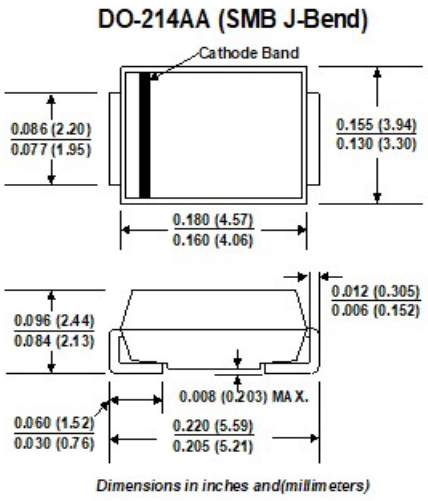
1KSMB SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE - 6.8 TO 180 Volts
1000 Watt Peak Pulse Power



FEATURES

- ◎ Halogen-Free
- ◎ RoHS compliant
- ◎ Typical maximum temperature coefficient $\triangle V_{BR}$=0.1%xV_{BR}@25℃x$\triangle$T
- ◎ For surface mounted applications in order to optimize board space
- ◎ Low profile package
- ◎ Built-in strain relief
- ◎ Glass passivated junction
- ◎ Low inductance
- ◎ Excellent clamping capability
- ◎ Repetition Rate(duty cycle):0.01%
- ◎ Fast response time: typically less than 1.0ps from 0 Volts to V(BR)
- ◎ Typical IR less than 1μA above 12V
- ◎ IEC-61000-4-2 ESD 30kV(Air), 30kV (Contact)
- ◎ High temperature soldering: 260°C/40 seconds at terminals
- ◎ Plastic package has Underwriters Laboratory Flammability 94V-0
- ◎ Matte Tin Lead-free plated

MECHANICAL DATA

Case：JEDEC DO214AA. Molded plastic over glass passivated junction
Terminal：Solderable per MIL-STD-750, Method 2026
Polarity：Color band denotes positive end (cathode) except Bidirectional
Standard Packaging：12mm tape(EIA STD RS-481)
Weight： 0.003ounce, 0.093gram

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1,FIG.1)	P_{PPM}	Minimum 1000	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note 3)	I_{FSM}	120	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 150	℃

Notes :
1.Non-repetitive current pulse , per Fig. 3 and derated above T_A = 25℃ per Fig. 2 .
2.Mounted on 5.0mm x 5.0mm(0.03mm thick) Copper Pads to each terminal
3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

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1KSMB PART NUMBER		MARKING CODE		REVERSE STAND- OFF VOLTAGE VRWM(V)	BREAKDOWN VOLTAGE VBR(V) @IT		TEST CURRENT IT (mA)	MAXIMUN CLAMPING VOLTAGE @Ipp Vc(V) (10/1000uS)	PEAK PULSE CURRENT Ipp (A) (10/1000uS)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V) (8/20uS)	PEAK PULSE CURRENT Ipp (A) (8/20uS)	REVERSE LEAKAGE @ VRWM IR(μA)
UNI- POLAR	BI-POLAR	UNI	BI		MIN	MAX						
1KSMB 6.8A	1KSMB 6.8CA	A10A	N10A	5.8	6.45	7.14	10	10.5	95.24	13.7	476.2	900.0
1KSMB 7.5A	1KSMB 7.5CA	A10B	N10B	6.4	7.13	7.88	10	11.3	88.50	14.7	442.5	400.0
1KSMB 8.2A	1KSMB 8.2CA	A10C	N10C	7.1	7.79	8.61	10	12.1	82.65	15.7	413.3	180.0
1KSMB 9.1A	1KSMB 9.1CA	A10D	N10D	7.8	8.65	9.55	1	13.4	74.63	17.4	373.2	45.0
1KSMB 10A	1KSMB 10CA	A10E	N10E	8.6	9.50	10.50	1	14.5	69.00	18.9	345.0	8.0
1KSMB 11A	1KSMB 11CA	A10F	N10F	9.4	10.50	11.60	1	15.6	64.11	20.3	320.6	4.0
1KSMB 12A	1KSMB 12CA	A10G	N10G	10.2	11.40	12.60	1	16.7	59.90	21.7	299.5	1.0
1KSMB 13A	1KSMB 13CA	A10H	N10H	11.1	12.40	13.70	1	18.2	54.95	23.7	274.8	1.0
1KSMB 15A	1KSMB 15CA	A10I	N10I	12.8	14.30	15.80	1	21.2	47.20	27.6	236.0	1.0
1KSMB 16A	1KSMB 16CA	A10J	N10J	13.6	15.20	16.80	1	22.5	44.45	29.3	222.3	1.0
1KSMB 18A	1KSMB 18CA	A10K	N10K	15.3	17.10	18.90	1	25.5	39.22	33.2	196.1	1.0
1KSMB 20A	1KSMB 20CA	A10L	N10L	17.1	19.00	21.00	1	27.7	36.11	36.0	180.6	1.0
1KSMB 22A	1KSMB 22CA	A10M	N10M	18.8	20.90	23.10	1	30.6	32.70	39.8	163.5	1.0
1KSMB 24A	1KSMB 24CA	A10N	N10N	20.5	22.80	25.20	1	33.2	30.13	43.2	150.7	1.0
1KSMB 27A	1KSMB 27CA	A10O	N10O	23.1	25.70	28.40	1	37.5	26.70	48.8	133.5	1.0
1KSMB 30A	1KSMB 30CA	A10P	N10P	25.6	28.50	31.50	1	41.4	24.20	53.8	121.0	1.0
1KSMB 33A	1KSMB 33CA	A10Q	N10Q	28.2	31.40	34.70	1	45.7	21.90	59.4	109.5	1.0
1KSMB 36A	1KSMB 36CA	A10R	N10R	30.8	34.20	37.80	1	49.9	20.05	64.9	100.3	1.0
1KSMB 39A	1KSMB 39CA	A10S	N10S	33.3	37.10	41.00	1	53.9	18.60	70.1	93.0	1.0
1KSMB 43A	1KSMB 43CA	A10T	N10T	36.8	40.90	45.20	1	59.3	16.90	77.1	84.5	1.0
1KSMB 47A	1KSMB 47CA	A10U	N10U	40.2	44.70	49.40	1	64.8	15.44	84.2	77.2	1.0
1KSMB 51A	1KSMB 51CA	A10V	N10V	43.6	48.50	53.60	1	70.1	14.30	91.1	71.5	1.0
1KSMB 56A	1KSMB 56CA	A10W	N10W	47.8	53.20	58.80	1	77.0	13.00	100.1	65.0	1.0
1KSMB 62A	1KSMB 62CA	A10X	N10X	53.0	58.90	65.10	1	85.0	11.80	110.5	59.0	1.0
1KSMB 68A	1KSMB 68CA	A10Y	N10Y	58.1	64.60	71.40	1	92.0	10.90	119.6	54.5	1.0
1KSMB 75A	1KSMB 75CA	A10Z	N10Z	64.1	71.30	78.80	1	103.0	9.71	133.9	48.6	1.0
1KSMB 82A	1KSMB 82CA	B10A	O10A	70.1	77.90	86.10	1	113.0	8.85	146.9	44.3	1.0
1KSMB 91A	1KSMB 91CA	B10B	O10B	77.8	86.50	95.50	1	125.0	8.00	162.5	40.0	1.0
1KSMB 100A	1KSMB 100CA	B10C	O10C	85.5	95.00	105.00	1	137.0	7.30	178.1	36.5	1.0
1KSMB 110A	1KSMB 110CA	B10D	O10D	94.0	105.00	116.00	1	152.0	6.60	197.6	33.0	1.0
1KSMB 120A	1KSMB 120CA	B10E	O10E	102.0	114.00	126.00	1	165.0	6.10	214.5	30.5	1.0
1KSMB 130A	1KSMB 130CA	B10F	O10F	111.0	124.00	137.00	1	179.0	5.60	232.7	28.0	1.0
1KSMB 150A	1KSMB 150CA	B10G	O10G	128.0	143.00	158.00	1	207.0	4.84	269.1	24.2	1.0
1KSMB 160A	1KSMB 160CA	B10H	O10H	136.0	152.00	168.00	1	219.0	4.60	284.7	23.0	1.0
1KSMB 170A	1KSMB 170CA	B10I	O10I	145.0	162.00	179.00	1	234.0	4.30	304.2	21.5	1.0
1KSMB 180A	1KSMB 180CA	B10J	O10J	154.0	171.00	189.00	1	246.0	4.10	319.8	20.5	1.0

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.

RATINGS AND CHARACTERISTIC CURVES

Ratings and Characteristic Curves(T_A=25℃ unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating

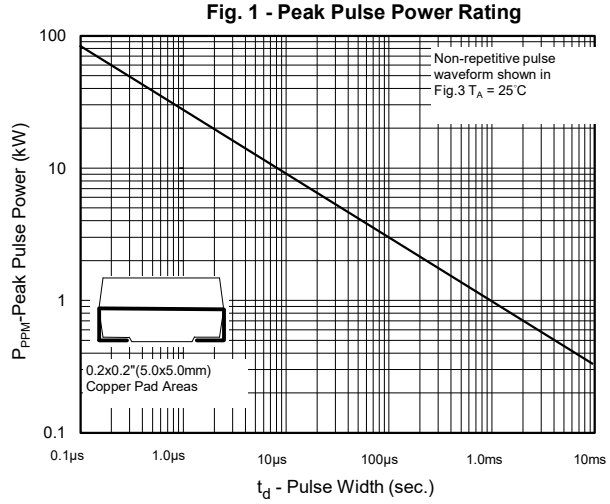


Fig.2 - Pulse Derating Curve

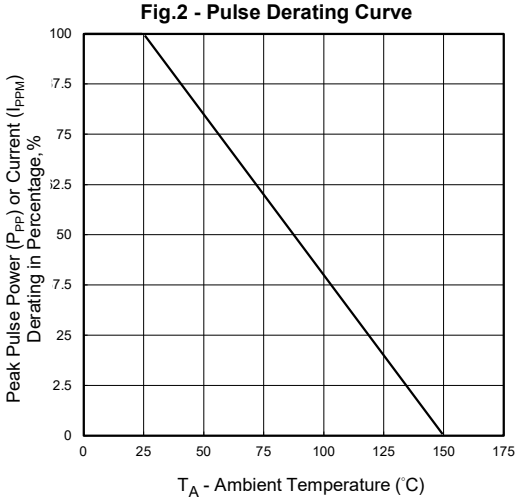


Fig.3 - Pulse Waveform

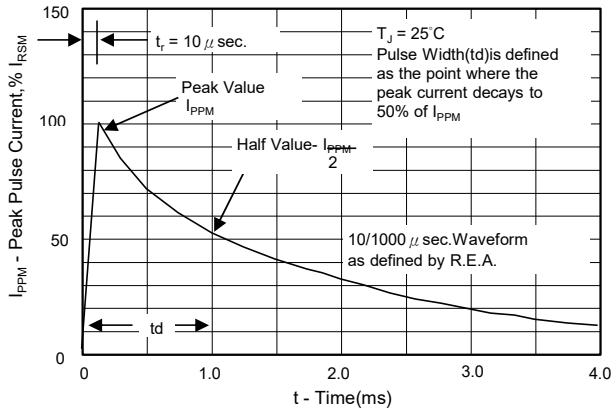


Fig. 4 - Typical Junction Capacitance

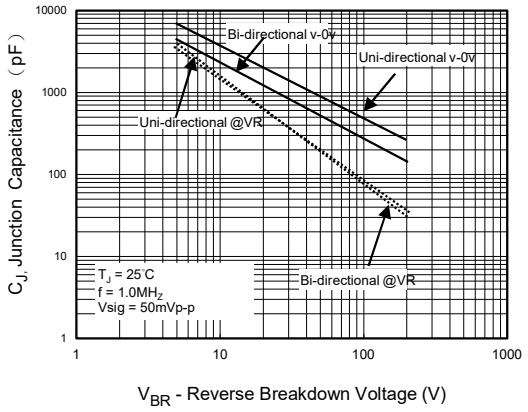


Fig. 5 - Steady State Power Derating Curve

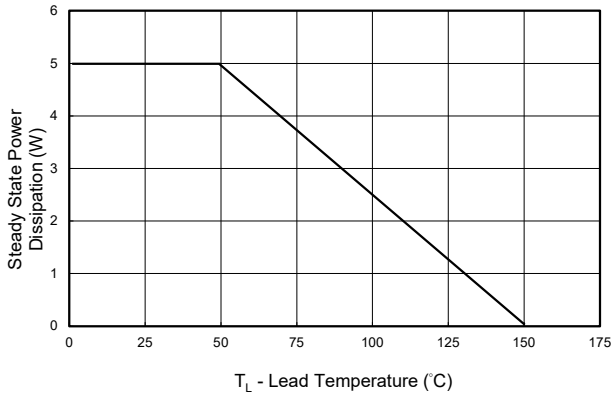
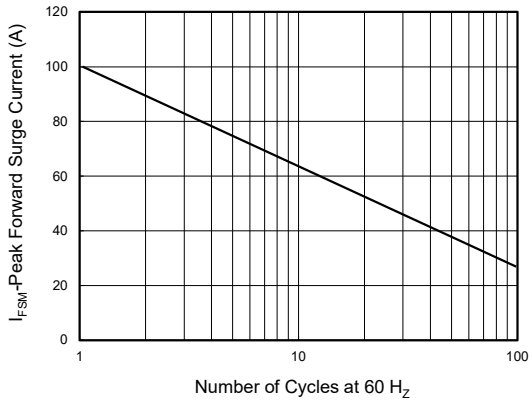


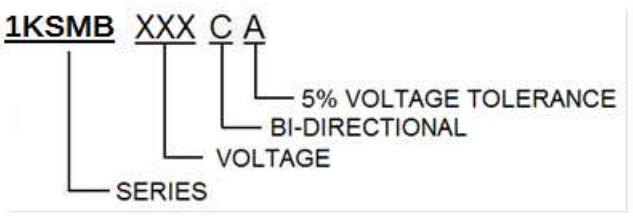
Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only



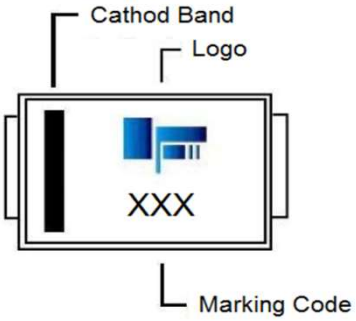
1KSMB SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
1KSMBxxxXX	DO-214AA	3000	Tape & Reel - 12mm/13" tape	EIA STD RS-481
1KSMBxxxXX	DO-214AA	500	Tape & Reel - 12mm/ 7" tape	EIA STD RS-481