

Surface mount transient voltage suppressor power 600 watts

Stand-Off Voltage: 6.8V~68V

FEATURES

- ◆For surface mounted applications in order to optimize board space.
- ◆Low profile package.
- ◆Glass passivated junction.
- ◆Low inductance.
- ◆Plastic package has Underwriters Laboratory Flammability.

MECHANICAL DATA

- ◆Case: DO-214AA/SMB
- ◆Terminals: Solderable per MIL-STD-750, Method 2026
- ◆Approx. Weight: 0.1g / 0.0034oz

Maximum Ratings and Electrical characteristics

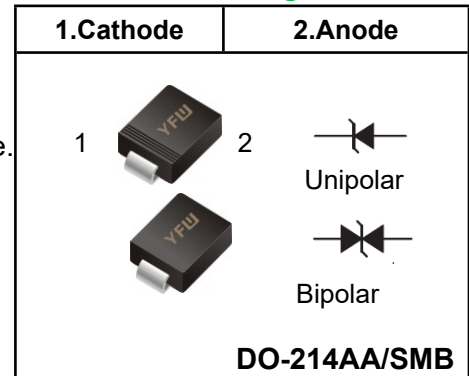
Ratings at 25 ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on TA=25°C (Note 1,2,5, Fig1)	P_{PPM}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 3, Fig4).	I_{FSM} (UNI)	100	A
Peak Pulse Current on 10/1000 us waveform (Note 1) Fig 3	I_{PPM}	see Table 1	A
ESD Voltage per IEC6100-4-2	Contact	V_{ESD1}	kV
	Air	V_{ESD2}	
Typical Junction Capacitance at VR=4V, f=1MHz	C_j	390	pF
Typical Thermal Resistance Junction to Ambient (Note 2)	R_{θJA}	100	°C/W
Operating Junction Temperature and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 5mm² copper pads to each terminal.
3. Peak Forward Surge Current : 8.3ms single half sine-wave Superimposed on rated load (JEDEC method).
4. Peak pulse power waveform is 10/1000µS.

Pinning



Type		Marking		V_{RMW}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					$V_{BR} @ I_T$					
					Min	Max				
Uni	Bi	Uni	Bi	V	V	V	mA	μA	V	A
SMBJ6V8A	SMBJ6V8CA	6V8A	6V8CA	5.8	6.45	7.14	10	1000	10.5	58.1
SMBJ7V5A	SMBJ7V5CA	7V5A	7V5CA	6.4	7.13	7.88	10	500	11.3	54
SMBJ8V2A	SMBJ8V2CA	8V2A	8V2CA	7.02	7.79	8.61	10	200	12.1	50.4
SMBJ9V1A	SMBJ9V1CA	9V1A	9V1CA	7.78	8.65	9.55	1	50	13.4	45.5
SMBJ10A	SMBJ10CA	10A	10CA	8.55	9.5	10.5	1	10	14.5	42.1
SMBJ11A	SMBJ11CA	11A	11CA	9.4	10.5	11.6	1	5	15.6	39.1
SMBJ12A	SMBJ12CA	12A	12CA	10.2	11.4	12.6	1	5	16.7	36.5
SMBJ13A	SMBJ13CA	13A	13CA	11.1	12.4	13.7	1	1	18.2	33.5
SMBJ15A	SMBJ15CA	15A	15CA	12.8	14.3	15.8	1	1	21.2	28.8
SMBJ16A	SMBJ16CA	16A	16CA	13.6	15.2	16.8	1	1	22.5	27.1
SMBJ18A	SMBJ18CA	18A	18CA	15.3	17.1	18.9	1	1	25.5	24.2
SMBJ20A	SMBJ20CA	20A	20CA	17.1	19	21	1	1	27.7	22
SMBJ22A	SMBJ22CA	22A	22CA	18.8	20.9	23.1	1	1	30.6	19.9
SMBJ24A	SMBJ24CA	24A	24CA	20.5	22.8	25.2	1	1	33.2	18.4
SMBJ27A	SMBJ27CA	27A	27CA	23.1	25.7	28.4	1	1	37.5	16.3
SMBJ30A	SMBJ30CA	30A	30CA	25.6	28.5	31.5	1	1	41.4	14.7
SMBJ33A	SMBJ33CA	33A	33CA	28.2	31.4	34.7	1	1	45.7	13.3
SMBJ36A	SMBJ36CA	36A	36CA	30.8	34.2	37.8	1	1	49.9	12.2
SMBJ39A	SMBJ39CA	39A	39CA	33.3	37.1	41	1	1	53.9	11.3
SMBJ43A	SMBJ43CA	43A	43CA	36.8	40.9	45.2	1	1	59.3	10.3
SMBJ47A	SMBJ47CA	47A	47CA	40.2	44.7	49.4	1	1	64.8	9.4
SMBJ51A	SMBJ51CA	51A	51CA	43.6	48.5	53.6	1	1	70.1	8.7
SMBJ56A	SMBJ56CA	56A	56CA	47.8	53.2	58.8	1	1	77	7.9
SMBJ58A	SMBJ58CA	58A	58CA	52.78	55.1	60.9	1	1	79.8	7.7
SMBJ62A	SMBJ62CA	62A	62CA	53	58.9	65.1	1	1	85	7.2
SMBJ68A	SMBJ68CA	68A	68CA	58.1	64.6	71.4	1	1	92	6.6

Fig.1 Peak Pulse Power Rating Curve



Fig.2 Forward Current Derating Curve



Fig.3 Pulse Waveform

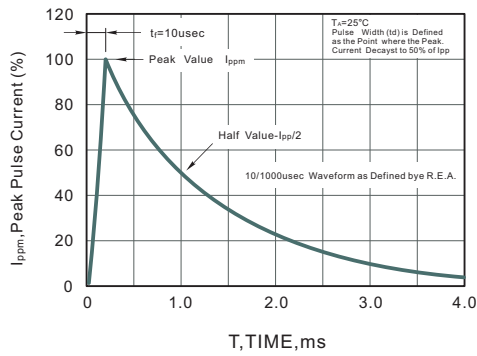
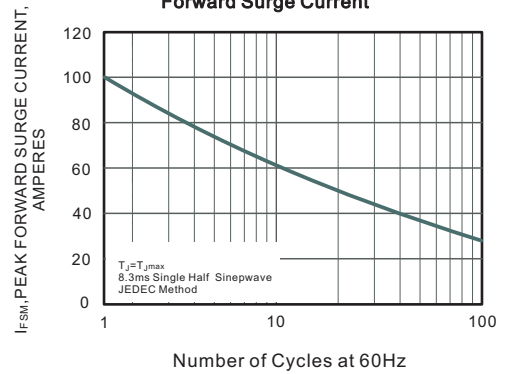


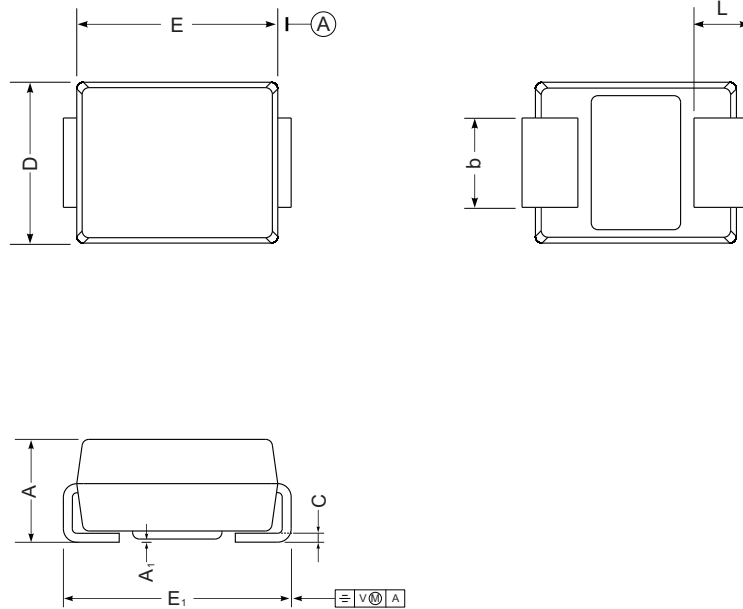
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

DO-214AA SMB

Plastic surface mounted package; 2 leads



UNIT		A	E	D	E ₁	A ₁	L	C	b
mm	max	2.44	4.70	3.94	5.59	0.20	1.5	0.305	2.2
	min	2.13	4.06	3.3	5.08	0.05	0.8	0.152	1.9
mil	max	96	185	155	220	7.9	59	12	87
	min	84	160	130	200	2.0	32	6	75

The recommended mounting pad size



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
DO-214AA SMB	Tape/Reel, 13" reel	3000	EIA-481-1