FR301G THRU FR307G

Fast Recovery Glass Passivated Rectifiers

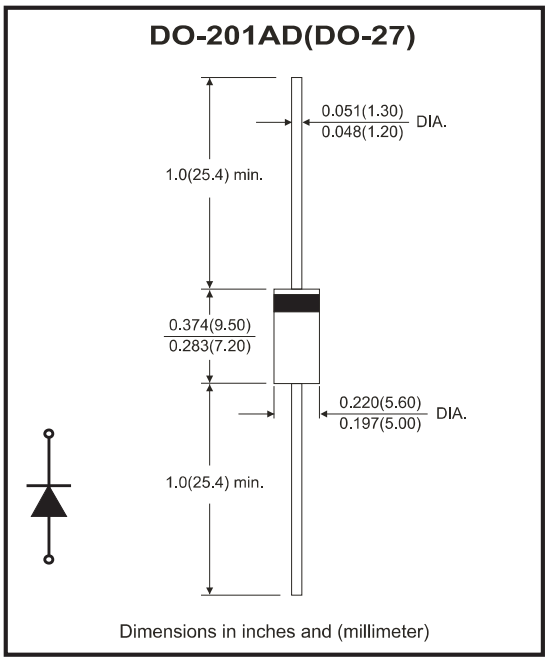
Reverse Voltage: 50 to 1000 Volts
Forward Current: 3.0 Ampere
RoHS Device
Halogen Free

Features

- Glass passivated chip.
- 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	FR301G	FR302G	FR303G	FR304G	FR305G	FR306G	FR307G	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°C at rated DC blocking voltage T_a =100°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							°C/W
Operating and storage temperature range	T_j, T_{stg}	-65 ~ +150							°C

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

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

Rating and Characteristic Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

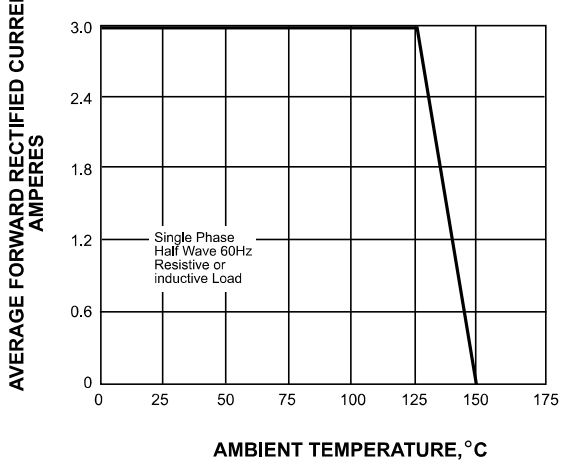


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

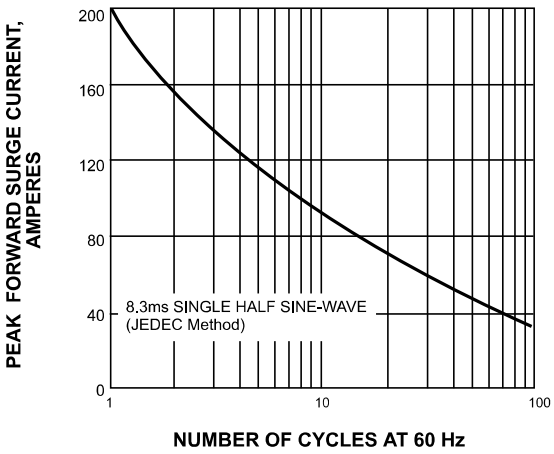


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

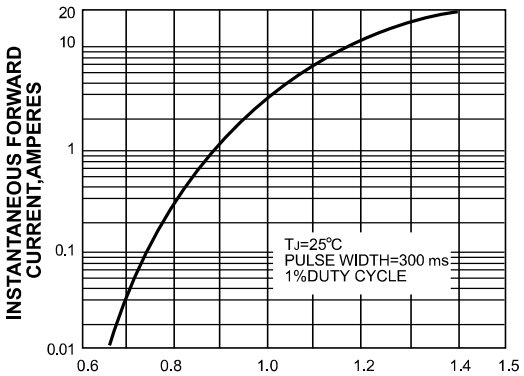


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

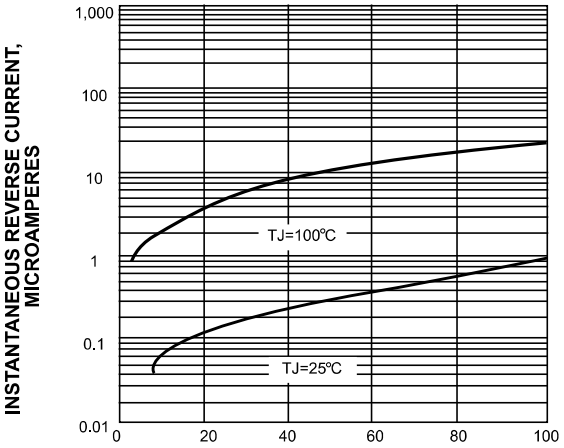


FIG. 5-TYPICAL JUNCTION CAPACITANCE

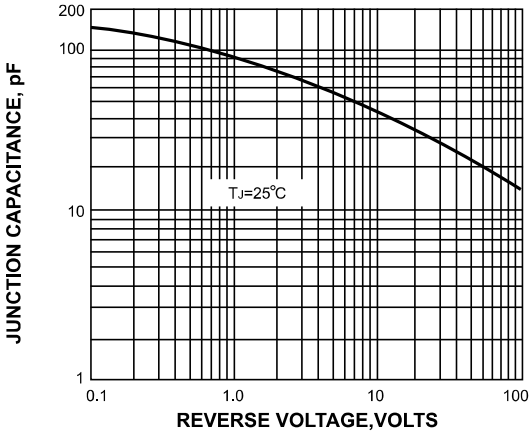
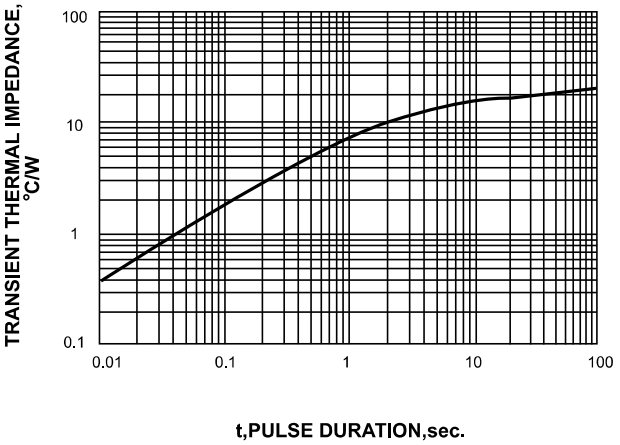


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



Marking Code

Part Number	Marking code	Packaging
FR301G	FR301G	AMMO
FR302G	FR302G	AMMO
FR303G	FR303G	AMMO
FR304G	FR304G	AMMO
FR305G	FR305G	AMMO
FR306G	FR306G	AMMO
FR307G	FR307G	AMMO
FR301GT	FR301G	REEL
FR302GT	FR302G	REEL
FR303GT	FR303G	REEL
FR304GT	FR304G	REEL
FR305GT	FR305G	REEL
FR306GT	FR306G	REEL
FR307GT	FR307G	REEL
FR301GB	FR301G	BULK
FR302GB	FR302G	BULK
FR303GB	FR303G	BULK
FR304GB	FR304G	BULK
FR305GB	FR305G	BULK
FR306GB	FR306G	BULK
FR307GB	FR307G	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

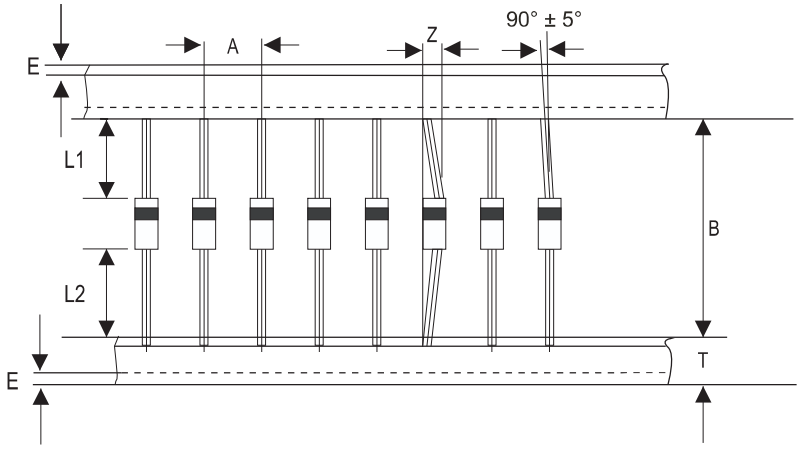
Standard Packaging

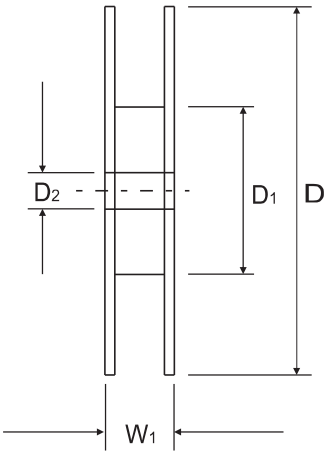
Case Type	AMMO PACK
	BOX (pcs)
DO-201AD	1,250

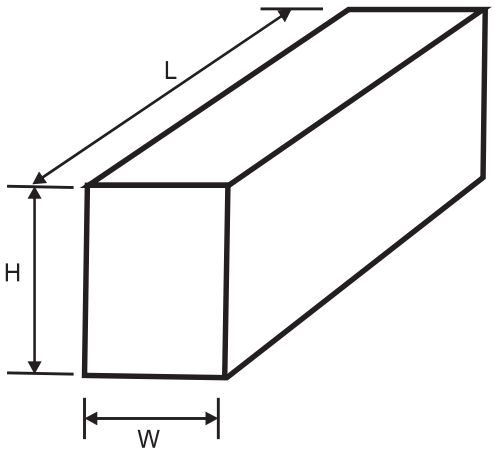
Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-201AD	1,200	13

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

Taping Specification For Axial Lead Diodes







	SYMBOL	A	B	Z	T	E	|L1-L2|
DO-201AD	(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)

	SYMBOL	L	W	H	D	D1	D2	W1
DO-201AD	(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