

Transient Voltage Suppressors

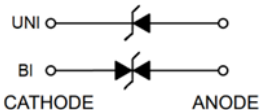
1500W SMBF AEC-Q101

SMBF15J-A Series

MERITEK

FEATURE

- 5.0V to 440V Standoff Voltage
- 1500W Peak Pulse Power Capability (10/1000 μ s)
- Glass Passivated Die Construction
- Excellent Clamping Capability
- Fast Response Time
- Low Incremental Surge Resistance
- AEC-Q101 Compliance



MECHANICAL DATA

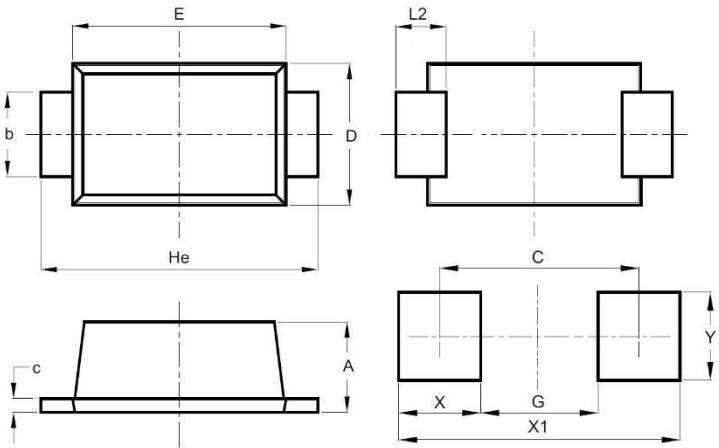
- Case: SMBF, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-202, Method 208
- UL Flammability Classification Rating: 94V-0
- Polarity: Color Band Denotes Cathode End Except Bipolar

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Peak Power Dissipation with 10/1000 μ s Waveform	P_{PPM}	1500	W
Peak Pulse Current with 10/1000 μ s Waveform	I_{PP}	See Table	A
Power Dissipation at $T_L = 75^\circ\text{C}$	P_D	5	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave for Unidirectional Only	I_{FSM}	200	A
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

DIMENSIONS

Item	Min (mm)	Max (mm)
A	2.05	2.35
b	1.85	2.15
c	0.12	0.28
D	3.90	4.50
E	4.65	5.15
He	5.60	6.00
L2	0.60	-
C	5.20	
G	3.20	
X	2.00	
X1	7.20	
Y	2.30	



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ELECTRICAL CHARACTERISTICS

Part Number		Reverse Standoff Voltage	Max. Reverse Leakage Current @ V_{RWM}	Breakdown Voltage @ I_T		Test Current	Max. Clamping Voltage @ I_{PP}	
Uni-Polar	Bi-Polar	V_{RWM} (V)	I_R (μ A)	$V_{BR,MIN}$ (V)	$V_{BR,MAX}$ (V)	I_T (mA)	V_C (V)	I_{PP} (A)
SMBF15J5.0A-A	SMBF15J5.0CA-A	5.0	300	6.40	7.00	10	9.2	163.0
SMBF15J6.0A-A	SMBF15J6.0CA-A	6.0	250	6.67	7.37	10	10.3	145.6
SMBF15J6.5A-A	SMBF15J6.5CA-A	6.5	150	7.22	7.98	10	11.2	134.0
SMBF15J7.0A-A	SMBF15J7.0CA-A	7.0	100	7.78	8.60	10	12.0	125.0
SMBF15J7.5A-A	SMBF15J7.5CA-A	7.5	50	8.33	9.21	10	12.9	116.3
SMBF15J8.0A-A	SMBF15J8.0CA-A	8.0	30	8.89	9.83	1.0	13.6	110.3
SMBF15J8.5A-A	SMBF15J8.5CA-A	8.5	20	9.44	10.40	1.0	14.4	104.2
SMBF15J9.0A-A	SMBF15J9.0CA-A	9.0	10	10.00	11.10	1.0	15.4	97.4
SMBF15J10A-A	SMBF15J10CA-A	10.0	5.0	11.10	12.30	1.0	17.0	88.2
SMBF15J11A-A	SMBF15J11CA-A	11.0	2.0	12.20	13.50	1.0	18.2	82.4
SMBF15J12A-A	SMBF15J12CA-A	12.0	1.0	13.30	14.70	1.0	19.9	75.4
SMBF15J13A-A	SMBF15J13CA-A	13.0	1.0	14.40	15.90	1.0	21.5	69.8
SMBF15J14A-A	SMBF15J14CA-A	14.0	1.0	15.60	17.20	1.0	23.2	64.7
SMBF15J15A-A	SMBF15J15CA-A	15.0	1.0	16.70	18.50	1.0	24.4	61.5
SMBF15J16A-A	SMBF15J16CA-A	16.0	1.0	17.80	19.70	1.0	26.0	57.7
SMBF15J17A-A	SMBF15J17CA-A	17.0	1.0	18.90	20.90	1.0	27.6	54.4
SMBF15J18A-A	SMBF15J18CA-A	18.0	1.0	20.00	22.10	1.0	29.2	51.4
SMBF15J20A-A	SMBF15J20CA-A	20.0	1.0	22.20	24.50	1.0	32.4	46.3
SMBF15J22A-A	SMBF15J22CA-A	22.0	1.0	24.40	26.90	1.0	35.3	42.3
SMBF15J24A-A	SMBF15J24CA-A	24.0	1.0	26.70	29.50	1.0	38.9	38.6
SMBF15J26A-A	SMBF15J26CA-A	24.0	1.0	28.90	31.90	1.0	42.1	35.6
SMBF15J28A-A	SMBF15J28CA-A	26.0	1.0	31.10	34.40	1.0	45.4	33.1
SMBF15J30A-A	SMBF15J30CA-A	28.0	1.0	33.30	36.80	1.0	48.4	31.0
SMBF15J33A-A	SMBF15J33CA-A	30.0	1.0	33.70	40.60	1.0	53.3	28.2
SMBF15J36A-A	SMBF15J36CA-A	33.0	1.0	36.70	44.90	1.0	58.1	25.8
SMBF15J40A-A	SMBF15J40CA-A	36.0	1.0	40.00	44.20	1.0	64.5	23.3
SMBF15J43A-A	SMBF15J43CA-A	40.0	1.0	44.40	54.30	1.0	69.4	21.6
SMBF15J45A-A	SMBF15J45CA-A	43.0	1.0	47.80	58.40	1.0	72.7	20.6
SMBF15J48A-A	SMBF15J48CA-A	48.0	1.0	53.30	58.90	1.0	77.4	19.4
SMBF15J51A-A	SMBF15J51CA-A	51.0	1.0	56.70	62.70	1.0	82.4	18.2
SMBF15J54A-A	SMBF15J54CA-A	54.0	1.0	60.00	66.30	1.0	87.1	17.2
SMBF15J58A-A	SMBF15J58CA-A	58.0	1.0	64.40	71.20	1.0	93.6	16.1
SMBF15J60A-A	SMBF15J60CA-A	60.0	1.0	66.70	73.70	1.0	96.8	15.5
SMBF15J64A-A	SMBF15J64CA-A	64.0	1.0	71.10	78.60	1.0	103.0	14.6
SMBF15J70A-A	SMBF15J70CA-A	70.0	1.0	77.80	86.00	1.0	113.0	13.3
SMBF15J75A-A	SMBF15J75CA-A	75.0	1.0	83.30	92.10	1.0	121.0	12.4
SMBF15J78A-A	SMBF15J78CA-A	78.0	1.0	86.70	95.80	1.0	126.0	11.9
SMBF15J85A-A	SMBF15J85CA-A	85.0	1.0	94.40	104.00	1.0	137.0	11.0
SMBF15J90A-A	SMBF15J90CA-A	90.0	1.0	100.00	111.00	1.0	146.0	10.3
SMBF15J100A-A	SMBF15J100CA-A	100.0	1.0	111.00	123.00	1.0	162.0	9.3
SMBF15J110A-A	SMBF15J110CA-A	110.0	1.0	122.00	135.00	1.0	177.0	8.5
SMBF15J120A-A	SMBF15J120CA-A	120.0	1.0	133.00	147.00	1.0	193.0	7.8
SMBF15J130A-A	SMBF15J130CA-A	130.0	1.0	144.00	159.00	1.0	209.0	7.2
SMBF15J150A-A	SMBF15J150CA-A	150.0	1.0	167.00	185.00	1.0	243.0	6.2

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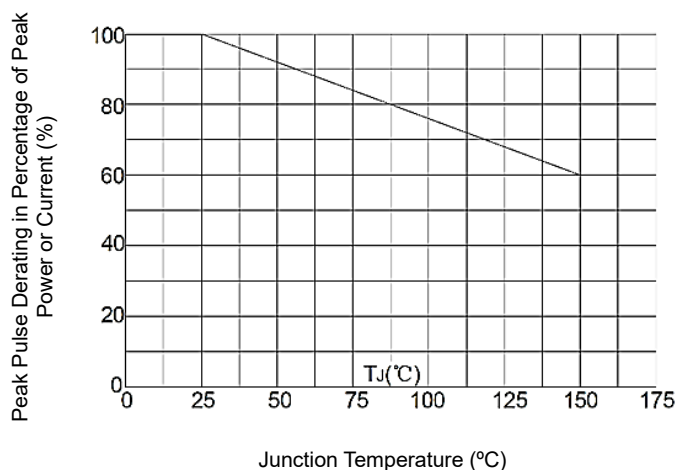
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Uni-Polar	Bi-Polar	V_{RWM} (V)	I_R (μ A)	$V_{BR,MIN}$ (V)	$V_{BR,MAX}$ (V)	I_T (mA)	V_C (V)	I_{PP} (A)
SMBF15J160A-A	SMBF15J160CA-A	160.0	1.0	178.00	197.00	1.0	259.0	5.8
SMBF15J170A-A	SMBF15J170CA-A	170.0	1.0	189.00	209.00	1.0	275.0	5.5
SMBF15J180A-A	SMBF15J180CA-A	180.0	1.0	200.00	220.00	1.0	292.0	5.2
SMBF15J190A-A	SMBF15J190CA-A	190.0	1.0	211.00	232.00	1.0	307.0	4.9
SMBF15J200A-A	SMBF15J200CA-A	200.0	1.0	224.00	247.00	1.0	324.0	4.7
SMBF15J210A-A	SMBF15J210CA-A	210.0	1.0	246.00	272.00	1.0	337.0	4.5
SMBF15J220A-A	SMBF15J220CA-A	220.0	1.0	246.00	272.00	1.0	356.0	4.2
SMBF15J250A-A	SMBF15J250CA-A	250.0	1.0	279.00	309.00	1.0	405.0	3.7
SMBF15J300A-A	SMBF15J300CA-A	300.0	1.0	335.00	371.00	1.0	486.0	3.1
SMBF15J350A-A	SMBF15J350CA-A	350.0	1.0	391.00	432.00	1.0	567.0	2.6
SMBF15J400A-A	SMBF15J400CA-A	400.0	1.0	447.00	494.00	1.0	648.0	2.3
SMBF15J440A-A	SMBF15J440CA-A	440.0	1.0	492.00	543.00	1.0	713.0	2.1

Note:

1. $T_A=25^{\circ}\text{C}$. unless otherwise noted.

CHARACTERISTIC CURVES

Pulse Derating Curve



Pulse Waveform

