

Transient Voltage Suppressors 3000W DO-214AB

3.0SMCJ-E Series

MERITEK

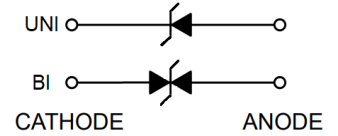
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{kV}$ (Air), $\pm 30\text{kV}$ (Contact)
- 3000W Peak Pulse Power (10/1000 μs Waveform)
- 5.0V to 220V Standoff Voltage
- Fast Response Time
- Excellent Clamping Capability
- Glass Passivated Junction
- UL Flammability Classification Rating: 94V-0



MECHANICAL DATA

- Case: DO-214AB, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Cathode End Except Bipolar



MAXIMUM RATINGS

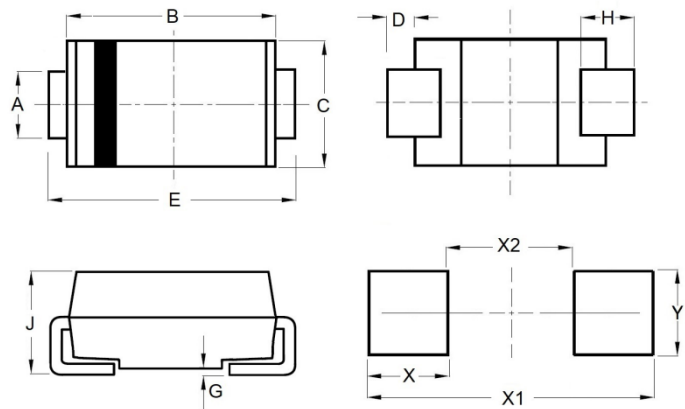
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation On 10/1000 μs Waveform	P_{PPM}	3000	W
Peak Pulse Current On 10/1000 μs Waveform	I_{PPM}	See Table	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	200	A
Operating Junction And Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	25	$^{\circ}\text{C/W}$

Note:

1. $T_A = 25^{\circ}\text{C}$ ambient temperature unless otherwise specified.
2. Non-repetitive current pulse, and derated above $T_A = 25^{\circ}\text{C}$.
3. Measured 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minute maximum.
4. A transient suppressor is selected according to the working peak reverse voltage (V_{RWM}), which should be equal to or greater than the DC or continuous peak operating voltage level.

DIMENSIONS

DO-214AB	Min (mm)	Max (mm)
A	2.75	3.25
B	6.60	7.11
C	5.59	6.22
D	0.152	0.305
E	7.75	8.13
G	0.051	0.203
H	0.76	1.52
J	2.00	2.62
X	3.03	
X1	9.90	
X2	3.84	
Y	3.82	



ELECTRICAL CHARACTERISTICS

Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current I _R (uA) @ V _{RWM}		Max Clamping Voltage	Reverse Surge Current
Uni-Polar	Bi-Polar		V _{RWM} (V)	V _{BR} Min(V)		V _{BR} Max(V)	Uni		
3.0SMCJ5.0-E	3.0SMCJ5.0C-E	5.0	6.40	7.55	10	1000	2000	9.6	312.5
3.0SMCJ5.0A-E	3.0SMCJ5.0CA-E	5.0	6.40	7.25	10	1000	2000	9.2	326.0
3.0SMCJ6.0-E	3.0SMCJ6.0C-E	6.0	6.67	8.45	10	1000	2000	11.4	263.2
3.0SMCJ6.0A-E	3.0SMCJ6.0CA-E	6.0	6.67	7.67	10	1000	2000	10.3	291.3
3.0SMCJ6.5-E	3.0SMCJ6.5C-E	6.5	7.22	9.14	10	500	1000	12.3	243.9
3.0SMCJ6.5A-E	3.0SMCJ6.5CA-E	6.5	7.22	8.30	10	500	1000	11.2	267.9
3.0SMCJ7.0-E	3.0SMCJ7.0C-E	7.0	7.78	9.86	10	200	400	13.3	225.6
3.0SMCJ7.0A-E	3.0SMCJ7.0CA-E	7.0	7.78	8.95	10	200	400	12.0	250.0
3.0SMCJ7.5-E	3.0SMCJ7.5C-E	7.5	8.33	10.67	1	100	200	14.3	209.8
3.0SMCJ7.5A-E	3.0SMCJ7.5CA-E	7.5	8.33	9.60	1	100	200	12.9	232.6
3.0SMCJ8.0-E	3.0SMCJ8.0C-E	8.0	8.89	11.30	1	50	100	15.0	200.0
3.0SMCJ8.0A-E	3.0SMCJ8.0CA-E	8.0	8.89	10.23	1	50	100	13.6	220.6
3.0SMCJ8.5-E	3.0SMCJ8.5C-E	8.5	9.44	11.92	1	25	50	15.9	188.8
3.0SMCJ8.5A-E	3.0SMCJ8.5CA-E	8.5	9.44	10.82	1	25	50	14.4	208.4
3.0SMCJ9.0-E	3.0SMCJ9.0C-E	9.0	10.0	12.6	1	10	20	16.9	177.4
3.0SMCJ9.0A-E	3.0SMCJ9.0CA-E	9.0	10.0	11.5	1	10	20	15.4	194.8
3.0SMCJ10-E	3.0SMCJ10C-E	10	11.1	14.1	1	3	3	18.8	159.6
3.0SMCJ10A-E	3.0SMCJ10CA-E	10	11.1	12.8	1	3	3	17.0	176.4
3.0SMCJ11-E	3.0SMCJ11C-E	11	12.2	15.4	1	3	3	20.1	149.2
3.0SMCJ11A-E	3.0SMCJ11CA-E	11	12.2	14.0	1	3	3	18.2	184.8
3.0SMCJ12-E	3.0SMCJ12C-E	12	13.3	16.9	1	3	3	22.0	136.4
3.0SMCJ12A-E	3.0SMCJ12CA-E	12	13.3	15.3	1	3	3	19.9	150.6
3.0SMCJ13-E	3.0SMCJ13C-E	13	14.4	18.2	1	3	3	23.8	126.0
3.0SMCJ13A-E	3.0SMCJ13CA-E	13	14.4	16.5	1	3	3	21.5	139.4
3.0SMCJ14-E	3.0SMCJ14C-E	14	15.6	19.8	1	3	3	25.8	116.2
3.0SMCJ14A-E	3.0SMCJ14CA-E	14	15.6	17.9	1	3	3	23.2	129.4
3.0SMCJ15-E	3.0SMCJ15C-E	15	16.7	21.1	1	3	3	26.9	111.6
3.0SMCJ15A-E	3.0SMCJ15CA-E	15	16.7	19.2	1	3	3	24.4	123.0
3.0SMCJ16-E	3.0SMCJ16C-E	16	17.8	22.6	1	3	3	28.8	104.2
3.0SMCJ16A-E	3.0SMCJ16CA-E	16	17.8	20.5	1	3	3	26.0	115.4
3.0SMCJ17-E	3.0SMCJ17C-E	17	18.9	23.9	1	3	3	30.5	98.4
3.0SMCJ17A-E	3.0SMCJ17CA-E	17	18.9	21.7	1	3	3	27.6	106.6
3.0SMCJ18-E	3.0SMCJ18C-E	18	20.0	25.3	1	3	3	32.2	93.2
3.0SMCJ18A-E	3.0SMCJ18CA-E	18	20.0	23.3	1	3	3	29.2	102.8
3.0SMCJ20-E	3.0SMCJ20C-E	20	22.2	28.1	1	3	3	35.8	83.8
3.0SMCJ20A-E	3.0SMCJ20CA-E	20	22.2	25.5	1	3	3	32.4	92.6
3.0SMCJ22-E	3.0SMCJ22C-E	22	24.4	30.9	1	3	3	39.4	76.2
3.0SMCJ22A-E	3.0SMCJ22CA-E	22	24.4	28.0	1	3	3	35.5	84.4
3.0SMCJ24-E	3.0SMCJ24C-E	24	26.7	33.8	1	3	3	43.0	69.8
3.0SMCJ24A-E	3.0SMCJ24CA-E	24	26.7	30.7	1	3	3	38.9	77.2
3.0SMCJ26-E	3.0SMCJ26C-E	26	28.9	36.6	1	3	3	46.6	64.4
3.0SMCJ26A-E	3.0SMCJ26CA-E	26	28.9	33.2	1	3	3	42.1	71.2
3.0SMCJ28-E	3.0SMCJ28C-E	28	31.1	39.4	1	3	3	50.0	60.0
3.0SMCJ28A-E	3.0SMCJ28CA-E	28	31.1	35.8	1	3	3	45.4	66.0
3.0SMCJ30-E	3.0SMCJ30C-E	30	33.3	42.2	1	3	3	53.5	56.0
3.0SMCJ30A-E	3.0SMCJ30CA-E	30	33.3	38.3	1	3	3	48.4	62.0
3.0SMCJ33-E	3.0SMCJ33C-E	33	36.7	46.5	1	3	3	59.0	50.4
3.0SMCJ33A-E	3.0SMCJ33CA-E	33	36.7	42.2	1	3	3	53.3	56.2
3.0SMCJ36-E	3.0SMCJ36C-E	36	40.0	50.7	1	3	3	64.3	46.6
3.0SMCJ36A-E	3.0SMCJ36CA-E	36	40.0	46.0	1	3	3	58.1	51.6
3.0SMCJ40-E	3.0SMCJ40C-E	40	44.4	56.3	1	3	3	71.4	42.0
3.0SMCJ40A-E	3.0SMCJ40CA-E	40	44.4	51.1	1	3	3	64.5	46.4

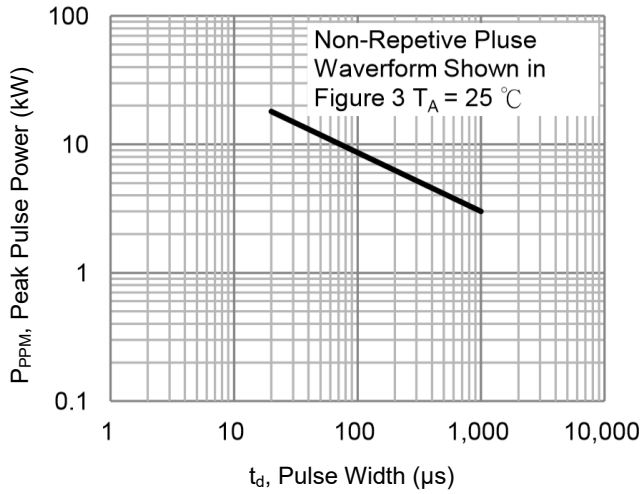
ELECTRICAL CHARACTERISTICS

Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current I _R (uA) @ V _{RWM}		Max Clamping Voltage V _C (V) @ I _{PP}	Reverse Surge Current I _{PP} (A) Max
Uni-Polar	Bi-Polar		V _{BR} Min(V)	V _{BR} Max(V)		Uni	Bi		
3.0SMCJ43-E	3.0SMCJ43C-E	43	47.8	60.5	1	3	3	76.7	39.2
3.0SMCJ43A-E	3.0SMCJ43CA-E	43	47.8	54.9	1	3	3	69.4	43.2
3.0SMCJ45-E	3.0SMCJ45C-E	45	50.0	63.3	1	3	3	80.3	37.4
3.0SMCJ45A-E	3.0SMCJ45CA-E	45	50.0	57.5	1	3	3	72.7	41.2
3.0SMCJ48-E	3.0SMCJ48C-E	48	53.3	67.5	1	3	3	85.5	35.0
3.0SMCJ48A-E	3.0SMCJ48CA-E	48	53.3	61.3	1	3	3	77.4	38.8
3.0SMCJ51-E	3.0SMCJ51C-E	51	56.7	71.8	1	3	3	91.1	37.0
3.0SMCJ51A-E	3.0SMCJ51CA-E	51	56.7	65.2	1	3	3	82.4	36.4
3.0SMCJ54-E	3.0SMCJ54C-E	54	60.0	76.0	1	3	3	96.3	31.2
3.0SMCJ54A-E	3.0SMCJ54CA-E	54	60.0	69.0	1	3	3	87.1	34.4
3.0SMCJ58-E	3.0SMCJ58C-E	58	64.4	81.6	1	3	3	103.0	39.2
3.0SMCJ58A-E	3.0SMCJ58CA-E	58	64.4	74.1	1	3	3	93.6	32.0
3.0SMCJ60-E	3.0SMCJ60C-E	60	66.7	84.5	1	3	3	107	28.0
3.0SMCJ60A-E	3.0SMCJ60CA-E	60	66.7	76.7	1	3	3	96.8	31.0
3.0SMCJ64-E	3.0SMCJ64C-E	64	71.1	90.1	1	3	3	114	26.4
3.0SMCJ64A-E	3.0SMCJ64CA-E	64	71.1	81.8	1	3	3	103	29.2
3.0SMCJ70-E	3.0SMCJ70C-E	70	77.8	98.6	1	3	3	125	24.0
3.0SMCJ70A-E	3.0SMCJ70CA-E	70	77.8	89.5	1	3	3	113	26.6
3.0SMCJ75-E	3.0SMCJ75C-E	75	83.3	105.7	1	3	3	134	22.4
3.0SMCJ75A-E	3.0SMCJ75CA-E	75	83.3	95.8	1	3	3	121	24.8
3.0SMCJ78-E	3.0SMCJ78C-E	78	86.7	109.8	1	3	3	139	21.6
3.0SMCJ78A-E	3.0SMCJ78CA-E	78	86.7	99.7	1	3	3	126	22.8
3.0SMCJ85-E	3.0SMCJ85C-E	85	94.4	119.2	1	3	3	151	19.8
3.0SMCJ85A-E	3.0SMCJ85CA-E	85	94.4	108.2	1	3	3	137	20.8
3.0SMCJ90-E	3.0SMCJ90C-E	90	100	126.5	1	3	3	160	18.8
3.0SMCJ90A-E	3.0SMCJ90CA-E	90	100	115.5	1	3	3	146	20.6
3.0SMCJ100-E	3.0SMCJ100C-E	100	111	141.0	1	3	3	179	16.6
3.0SMCJ100A-E	3.0SMCJ100CA-E	100	111	128.0	1	3	3	162	18.6
3.0SMCJ110-E	3.0SMCJ110C-E	110	122	154.5	1	3	3	196	15.4
3.0SMCJ110A-E	3.0SMCJ110CA-E	110	122	140.5	1	3	3	177	16.8
3.0SMCJ120-E	3.0SMCJ120C-E	120	133	169.0	1	3	3	214	14.0
3.0SMCJ120A-E	3.0SMCJ120CA-E	120	133	153.0	1	3	3	193	15.6
3.0SMCJ130-E	3.0SMCJ130C-E	130	144	182.5	1	3	3	231	13.0
3.0SMCJ130A-E	3.0SMCJ130CA-E	130	144	165.5	1	3	3	209	14.4
3.0SMCJ150-E	3.0SMCJ150C-E	150	167	211.5	1	3	3	268	11.2
3.0SMCJ150A-E	3.0SMCJ150CA-E	150	167	192.5	1	3	3	243	12.4
3.0SMCJ160-E	3.0SMCJ160C-E	160	178	226.0	1	3	3	287	10.4
3.0SMCJ160A-E	3.0SMCJ160CA-E	160	178	205.0	1	3	3	259	11.6
3.0SMCJ170-E	3.0SMCJ170C-E	170	189	239.5	1	3	3	304	9.8
3.0SMCJ170A-E	3.0SMCJ170CA-E	170	189	217.5	1	3	3	275	11.0
3.0SMCJ180-E	3.0SMCJ180C-E	180	198	253.8	1	3	3	322	9.3
3.0SMCJ180A-E	3.0SMCJ180CA-E	180	198	230.4	1	3	3	292	10.3
3.0SMCJ190-E	3.0SMCJ190C-E	190	209	267.9	1	3	3	340	8.8
3.0SMCJ190A-E	3.0SMCJ190CA-E	190	209	243.2	1	3	3	308	9.7
3.0SMCJ200-E	3.0SMCJ200C-E	200	220	282.0	1	3	3	358	8.4
3.0SMCJ200A-E	3.0SMCJ200CA-E	200	220	256.0	1	3	3	324	9.3
3.0SMCJ210-E	3.0SMCJ210C-E	210	231	296.1	1	3	3	376	7.8
3.0SMCJ210A-E	3.0SMCJ210CA-E	210	231	268.8	1	3	3	340	8.8
3.0SMCJ220-E	3.0SMCJ220C-E	220	242	310.2	1	3	3	394	7.6
3.0SMCJ220A-E	3.0SMCJ220CA-E	220	242	281.6	1	3	3	356	8.4

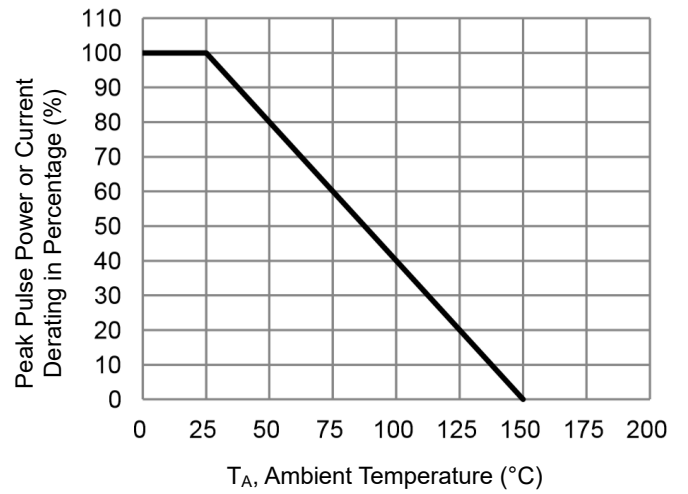
Note: T_A = 25°C ambient temperature unless otherwise specified.

CHARACTERISTIC CURVES

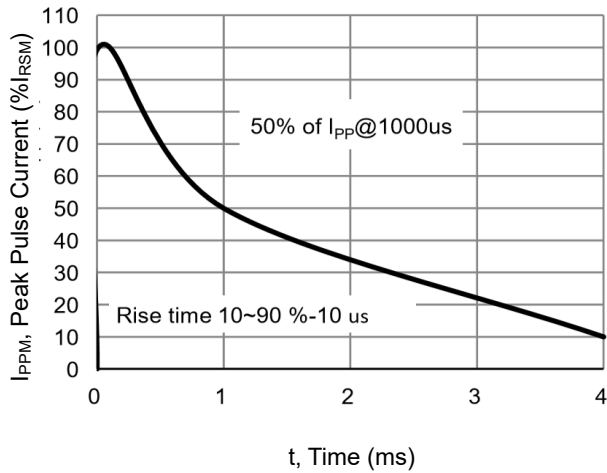
Peak Pulse Power Rating Curve



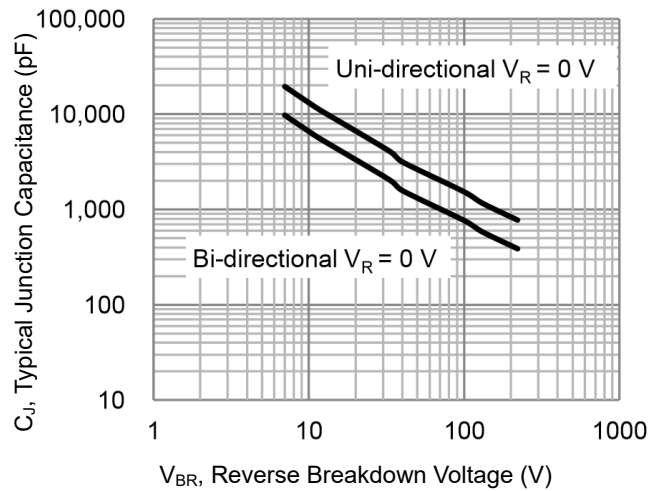
Pulse Derating Curve



Pulse Waveform



Typical Junction Capacitance



*Specifications subject to change without notice.