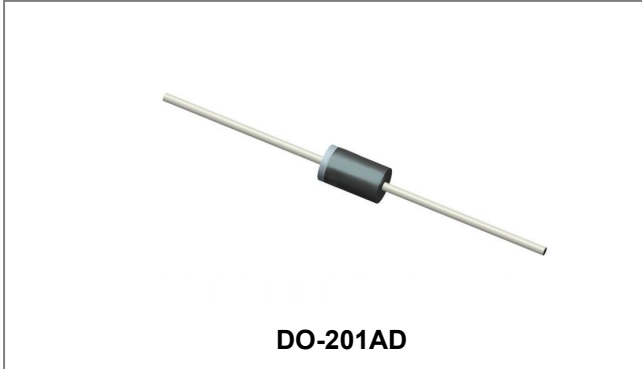


# FR301 THRU FR307

## FAST RECOVERY RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes



### Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed: 260 C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: DO-201AD molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.04 ounce, 1.10 grams

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

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

Characteristic	Symbol	FR 301	FR 302	FR 303	FR 304	FR 305	FR 306	FR 307	Units
Maximum repetitive peak reverse voltage Maximum DC blocking voltage	V <sub>RRM</sub> V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at @T <sub>A</sub> = 75°C	I <sub>(AV)</sub>	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200							A
Maximum instantaneous forward voltage at 3.0A	V <sub>F</sub>	1.3							V
Maximum DC reverse current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C	I <sub>RM</sub>	5.0 100							µA
Maximum reverse recovery time (Note 1)	t <sub>rr</sub>	150			250		500		ns
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	60							pF
Typical Thermal Resistance Junction to Ambient (Note 3)	R <sub>θJA</sub>	20							°C/W
Operating junction temperature range	T <sub>J</sub>	-65 to +150							°C
Operating storage temperature range	T <sub>STG</sub>	-65 to +150							°C

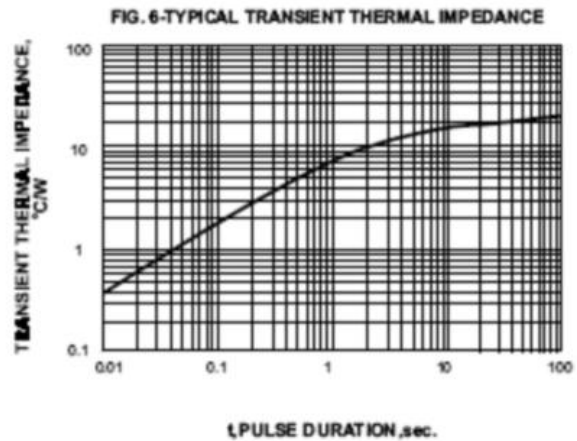
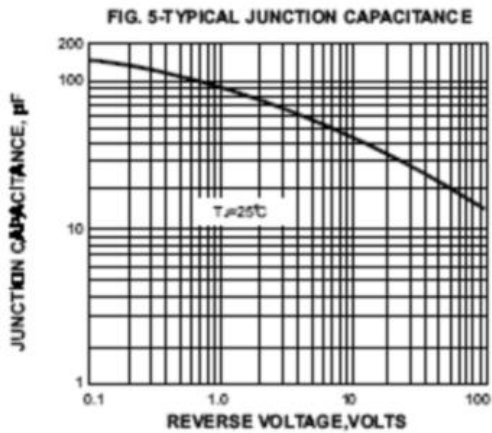
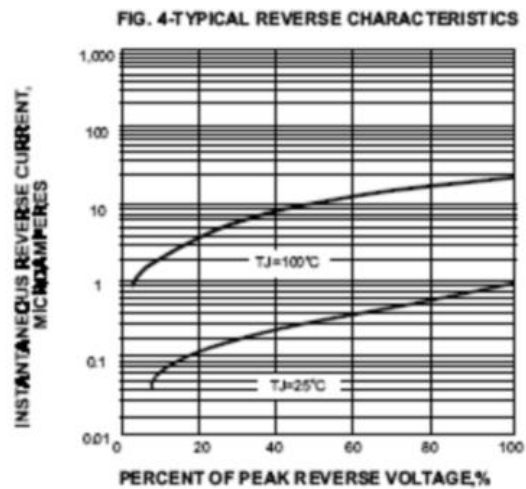
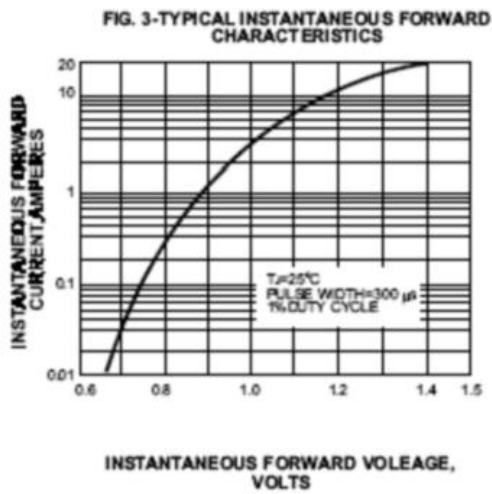
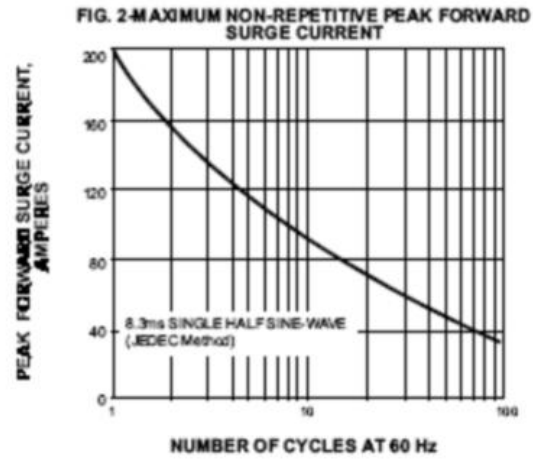
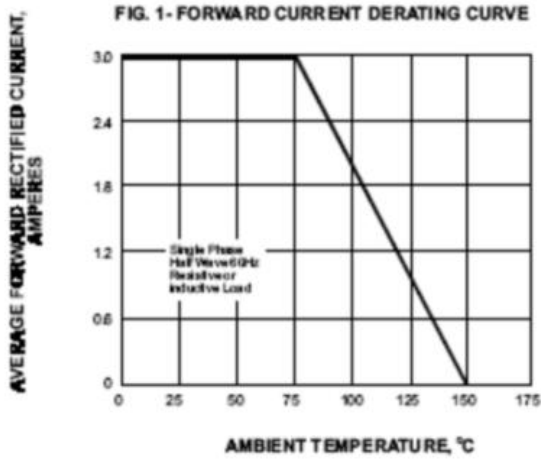
Note: 1. Reverse recovery condition IF=0.5A, IR=1.0A, Irr=0.25A

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

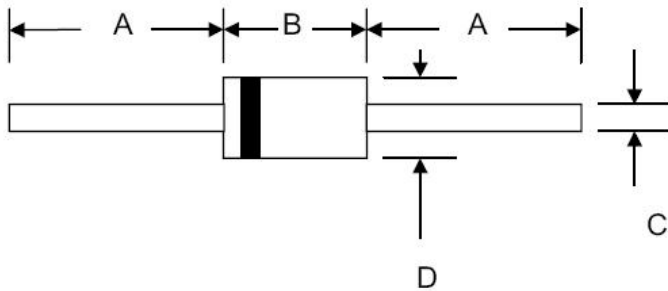
3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

- China - Germany - Korea - Singapore - United States •
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**Ratings and Characteristics Curves**



### Mechanical Dimensions DO-201AD



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	7.2	9.5	0.285	0.375
C	1.2	1.3	0.048	0.052
D	5.0	5.6	0.197	0.220

### Ordering Information

Device	Package	Shipping
FR301-FR307	DO-201AD (Pb-Free)	1250pcs / tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

### Marking Diagram

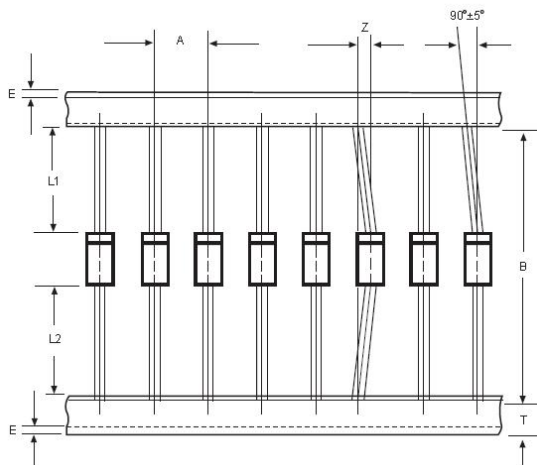


Where XXXXX is YYWWL

FR301 = Part Name  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

Cautions: Molding resin  
Epoxy resin UL:94V-0

### Carrier Tape Specification DO-201AD



SYMBOL	Millimeters	
	Min.	Max.
A	9.50	10.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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