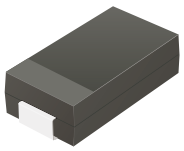
ATVJ10BxxxJ(B)-HF Series

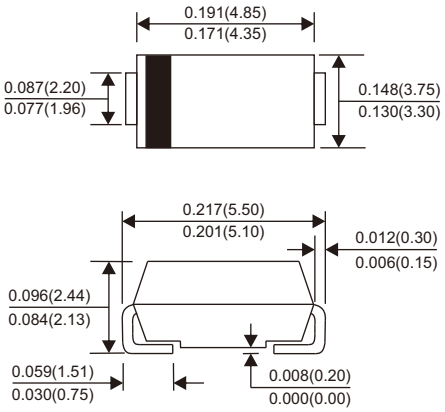
Reverse Voltage: 15 to 40 V
Peak Pulse Power: 1000 W
RoHS Device
Halogen Free



Features

- Glass passivated chip.
- 1000W peak pulse power capability with a 10/1000μs waveform, repetitive rate (duty cycle): 0.01%.
- Low leakage.
- Uni and Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.
- AEC-Q101 Qualified.

SMB/DO-214AA

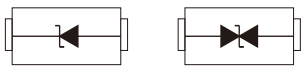


Dimensions in inches and (millimeter)

Mechanical Data

- Case: SMB/DO-214AA, molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Lead: Solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end except bipolar.
- Mounting position: Any.

Circuit Diagram



Uni-directional Bi-directional

Maximum Ratings and Electrical Characteristics

Rating 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	Value	Units
Peak power dissipation with a 10/1000μs waveform (Note 1)	P_{PP}	1000	W
Peak pulse current with a 10/1000μs waveform (Note 1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 75°C	P_D	5	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only (Note 2)	I_{FSM}	100	A
Maximum instantaneous forward voltage at 25A for unidirectional only	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Notes: 1. Non-repetitive current pulse per Fig.5 and derated above Ta=25°C per Fig.1.
2. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

Electrical Characteristics (T_A=25°C unless otherwise noted)

Part No.	Breakdown voltage V_{BR} @ I_T			Maximum Reverse Leakage @V_{RWM}	Working Peak Reverse Voltage	Maximum Reverse Surge Current	Maximum Clamping Voltage @I_{PP}	Device Marking Code	
	Min. (V)	Max. (V)	I_T (mA)	I_R (μA)	V_{RWM} (V)	I_{PP} (A)	V_C (V)	UNI	BI
ATVJ10B150J(B)-HF	16.70	18.50	1	1.0	15.0	40.98	24.4	PALM	DABM
ATVJ10B160J(B)-HF	17.80	19.70	1	1.0	16.0	38.46	26.0	PALP	DABP
ATVJ10B170J(B)-HF	18.90	20.90	1	1.0	17.0	36.23	27.6	PALR	DABR
ATVJ10B180J(B)-HF	20.00	22.10	1	1.0	18.0	34.25	29.2	PALT	DABT
ATVJ10B190J(B)-HF	21.10	23.30	1	1.0	19.0	32.49	30.8	PALB	DABB
ATVJ10B200J(B)-HF	22.20	24.50	1	1.0	20.0	30.86	32.4	PALV	DABV
ATVJ10B220J(B)-HF	24.40	26.90	1	1.0	22.0	28.17	35.5	PALX	DABX
ATVJ10B240J(B)-HF	26.70	29.50	1	1.0	24.0	25.71	38.9	PALZ	DABZ
ATVJ10B260J(B)-HF	28.90	31.90	1	1.0	26.0	23.75	42.1	PAME	DACE
ATVJ10B280J(B)-HF	31.10	34.40	1	1.0	28.0	22.03	45.4	PAMG	DACG
ATVJ10B300J(B)-HF	33.30	36.80	1	1.0	30.0	20.66	48.4	PAMK	DACK
ATVJ10B330J(B)-HF	36.70	40.60	1	1.0	33.0	18.76	53.3	PAMM	DACM
ATVJ10B360J(B)-HF	40.00	44.20	1	1.0	36.0	17.21	58.1	PAMP	DACP
ATVJ10B400J(B)-HF	44.40	49.10	1	1.0	40.0	15.50	64.5	PAMR	DACR

Notes: 1. Suffix “J” denotes 5% tolerance device.

2. Suffix “B” after part number to specify Bi-directional devices.

Typical Rating and Characteristics Curves (ATVJ10BxxxJ(B)-HF Series)

Fig.1 - Pulse Derating Curve

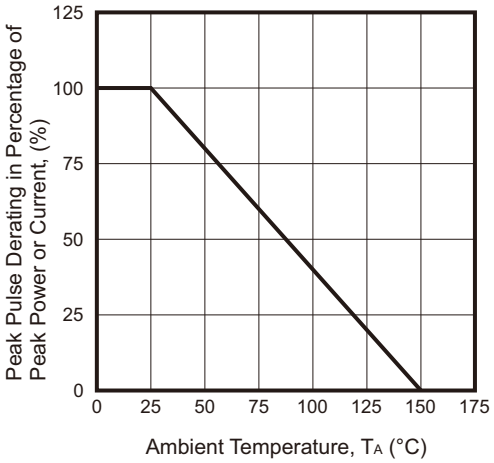


Fig.2 - Max. Non-Repetitive Surge Current

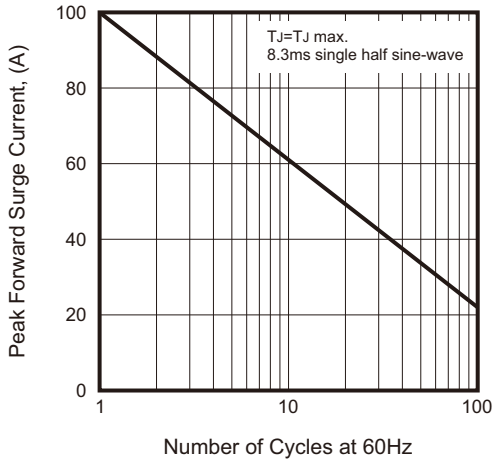


Fig.3 - Steady State Power Derating Curve

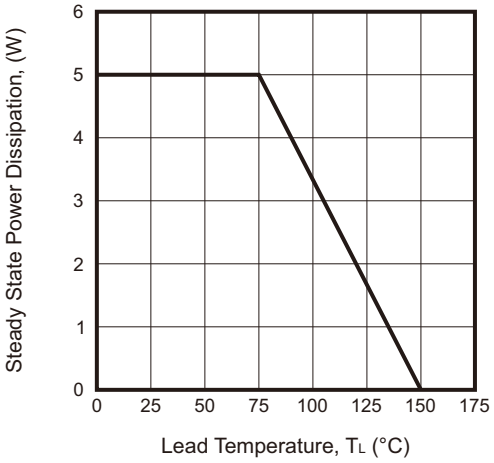


Fig.4 - Peak Pulse Power Rating Curve

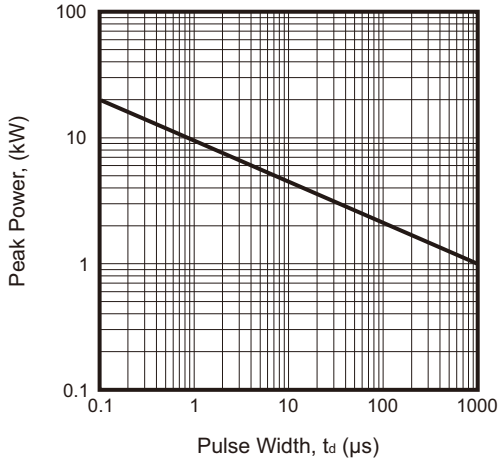


Fig.5 - Pulse Waveform

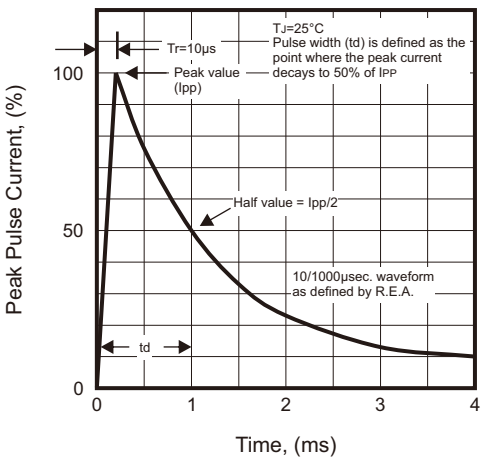
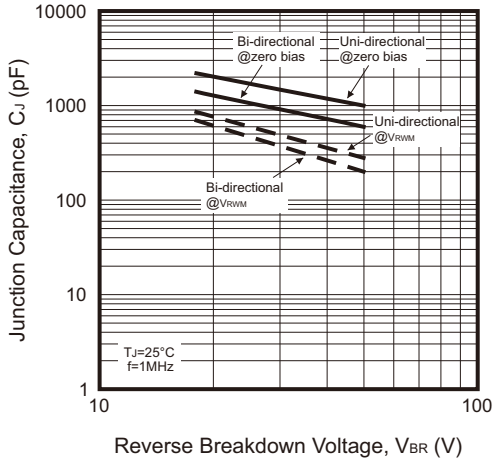
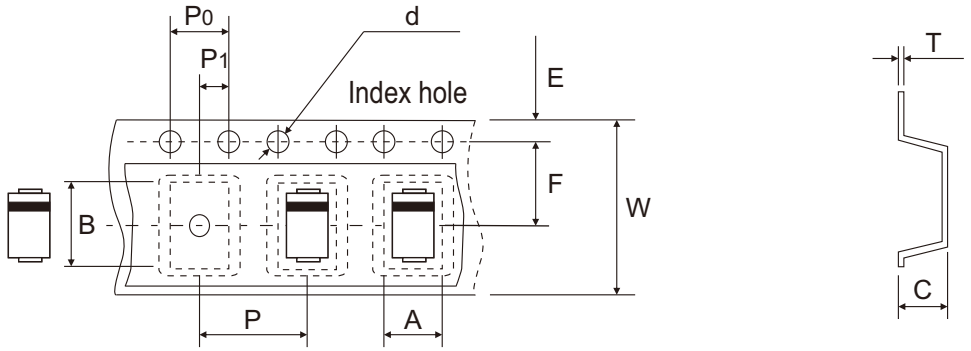
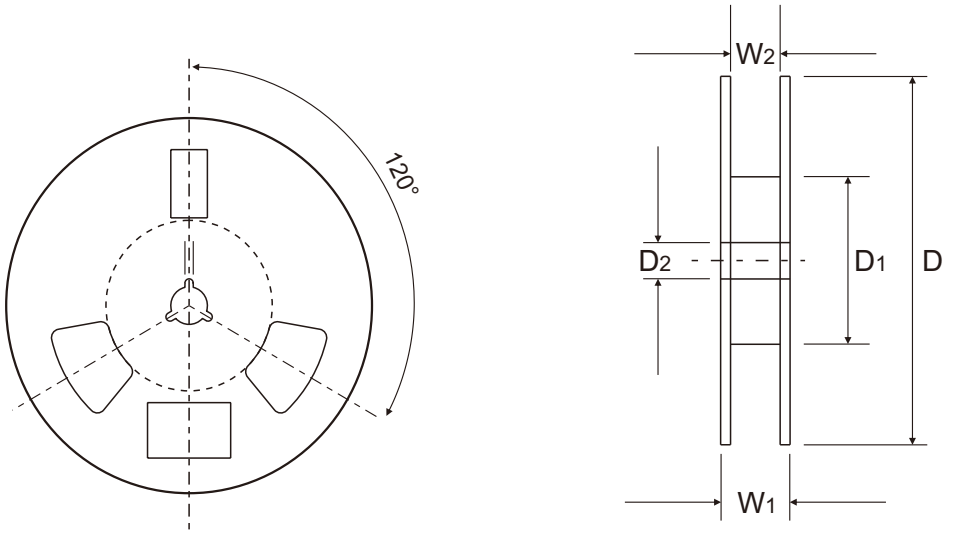


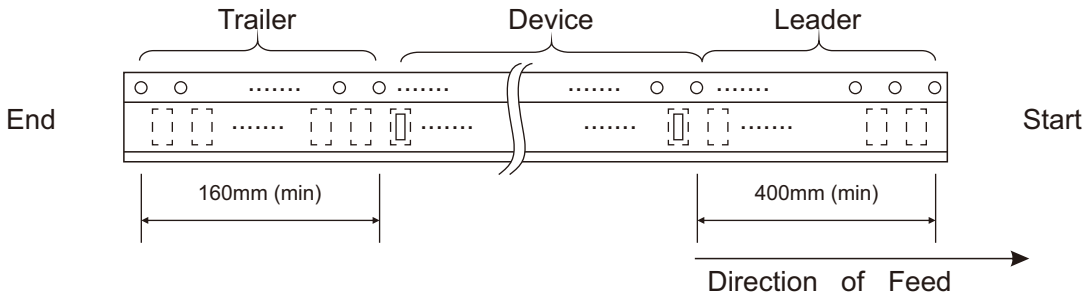
Fig.6 - Typical Junction Capacitance



Reel Taping Specification







	SYMBOL	A	B	C	d	D	D1	D2	E
DO-214AA (SMB)	(mm)	See Note 1			1.55 ± 0.05	330.00	50.00 (Min.)	13.00 ± 0.50	1.75 ± 0.05
	(inch)				0.061 ± 0.002	12.992	1.969 (Min.)	0.512 ± 0.020	0.069 ± 0.002

	SYMBOL	F	P	P0	P1	T	W	W1	W2
DO-214AA (SMB)	(mm)	5.50 ± 0.05	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.40 (Max.)	12.00 ± 0.10	18.40 (Max.)	14.40 (Max.)
	(inch)	0.217 ± 0.002	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.016 (Max.)	0.472 ± 0.004	0.724 (Max.)	0.567 (Max.)

Notes: 1. A, B, and C the clearance between the component and the cavity must be within 0.5mm max.
for 8mm tape and 12mm tape, 1.0mm max. for 16mm tape and 24mm tape.

Marking Code

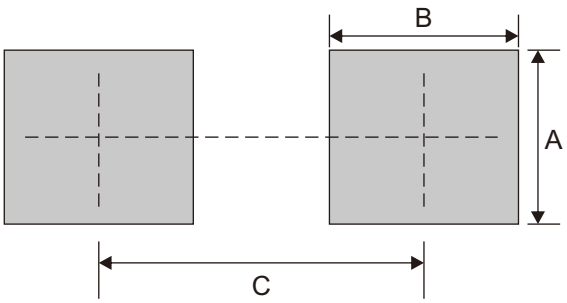
Part Number	Marking Code
ATVJ10B-HF Series	See Page.2

▌= Cathode band

xxxx = Marking code (see Page.2)

Suggested P.C.B. PAD Layout

SIZE	SMB/DO-214AA	
	(mm)	(inch)
A	2.30	0.091
B	2.50	0.098
C	4.30	0.169



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-214AA (SMB)	3,000	13