

Fast Recovery Silicon Rectifiers

Reverse Voltage - 100 to 1000 V

Forward Current – 5 A

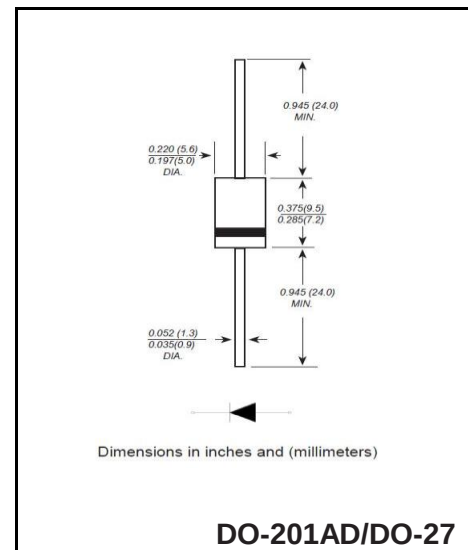
FEATURES

- ◆For surface mounted applications
- ◆Low profile package
- ◆Open Junction chip
- ◆Ideal for automated placement
- ◆Lead free in comply with EU RoHS 2011/65/EU directives



MECHANICAL DATA

- ◆Case: DO-201AD/DO-27
- ◆Terminals: Solderable per MIL-STD-750, Method 2026
- ◆Approx. Weight: 0.98 g / 0.0345oz



Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	FR502	FR503	FR504	FR505	FR506	FR507	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at $T_c = 100\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	5.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	200.0						A
Maximum Instantaneous Forward Voltage at 5.0A	V_F	1.28						V
Maximum DC Reverse Current $T_a = 25\text{ }^{\circ}\text{C}$ at Rated DC Blocking Voltage $T_a=125\text{ }^{\circ}\text{C}$	I_R	10 500						μA
Maxinum reverse recovery time ^(Note 1)	T_{rr}	150			250	500		nS
Typical Junction Capacitance ^(Note 2)	C_j	60.0						pF
Typical Thermal Resistance	$R_{\theta JA}$	40.0						$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150						$^{\circ}\text{C}$

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) Reverse recovery time test condition: $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{rr}=0.25\text{A}$

Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

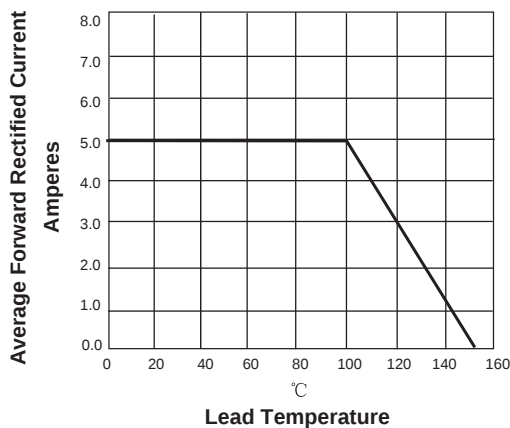


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

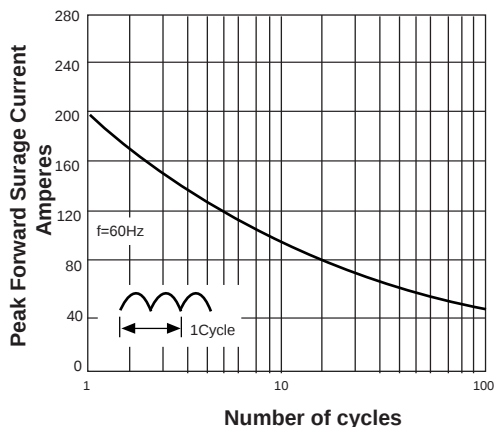


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

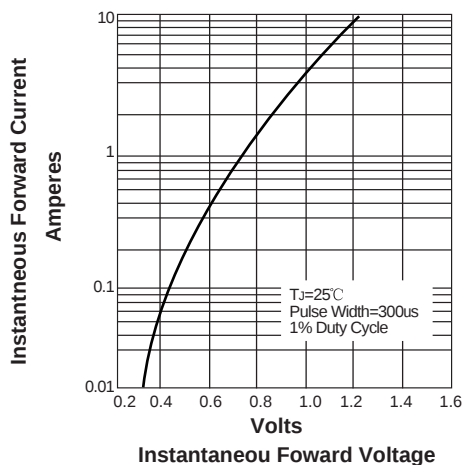
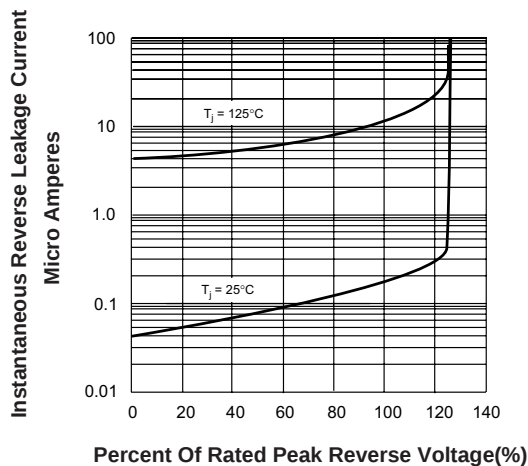
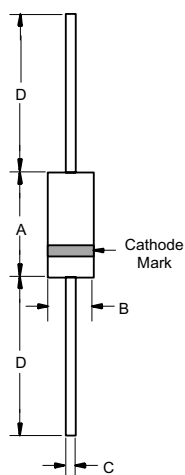


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Package Outline DO-201AD(DO-27)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	---	.370	---	9.50	
B	---	.250	---	6.40	
C	.048	.052	1.20	1.30	
D	1.000	---	25.40	---	

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
DO-201AD(DO-27)	BOX	250/1000/1250	EIA-481-1