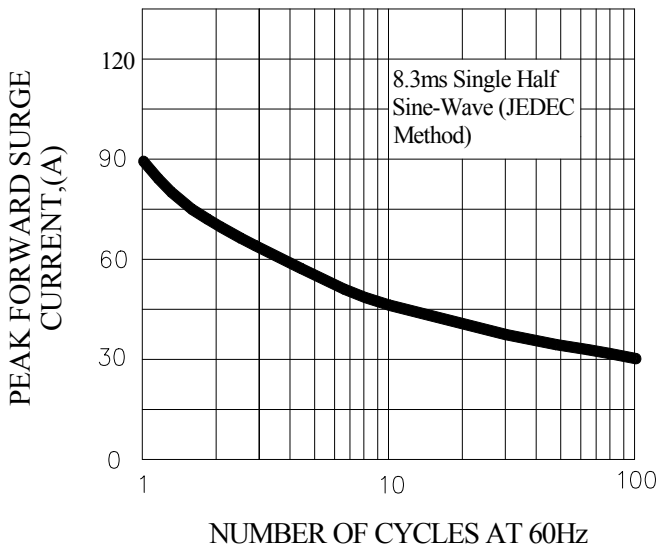
**FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE**



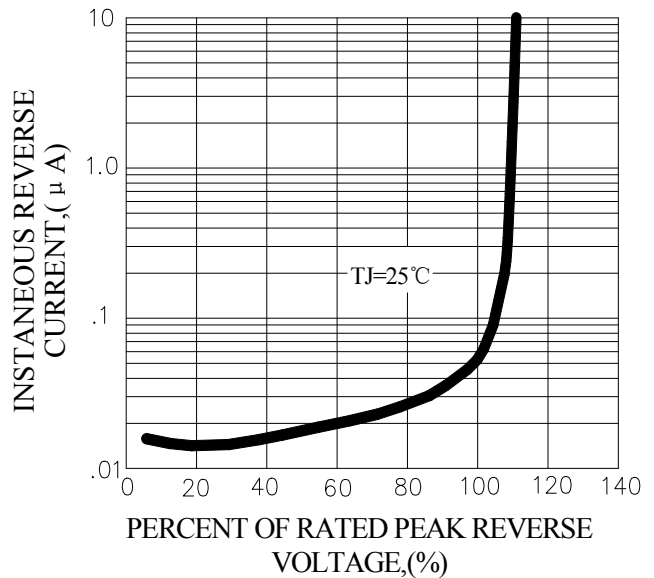
**FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



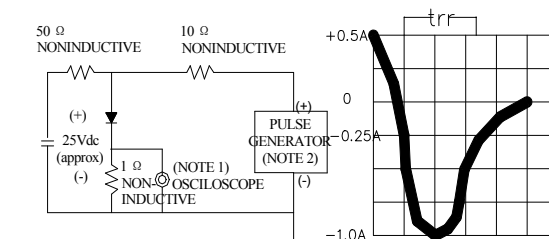
**FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS**



**FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



**NOTES:**1. Rise Time=7ns max, Input Impedance= 1 megohm.22pF.  
 2. Rise Time=10ns max, Source Impedance= 50 ohms.

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