Silicon Avalanche Diodes

1000W Surface Mount Transient Voltage Suppressor

RoHS 1KSMBJ Series

The 1KSMBJ range of surface mount protectors utilizes the proven glass passivated technology used in many Littelfuse product portfolios. Rated at 1000 watts (10 x 1000 µs double exponential waveform), the 1KSMBJ bridges the gap left by traditional types rated at 600 watts and 1500 watts, suiting many applications where both power handling and size are paramount. The extremely fast turn-on time (less than one pico second), coupled with the low clamping factor and low on-state impedance, make this range ideal for the protection of today's circuits. Our specially selected range of voltages has been chosen to fulfill optimum protection for use in automotive and telecom applications.



FEATURES

- RoHS Compliant
- Available in breakdown voltages from 6.8v. to 160v; specially designed for automotive applications
- Response time: $1x10^{-12}$ secs (theoretical)
- Glass passivated junction
- Offers high-surge rating in compact package: bridges the gap between 600W and 1.5KW
- Forward surge rating: 100A 8.3ms single half sine wave
- 100% tested
- Operating temperature: -55°C to +150°C

Agency Approvals: Recognized under the Components Program of Underwriters Laboratories.

Agnecy File Numbers: E128662

Mechanical Specifications:

Weight:	0.093 grammes (approx)
Case:	DO-214AA Outline moulded plastic over glass passivated junction. UL 94 V-0 rated
Terminals:	Solderable to MIL-STD-750 Method 2026
Solderable Leads:	23°C for 10 seconds
Marking:	Cathode band, device code logo
Standard Packaging:	Supplied on reels of 3000 pieces. Tape width 12mm. Follows requirements of EIA 481-1

ORDERING INFORMATION

SMBJ | | | | C | A

- Voltage
- Bi-Directional
- 5% Voltage Tolerance

Tape and reeled (3000 pcs)

RoHS 1KSMBJ Series

ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Number	Device Code	Reverse Stand Off Voltage V_R	Breakdown Voltage V_{BR} (Volts) @ I_T			Maximum Reverse Leakage I_R @ V_R	Maximum Clamping Voltage V_C @ I_{PP}	Maximum Peak Pulse Current I_{PP}
		(Volts)	MIN	MAX	I_T (mA)	(µA)	(Volts)	(A)
1KSMBJ 6.8	N10A	5.50	6.12	7.46	10.0	1000.0 (4)	10.8	92.5
1KSMBJ 6.8A	N10B	5.80	6.45	7.14	10.0	1000.0 (4)	10.5	95.0
1KSMBJ 7.5	N10C	6.05	6.75	8.25	10.0	500.0 (4)	11.7	85.0
1KSMBJ 7.5A	N10D	6.40	7.13	7.88	10.0	500.0 (4)	11.3	88.3
1KSMBJ 8.2	N10E	6.63	7.38	9.02	10.0	200.0 (4)	12.5	80.0
1KSMBJ 8.2A	N10F	7.02	7.79	8.61	10.0	200.0 (4)	12.1	83.3
1KSMBJ 9.1	N10G	7.37	8.19	10.0	1.0	50.0 (4)	13.8	73.3
1KSMBJ 9.1A	N10H	7.78	8.65	9.55	1.0	50.0 (4)	13.4	75.0
1KSMBJ 10	N10I	8.10	9.00	11.0	1.0	10.0 (4)	15.0	66.7
1KSMBJ 10A	N10J	8.55	9.50	10.5	1.0	10.0 (4)	14.5	68.3
1KSMBJ 11	N10K	8.92	9.90	12.1	1.0	5.0 (4)	16.2	61.7
1KSMBJ 11A	N10L	9.40	10.5	11.6	1.0	5.0 (4)	15.6	63.3
1KSMBJ 12	N10M	9.72	10.80	13.2	1.0	5.0 (4)	17.3	58.3
1KSMBJ 12A	N10N	10.2	11.4	12.6	1.0	5.0	16.7	60.0
1KSMBJ 13	N10O	10.5	11.7	14.3	1.0	5.0	19.0	53.3
1KSMBJ 13A	N10P	11.1	12.4	13.7	1.0	5.0	18.2	55.0
1KSMBJ 15	N10Q	12.1	13.5	16.5	1.0	5.0	22.0	45.0
1KSMBJ 15A	N10R	12.8	14.3	15.8	1.0	5.0	21.2	46.7
1KSMBJ 16	N10S	12.9	14.4	17.6	1.0	5.0	23.5	43.3
1KSMBJ 16A	N10T	13.6	15.2	16.8	1.0	5.0	22.5	45.0
1KSMBJ 18	N10U	14.5	16.2	19.8	1.0	5.0	26.5	38.0
1KSMBJ 18A	N10V	15.3	17.1	18.9	1.0	5.0	25.2	40.0
1KSMBJ 20	N10W	16.2	18.0	22.0	1.0	5.0	29.1	35.0
1KSMBJ 20A	N10X	17.1	19.0	21.0	1.0	5.0	27.7	36.7
1KSMBJ 22	N10Y	17.8	19.8	24.2	1.0	5.0	31.9	31.7
1KSMBJ 22A	N10Z	18.8	20.9	23.1	1.0	5.0	30.6	33.3
1KSMBJ 24	O10A	19.4	21.6	26.4	1.0	5.0	34.7	28.3
1KSMBJ 24A	O10B	20.5	22.8	25.2	1.0	5.0	33.2	30.0
1KSMBJ 27	O10C	21.8	24.3	29.7	1.0	5.0	39.1	25.5
1KSMBJ 27A	O10D	23.1	25.7	28.4	1.0	5.0	37.5	26.7
1KSMBJ 30	O10E	24.3	27.0	33.0	1.0	5.0	43.5	22.9
1KSMBJ 30A	O10F	25.6	28.5	31.5	1.0	5.0	41.4	24.0
1KSMBJ 33	O10G	26.8	29.7	36.3	1.0	5.0	47.7	21.0
1KSMBJ 33A	O10H	28.2	31.4	34.7	1.0	5.0	45.7	22.0
1KSMBJ 36	O10I	29.1	32.4	39.6	1.0	5.0	52.0	19.2
1KSMBJ 36A	O10J	30.8	34.2	37.8	1.0	5.0	49.9	20.0

Notes:
1. All testing is performed at Tamb = 25˚C (+/- 3˚C)
2. Bv is measured using a pulse of 20 milliseconds or less
3. Ir is doubled for Bi-directional devices only with VR equal or less than 10 volts
4. Peak Pulse Current is quoted @ 10/1000 µsec
5. All parameters are stated as tested on a FET Tester Model 3400
6. Devices are uni-directional. Vf is not specified.

RoHS 1KSMBJ Series

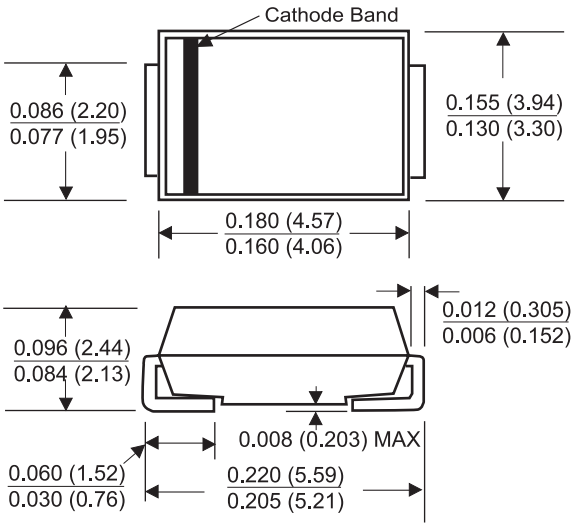
ELECTRICAL SPECIFICATION @ Tamb 25°C

Part Number	Device Code	Reverse Stand Off Voltage V_R	Breakdown Voltage V_{BR} (Volts) @ I_T			Maximum Reverse Leakage I_R @ V_R	Maximum Clamping Voltage V_C @ I_{PP}	Maximum Peak Pulse Current I_{PP}
		(Volts)	MIN	MAX	I_T (mA)	(µA)	(Volts)	(A)
1KSMBJ 39	O10K	31.6	35.1	42.9	1.0	5.0	56.4	17.5
1KSMBJ 39A	O10L	33.3	37.1	41.0	1.0	5.0	53.9	18.7
1KSMBJ 43	O10M	34.8	38.7	47.3	1.0	5.0	61.9	16.0
1KSMBJ 43A	O10N	36.8	40.9	45.2	1.0	5.0	59.3	16.8
1KSMBJ 47	O10O	38.1	42.3	51.7	1.0	5.0	67.8	14.8
1KSMBJ 47A	O10P	40.2	44.7	49.4	1.0	5.0	64.8	15.5
1KSMBJ 51	O10Q	41.3	45.9	56.1	1.0	5.0	73.5	13.7
1KSMBJ 51A	O10R	43.6	48.5	53.6	1.0	5.0	70.1	14.3
1KSMBJ 56	O10S	45.4	50.4	61.6	1.0	5.0	80.5	12.3
1KSMBJ 56A	O10T	47.8	53.2	58.8	1.0	5.0	77.0	13.0
1KSMBJ 62	O10U	50.2	55.8	68.2	1.0	5.0	89.0	11.3
1KSMBJ 62A	O10V	53.0	58.9	65.1	1.0	5.0	85.0	11.8
1KSMBJ 68	O10W	55.1	61.2	74.8	1.0	5.0	98.0	10.2
1KSMBJ 68A	O10X	58.1	64.6	71.4	1.0	5.0	92.0	10.8
1KSMBJ 75	O10Y	60.7	67.5	82.5	1.0	5.0	108.0	9.2
1KSMBJ 75A	O10Z	64.1	71.3	78.8	1.0	5.0	103.0	9.7
1KSMBJ 82	P10A	66.4	73.8	90.2	1.0	5.0	118.0	8.5
1KSMBJ 82A	P10B	70.1	77.9	86.1	1.0	5.0	113.0	8.8
1KSMBJ 91	P10C	73.7	81.9	100.0	1.0	5.0	131.0	7.5
1KSMBJ 91A	P10D	77.8	86.5	95.5	1.0	5.0	125.0	8.0
1KSMBJ 100	P10E	81.0	90.0	110.0	1.0	5.0	144.0	7.0
1KSMBJ 100A	P10F	85.5	95.0	105.0	1.0	5.0	137.0	7.3
1KSMBJ 110	P10G	89.2	99.0	121.0	1.0	5.0	158.0	6.3
1KSMBJ 110A	P10H	94.0	105.0	116.0	1.0	5.0	152.0	6.6
1KSMBJ 120	P10I	97.2	108.0	132.0	1.0	5.0	173.0	5.8
1KSMBJ 120A	P10J	102.0	114.0	126.0	1.0	5.0	165.0	6.1
1KSMBJ 130	P10K	105.0	117.0	143.0	1.0	5.0	187.0	5.3
1KSMBJ 130A	P10L	111.0	124.0	137.0	1.0	5.0	179.0	5.6
1KSMBJ 150	P10M	121.0	135.0	165.0	1.0	5.0	215.0	4.7
1KSMBJ 150A	P10N	128.0	143.0	158.0	1.0	5.0	207.0	4.8
1KSMBJ 160	P10O	130.0	144.0	176.0	1.0	5.0	230.0	4.3
1KSMBJ 160A	P10P	136.0	152.0	168.0	1.0	5.0	219.0	4.6

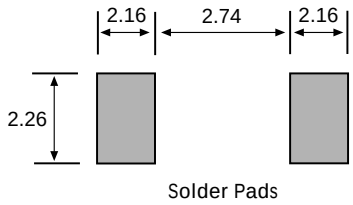
Notes:
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3. Ir is doubled for Bi-directional devices only with VR equal or less than 10 volts
4. Peak Pulse Current is quoted @ 10/1000 µsec
5. All parameters are stated as tested on a FET Tester Model 3400
6. Vf, for uni-directional devices, is measured using a 300 microsecond square wave pulse @ IT = 50A

RoHS 1KSMBJ Series

DO-214AA (SMB J-Bend)



Dimensions in inches and (millimeters)



Solder Pads

All dimensions in mm