

FEATURES:

- UNIDIRECTIONAL AND BIDIRECTIONAL SURFACE MOUNT TAZ
- 2000 WATTS PEAK POWER
- VOLTAGE RANGE: 5.0 TO 170 VOLTS
- LOW INDUCTANCE
- FOR SURFACE MOUNTING

DESCRIPTION:

This series of TAZ (transient absorption zeners) are available in surface mountable packages to optimize board space. Packaged for use with surface mount technology automated assembly equipment, these parts can be placed on printed circuit boards and ceramic substrates to protect sensitive components from transient voltage damage.

The HSMCJ series, rated for 2000 watts during a one millisecond pulse, can be used to protect sensitive circuits against transients induced by lightning and inductive load switching. With a response time of 1×10^{-12} seconds (theoretical), they are also effective against electrostatic discharge and NEMP.

MAXIMUM RATINGS:

- 2000 watts if Peak Power dissipation ($10 \times 1000\mu\text{s}$)
- Clamping (0 volts to $V_{(BR)}$ min): less than 1×10^{-12} seconds (theoretical)
- Forward surge rating: 200 Amps, 1/120 sec @ 25°C (Excluding Bidirectional)
- Operating and Storage Temperature: -55° to +150°C
- Note: A TAZ is normally selected according to the reverse "Stand Off Voltage" (V_{RM}) which should be equal to or greater than the dc or continuous peak operating voltage level.

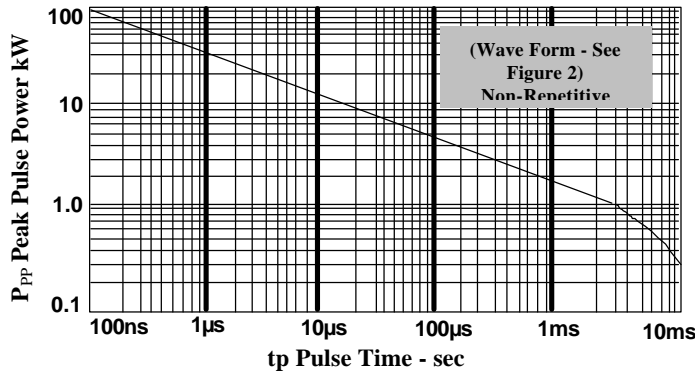


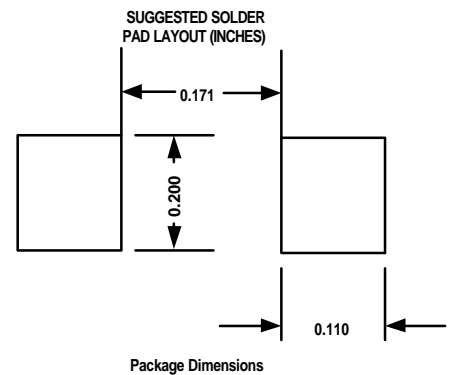
Figure 1
 Peak Pulse Power vs Pulse Time

**HSMCJ5.0
 thru
 HSMCJ170A**

5.0 thru 170 Volts
 2000 Watts
 Transient Absorption
 Zeners



MODIFIED
 DO-214AB



Package Dimensions
 Package Dimensions
 See Figure 5

**Mechanical
 Characteristics**

- CASE: Molded, Surface Mountable.
- TERMINALS: C-Bend (modified J-bend) leads, tin plated
- POLARITY: Cathode indicated by band. No markings on bidirectional devices.
- PACKAGING: 16mm tape (See EIA Std. RS-481.)
- THERMAL RESISTANCE: 10°C/W (typical) junction to lead (tab) at mounting plane.

HSMCJ5.0 thru HSMCJ170A

ELECTRICAL CHARACTERISTICS @ 25°C

MICROSEMI PART NUMBER	REVERSE STAND- OFF VOLTAGE (See Note) V _{WM} VOLTS	BREAKDOWN VOLTAGE			MAXIMUM CLAMPING VOLTAGE @ I _{PP} VOLTS	PEAK PULSE CURRENT (See Fig. 2) I _{PP} AMPS	MAXIMUM REVERSE LEAKAGE @ V _{WM} I _D μA
		V _{BR} @ I _T VOLTS	MIN.	MAX.			
HSMCJ5.0	5.0	6.40	7.30	10	9.6	207.7	1000
HSMCJ5.0A	5.0	6.40	7.00	10	9.2	216.8	1000
HSMCJ6.0	6.0	6.67	8.15	10	11.4	175.0	1000
HSMCJ6.0A	6.0	6.67	7.37	10	10.3	193.6	1000
HSMCJ6.5	6.5	7.22	8.82	10	12.3	162.3	500
HSMCJ6.5A	6.5	7.22	7.98	10	11.2	178.1	500
HSMCJ7.0	7.0	7.78	9.51	10	13.3	150.0	200
HSMCJ7.0A	7.0	7.78	8.60	10	12.0	166.3	200
HSMCJ7.5	7.5	8.33	10.20	1	14.3	139.5	100
HSMCJ7.5A	7.5	8.33	9.21	1	12.9	154.7	100
HSMCJ8.0	8.0	8.89	10.90	1	15.0	133.0	50
HSMCJ8.0A	8.0	8.89	9.83	1	13.6	146.7	50
HSMCJ8.5	8.5	9.44	11.5	1	15.9	125.4	25
HSMCJ8.5A	8.5	9.44	10.4	1	14.4	138.6	25
HSMCJ9.0	9.0	10.00	12.2	1	16.9	118.0	10
HSMCJ9.0A	9.0	10.00	11.1	1	15.4	129.5	10
HSMCJ10	10	11.1	13.6	1	18.8	106.1	5
HSMCJ10A	10	11.1	12.3	1	17.0	117.3	5
HSMCJ11	11	12.2	14.9	1	20.1	99.2	5
HSMCJ11A	11	12.2	13.5	1	18.2	109.6	5
HSMCJ12	12	13.3	16.3	1	22.0	90.7	5
HSMCJ12A	12	13.3	14.7	1	19.9	100.1	5
HSMCJ13	13	14.4	17.6	1	23.8	83.8	5
HSMCJ13A	13	14.4	15.9	1	21.5	92.7	5
HSMCJ14	14	15.6	19.1	1	25.8	77.3	5
HSMCJ14A	14	15.6	17.2	1	23.2	86.1	5
HSMCJ15	15	16.7	20.4	1	26.9	74.2	5
HSMCJ15A	15	16.7	18.5	1	24.4	81.8	5
HSMCJ16	16	17.8	21.8	1	28.8	69.3	5
HSMCJ16A	16	17.8	19.7	1	26.0	76.7	5
HSMCJ17	17	18.9	23.1	1	30.5	65.4	5
HSMCJ17A	17	18.9	20.9	1	27.6	70.9	5
HSMCJ18	18	20.0	24.4	1	32.2	62.0	5
HSMCJ18A	18	20.0	22.1	1	29.2	68.4	5
HSMCJ20	20	22.2	27.1	1	35.8	55.7	5
HSMCJ20A	20	22.2	24.5	1	32.4	61.6	5
HSMCJ22	22	22.4	29.8	1	39.4	50.7	5
HSMCJ22A	22	24.4	26.9	1	35.5	56.1	5
HSMCJ24	24	26.7	32.6	1	43.0	46.4	5
HSMCJ24A	24	26.7	29.5	1	38.9	51.3	5
HSMCJ26	26	28.9	35.3	1	46.6	42.8	5
HSMCJ26A	26	28.9	31.9	1	42.1	47.3	5
HSMCJ28	28	31.1	38.0	1	50.0	39.9	5
HSMCJ28A	28	31.1	34.4	1	45.4	43.9	5
HSMCJ30	30	33.3	40.7	1	53.5	37.2	5
HSMCJ30A	30	33.3	36.8	1	48.4	41.2	5
HSMCJ33	33	36.7	44.9	1	59.0	33.5	5
HSMCJ33A	33	36.7	40.6	1	53.3	37.4	5

HSMCJ5.0 thru HSMCJ170A

ELECTRICAL CHARACTERISTICS @ 25°C

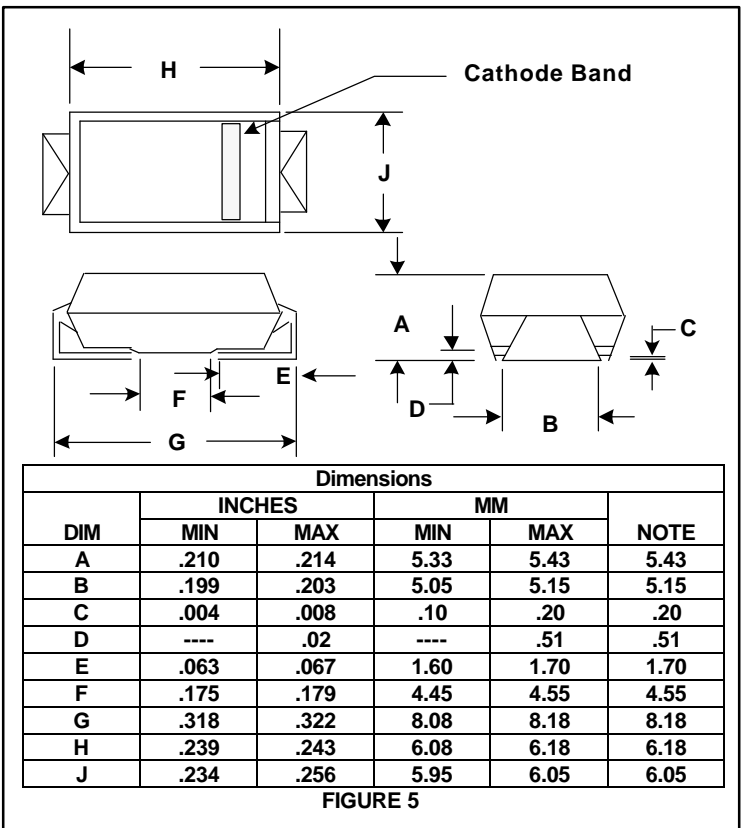
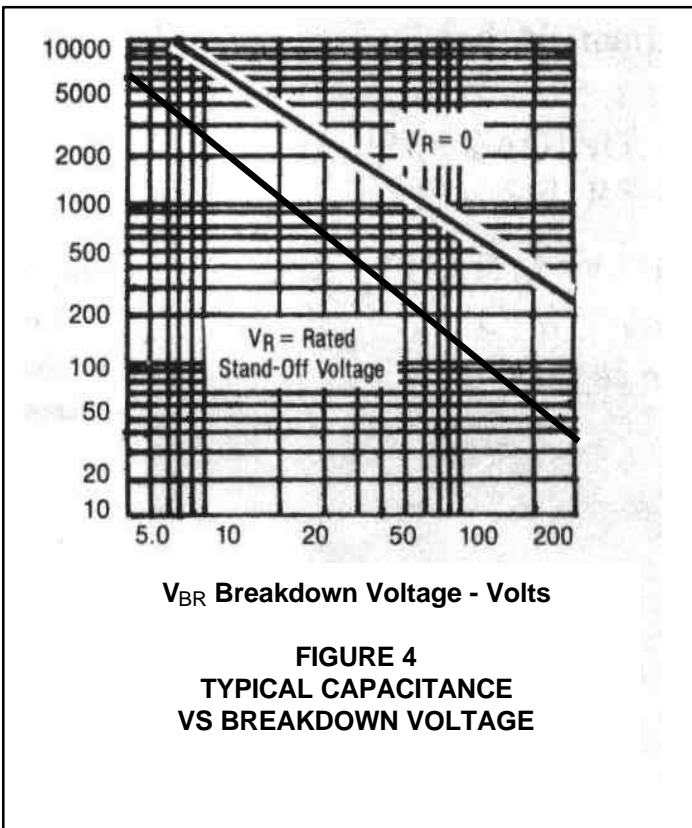
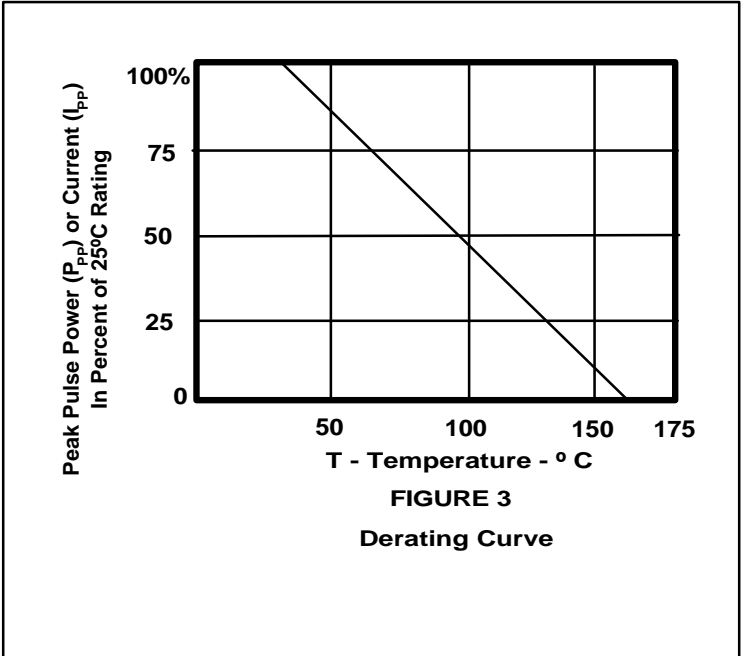
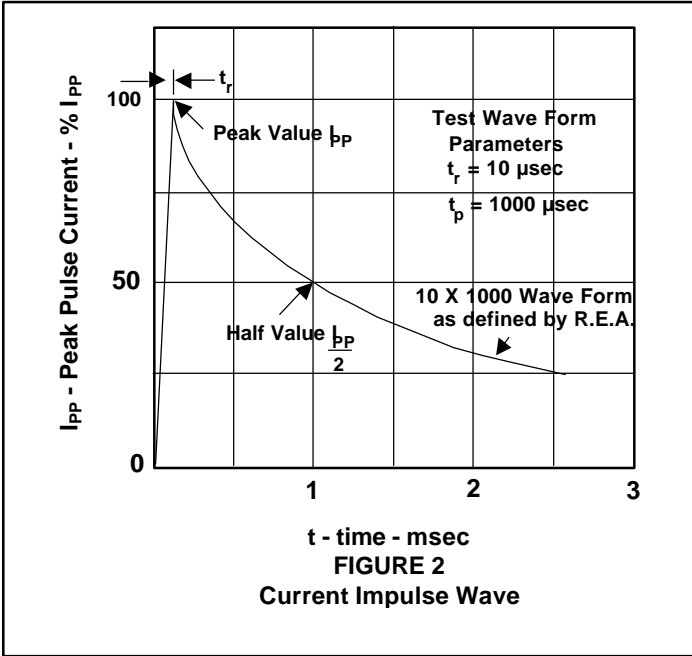
MICROSEMI PART NUMBER MODIFIED "J" BEND LEAD	REVERSE STAND- OFF VOLTAGE (See Note) V _{WM} VOLTS	BREAKDOWN VOLTAGE V _{BR} @ I _T VOLTS			MAXIMUM CLAMPING VOLTAGE @ I _{PP} VOLTS	PEAK PULSE CURRENT (See Fig. 2) I _{PP} AMPS	MAXIMUM REVERSE LEAKAGE @ V _{WM} I _D μA
		MIN.	MAX.	I _T mA			
HSMCJ36	36	40.0	48.9	1	64.3	31.0	5
HSMCJ36A	36	40.0	44.2	1	58.1	34.3	5
HSMCJ40	40	44.4	54.3	1	71.4	27.9	5
HSMCJ40A	40	44.4	49.1	1	64.5	30.9	5
HSMCJ43	43	47.8	58.4	1	76.7	26.1	5
HSMCJ43A	43	47.8	52.8	1	69.4	28.7	5
HSMCJ45	45	50.0	61.1	1	80.3	24.9	5
HSMCJ45A	45	50.0	55.3	1	72.7	27.4	5
HSMCJ48	48	53.3	65.1	1	85.5	23.3	5
HSMCJ48A	48	53.3	58.9	1	77.4	25.8	5
HSMCJ51	51	56.7	69.3	1	91.1	24.6	5
HSMCJ51A	51	56.7	62.7	1	82.4	24.2	5
HSMCJ54	54	60.0	73.3	1	96.3	20.7	5
HSMCJ54A	54	60.0	66.3	1	87.1	22.9	5
HSMCJ58	58	64.4	78.7	1	103.0	19.4	5
HSMCJ58A	58	64.4	71.2	1	93.6	21.3	5
HSMCJ60	60	66.7	81.5	1	107.0	18.6	5
HSMCJ60A	60	66.7	73.7	1	96.8	20.6	5
HSMCJ64	64	71.1	86.9	1	114.0	17.6	5
HSMCJ64A	64	71.1	78.6	1	103.0	19.4	5
HSMCJ70	70	77.8	95.1	1	125	16.0	5
HSMCJ70A	70	77.8	86.0	1	113	17.7	5
HSMCJ75	75	83.3	102.0	1	134	14.9	5
HSMCJ75A	75	83.3	92.1	1	121	16.5	5
HSMCJ78	78	86.7	106.0	1	139	14.4	5
HSMCJ78A	78	86.7	95.8	1	126	15.2	5
HSMCJ85	85	94.4	115.0	1	151	13.2	5
HSMCJ85A	85	94.4	104.0	1	137	13.8	5
HSMCJ90	90	100	1.22	1	160	12.5	5
HSMCJ90A	90	100	111	1	146	13.7	5
HSMCJ100	100	111	136	1	179	11.2	5
HSMCJ100A	100	111	123	1	162	12.4	5
HSMCJ110	110	122	149	1	196	10.2	5
HSMCJ110A	110	122	135	1	177	11.2	5
HSMCJ120	120	133	163	1	214	9.3	5
HSMCJ120A	120	133	147	1	193	10.4	5
HSMCJ130	130	144	176	1	231	8.6	5
HSMCJ130A	130	144	159	1	209	9.6	5
HSMCJ150	150	167	204	1	268	7.4	5
HSMCJ150A	150	167	185	1	243	8.2	5
HSMCJ160	160	178	218	1	287	6.9	5
HSMCJ160A	160	178	197	1	259	7.7	5
HSMCJ170	170	189	231	1	304	6.5	5
HSMCJ170A	170	189	209	1	275	7.3	5

For bi-directional indicate a C or CA suffix after the part number. (i.e.: HSMCJ170C or HSMCJ170CA)

Microsemi Corporation's HSMCJ Series (2000W) surface mountable packages are designed specifically for transient voltage suppression. The wide leads assure a large surface contact for good heat dissipation, and a low resistance path for surge current flow to ground. These high speed transient voltage suppressors can be used to effectively protect sensitive components such as integrated circuits and MOS devices.

HSMCJ5.0 thru HSMCJ170A

TRANSIENT VOLTAGE SUPPRESSORS





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