

FR301 THRU FR307



Fast Recovery Rectifiers

Reverse Voltage: 50 to 1000 Volts

Forward Current: 3.0 Ampere

RoHS Device

Halogen Free

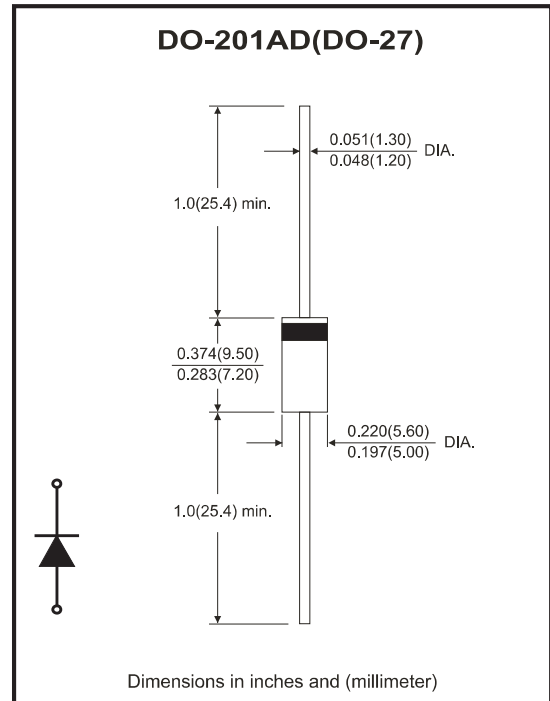


Features

- Low forward voltage.
- High reliability.
- High surge current capability.
- High current capability.

Mechanical data

- Case: JEDEC DO-201AD molded plastic.
- Epoxy: UL94V-0 rate flame retardant.
- Polarity: Color band denotes cathode end.
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.
- 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 by 20%

Parameter	Symbols	FR301	FR302	FR303	FR304	FR305	FR306	FR307	Units
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	$I_{F(AV)}$	3.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	200							A
Max. forward voltage at 3.0A	V_F	1.3							V
Maximum DC reverse current $T_a = 25^\circ\text{C}$ at rated DC blocking voltage $T_a = 100^\circ\text{C}$	I_R	5 100							μA
Typical junction capacitance (Note 2)	C_j	60							pF
Maximum reverse recovery time (Note 1)	t_{rr}	150				250	500		ns
Typical thermal resistance (Note 3)	$R_{\theta JA}$	20							$^\circ\text{C/W}$
Operating and storage temperature range	T_j, T_{stg}	-65 ~ +150							$^\circ\text{C}$

Notes: 1. Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$ (RGI circuit)

Company reserves the right to improve product design , functions and reliability without notice.

Rev:1.0

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Rating and Characteristic Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

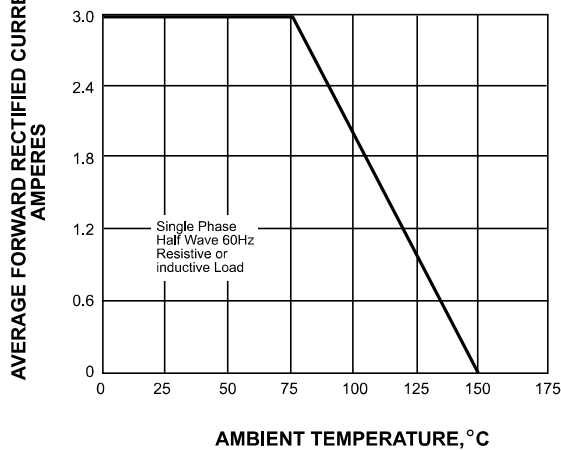


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

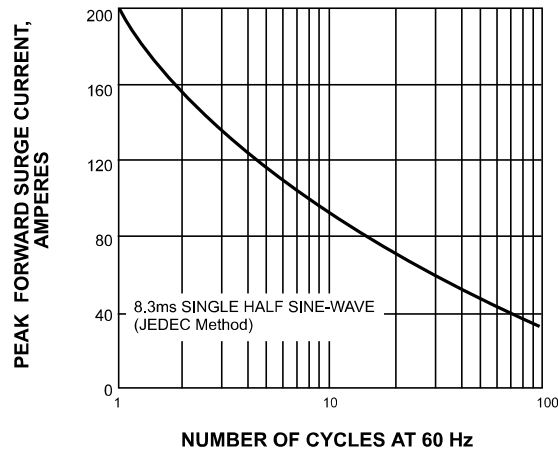


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

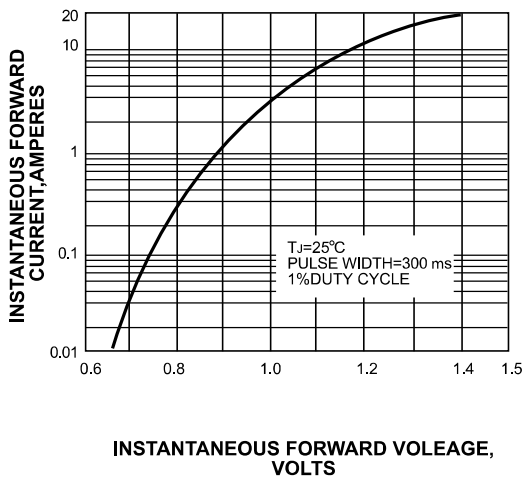


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

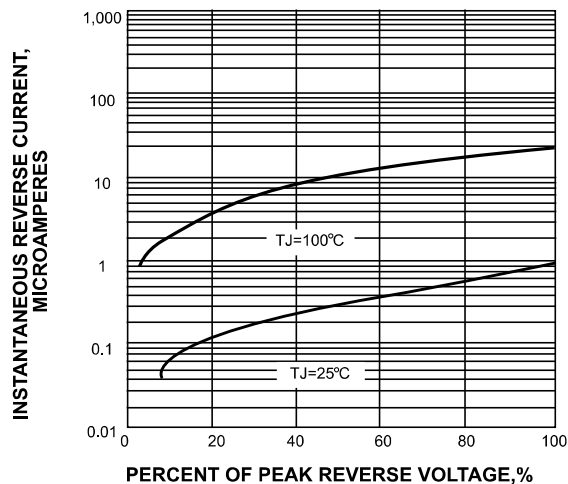


FIG. 5-TYPICAL JUNCTION CAPACITANCE

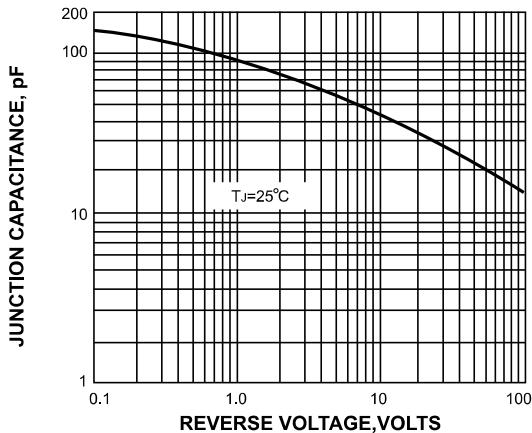
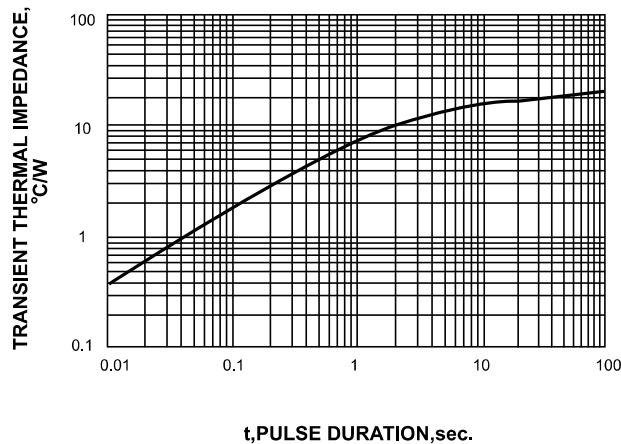


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



Marking Code

Part Number	Marking code	Packaging
FR301	FR301	AMMO
FR302	FR302	AMMO
FR303	FR303	AMMO
FR304	FR304	AMMO
FR305	FR305	AMMO
FR306	FR306	AMMO
FR307	FR307	AMMO
FR301T	FR301	REEL
FR302T	FR302	REEL
FR303T	FR303	REEL
FR304T	FR304	REEL
FR305T	FR305	REEL
FR306T	FR306	REEL
FR307T	FR307	REEL
FR301B	FR301	BULK
FR302B	FR302	BULK
FR303B	FR303	BULK
FR304B	FR304	BULK
FR305B	FR305	BULK
FR306B	FR306	BULK
FR307B	FR307	BULK



XXX = Product type marking code

Note:

1) Suffix code after part number to specify packaging item.

Packaging	Code
AMMO PACK	NA
REEL PACK	T
BULK PACK	B

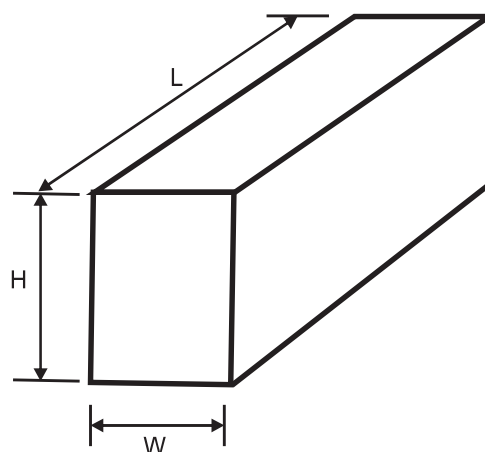
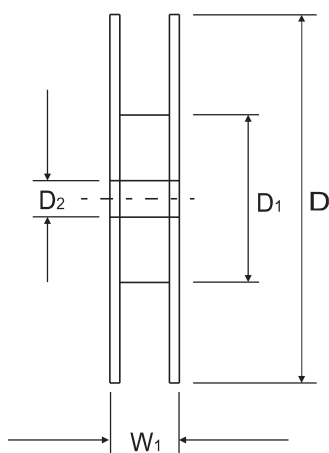
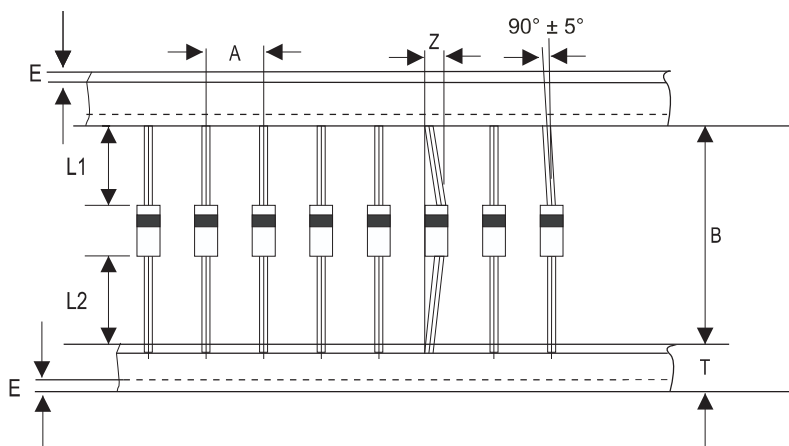
Standard Packaging

Case Type	AMMO PACK
	BOX (pcs)
DO-201AD	1,250

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-201AD	1,200	13

Case Type	BULK PACK
	BOX (pcs)
DO-201AD	200

Taping Specification For Axial Lead Diodes



DO-201AD	SYMBOL	A	B	Z	T	E	L1-L2
	(mm)	10.00 ± 0.50	52.40 + 1.50 - 0.40	1.20 (max)	6.00 ± 0.40	0.80 (max)	1.00 (max)
	(inch)	0.394 ± 0.020	2.063 + 0.059 - 0.016	0.047 (max)	0.236 ± 0.016	0.031 (max)	0.039 (max)

DO-201AD	SYMBOL	L	W	H	D	D1	D2	W1
	(mm)	255.00 ± 5.00	75.00 ± 5.00	150.00 ± 5.00	330	85.70 ± 0.30	16.60 ± 0.40	79.00 ± 1.00
	(inch)	10.039 ± 0.197	2.953 ± 0.197	5.906 ± 0.197	12.992	3.374 ± 0.012	0.654 ± 0.016	3.110 ± 0.039