

SF31 THRU SF38



Super Fast Rectifiers

Reverse Voltage: 50 to 600 Volts

Forward Current: 3.0 Ampere

RoHS Device

Halogen Free

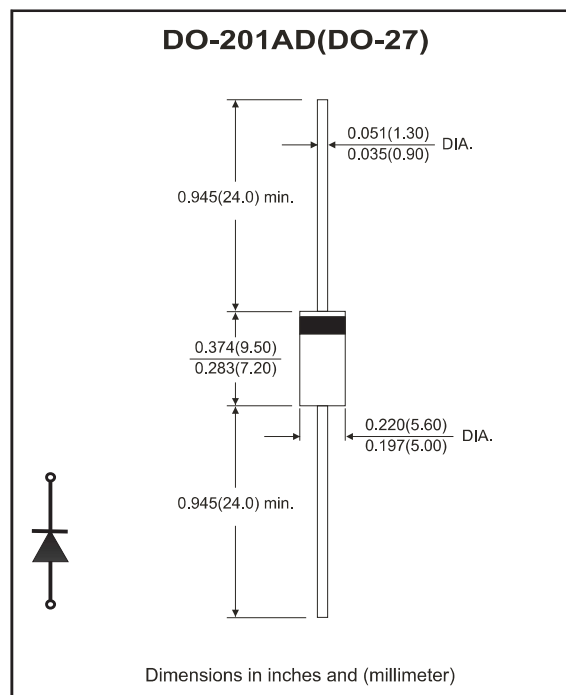


Features

- Open junction chip.
- Low reverse leakage.
- High forward surge current capability.
- High temperature soldering guaranteed 260°C/10 seconds at terminals.

Mechanical data

- Epoxy: UL 94V-0 rate flame retardant.
- Case: DO-201AD, molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode.
- Weight: 0.98 grams approx.
- 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%.

Parameter		Symbol	SF31	SF32	SF33	SF34	SF35	SF36	SF38	Unit
Max. repetitive peak reverse voltage		V _{RRM}	50	100	150	200	300	400	600	V
Max. RMS voltage		V _{RMS}	35	70	105	140	210	280	420	V
Max. DC blocking voltage		V _{DC}	50	100	150	200	300	400	600	V
Max. average forward rectified current at T _L =100°C		I _(AV)	3.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load		I _{FSM}	125							A
Max. instantaneous forward voltage at 3.0A		V _F	0.95				1.25		1.7	V
Max. DC reverse current at rated DC blocking voltage	@T _A =25°C	I _R	10							μA
	@T _A =100°C	I _R	50							
Max. reverse recovery time (Note 1)		T _{rr}	35							nS
Typical Junction capacitance (Note 2)		C _J	100				50			pF
Typical thermal resistance		R _{θJA}	30							°C/W
Operating junction and storage temperature range		T _J , T _{STG}	-65 to +150							°C

Notes: 1. Reverse recovery time test condition: $I_F=0.5\text{A}$, $I_R=0.1\text{A}$, $I_{rr}=0.25\text{A}$

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

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

Rev:1.0

Rating and Characteristic Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

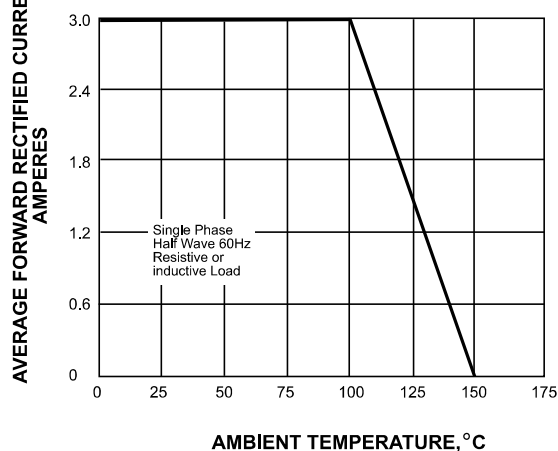


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

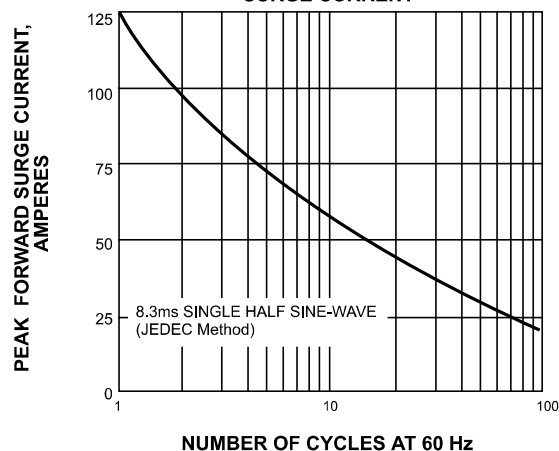


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

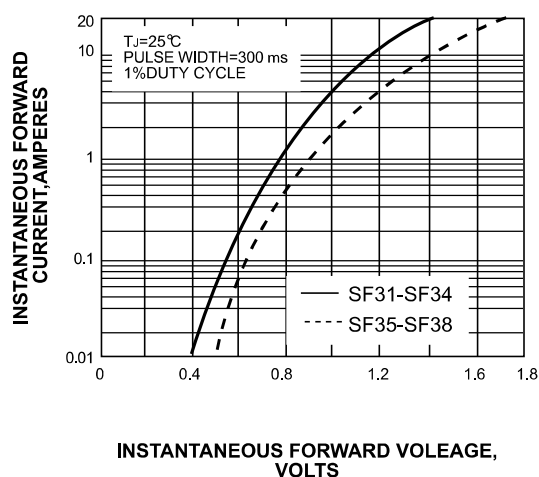


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

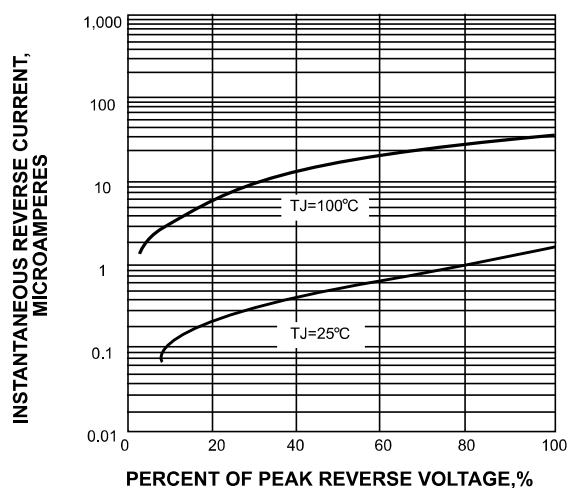


FIG. 5-TYPICAL JUNCTION CAPACITANCE

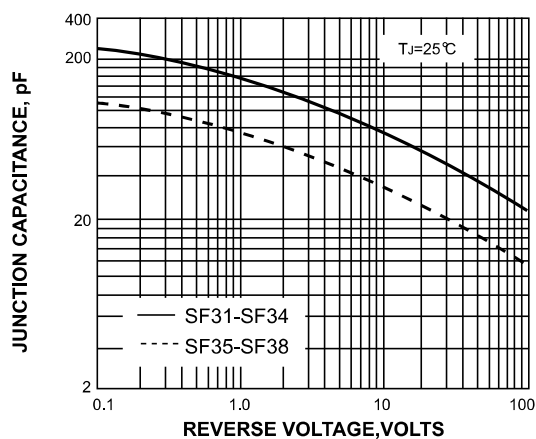
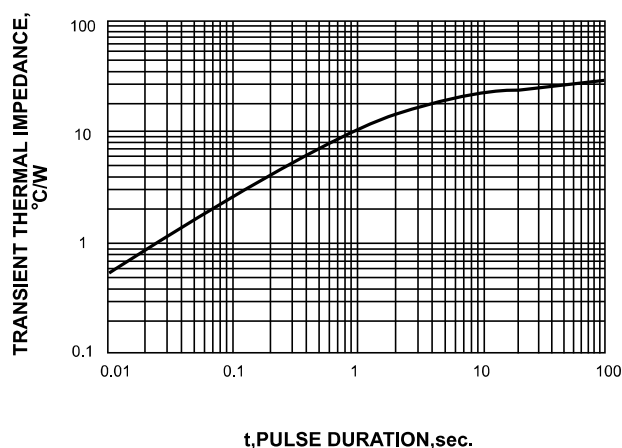


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



Marking Code

Part Number	Marking code	Packaging
SF31	SF31	AMMO
SF32	SF32	AMMO
SF33	SF33	AMMO
SF34	SF34	AMMO
SF35	SF35	AMMO
SF36	SF36	AMMO
SF38	SF38	AMMO
SF31T	SF31	REEL
SF32T	SF32	REEL
SF33T	SF33	REEL
SF34T	SF34	REEL
SF35T	SF35	REEL
SF36T	SF36	REEL
SF38T	SF38	REEL
SF31B	SF31	BULK
SF32B	SF32	BULK
SF33B	SF33	BULK
SF34B	SF34	BULK
SF35B	SF35	BULK
SF36B	SF36	BULK
SF38B	SF38	BULK



XX = 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	BULK PACK
	BOX (pcs)
DO-201AD	200

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

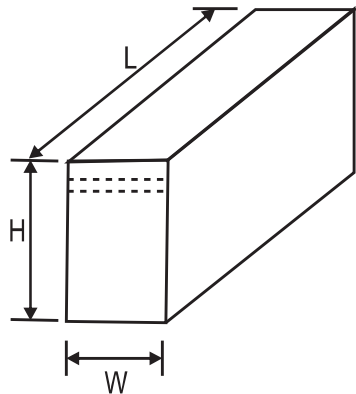
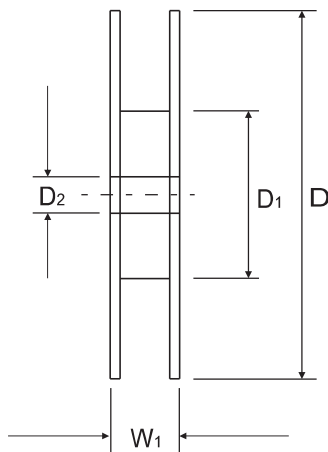
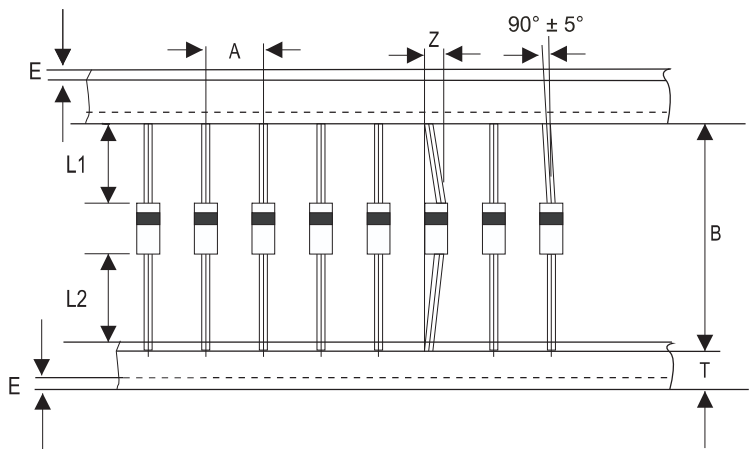
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Taping Specification For Axial Lead Diodes



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