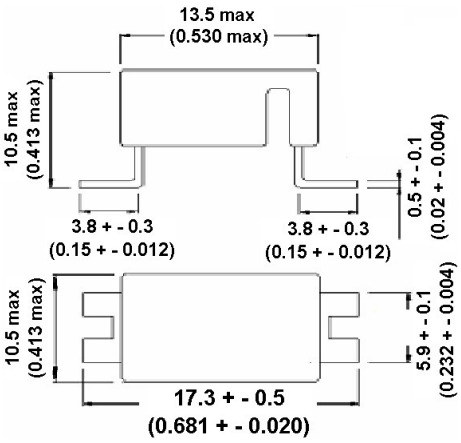
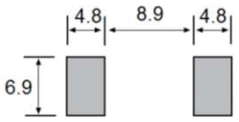
SMD30KPA SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE-17 TO 280 Volts
30000 Watt Peak Pulse Power



Dimensions in millimeters and (inches)



Recommended mounting footprint(mm)

FEATURES

◎ RoHS compliant E4
◎ Typical maximum temperature coefficient $\triangle V_{BR}$=0.1%xV_{BR}@25℃x$\triangle$T
◎ 30000W peak pulse power capability on 10/1000us waveform
◎ Excellent clamping capability
◎ Repetition rate(duty cycle) : 0.05%
◎ Low incremental surge resistance
◎ Fast response time: typically less than 1.0ps from 0 Volts to BV,
◎ Silver plated Lead

MECHANICAL DATA

Case: Epoxy powder over glass passivated junction
Terminal: Solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes positive end (cathode) except Bipolar
Mounting Position: Any
Weight: 0.08 ounce, 2.9 grams

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μs waveform	P_{PPM}	Minimum 30000	Watts
Peak Pulse Current of on 10/1000 μs waveform	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,1/20 second / 25℃ (JEDEC Method)	I_{FSM}	400	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 150	℃

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SMDSMD30KPA PART NUMBER		Marking Code		REVERSE STAND- OFF VOLTAGE V_{RWM}(V)	BREAKDOWN VOLTAGE V_{BR}(V) MIN. @I_T	TEST CURRENT I_T (mA)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @ V_{RWM} I_R(μ A)	MAXIMUN CLAMPING VOLTAGE @I_{PP} V_C (V)
UNI-POLAR	BI-POLAR	Uni	Bi						
SMD30KPA17A	SMD30KPA17CA	UA	BA	17	18.99	50	1023.9	5000	29.3
SMD30KPA18A	SMD30KPA18CA	UB	BB	18	20.11	50	970.9	5000	30.9
SMD30KPA20A	SMD30KPA20CA	UC	BC	20	22.34	50	874.6	5000	34.3
SMD30KPA22A	SMD30KPA22CA	UD	BD	22	24.57	50	808.6	5000	37.1
SMD30KPA24A	SMD30KPA24CA	UE	BE	24	26.81	50	737.1	5000	40.7
SMD30KPA26A	SMD30KPA26CA	UF	BF	26	29.04	50	681.8	2000	44.0
SMD30KPA28A	SMD30KPA28CA	UG	BG	28	31.28	50	606.0	1000	50.0
SMD30KPA30A	SMD30KPA30CA	UH	BH	30	33.51	50	548.9	30	55.2
SMD30KPA33A	SMD30KPA33CA	UJ	BJ	33	36.9	50	517.9	20	58.5
SMD30KPA36A	SMD30KPA36CA	UK	BK	36	40.2	50	490.3	5	61.8
SMD30KPA39A	SMD30KPA39CA	UL	BL	39	43.6	20	450.9	5	67.2
SMD30KPA42A	SMD30KPA42CA	UM	BM	42	46.9	10	420.8	5	72.0
SMD30KPA43A	SMD30KPA43CA	UN	BN	43	48.0	10	415.1	5	73.0
SMD30KPA45A	SMD30KPA45CA	UP	BP	45	50.3	5	391.5	5	77.4
SMD30KPA48A	SMD30KPA48CA	UQ	BQ	48	53.6	5	371.3	5	81.6
SMD30KPA51A	SMD30KPA51CA	UR	BR	51	57.0	5	350.7	5	86.4
SMD30KPA54A	SMD30KPA54CA	US	BS	54	60.3	5	331.5	5	91.4
SMD30KPA58A	SMD30KPA58CA	UT	BT	58	64.8	5	327.9	5	92.4
SMD30KPA60A	SMD30KPA60CA	UU	BU	60	67.0	5	297.1	5	102.0
SMD30KPA64A	SMD30KPA64CA	UV	BV	64	71.5	5	291.3	5	104.0
SMD30KPA66A	SMD30KPA66CA	UW	BW	66	73.7	5	283.2	2	107.0
SMD30KPA70A	SMD30KPA70CA	UX	BX	70	78.2	5	278.0	2	109.0
SMD30KPA71A	SMD30KPA71CA	UY	BY	71	79.3	5	271.7	2	111.5
SMD30KPA72A	SMD30KPA72CA	UZ	BZ	72	80.4	5	265.8	2	114.0
SMD30KPA75A	SMD30KPA75CA	DA	CA	75	83.8	5	253.8	2	119.4
SMD30KPA78A	SMD30KPA78CA	DB	CB	78	87.1	5	234.9	2	129.0
SMD30KPA84A	SMD30KPA84CA	DC	CC	84	93.8	5	217.7	2	139.2
SMD30KPA90A	SMD30KPA90CA	DD	CD	90	100.5	5	207.0	2	146.4
SMD30KPA96A	SMD30KPA96CA	DE	CE	96	107.2	5	194.2	2	156.0
SMD30KPA102A	SMD30KPA102CA	DF	CF	102	113.9	5	183.0	2	165.6
SMD30KPA108A	SMD30KPA108CA	DG	CG	108	120.6	5	172.9	2	175.2
SMD30KPA120A		DH		120	134.0	5	155.9	2	194.4
SMD30KPA132A		DJ		132	147.4	5	142.3	2	213.0
SMD30KPA144A		DK		144	160.8	5	135.8	2	223.2
SMD30KPA150A		DL		150	167.6	5	129.8	2	233.4
SMD30KPA156A		DM		156	174.3	5	123.7	2	245.0
SMD30KPA160A		DN		160	178.7	5	120.0	2	252.6
SMD30KPA168A		DP		168	187.7	5	111.2	2	272.4
SMD30KPA170A		DQ		170	189.9	5	110.2	2	275.0
SMD30KPA180A		DR		180	201.1	5	104.3	2	290.4
SMD30KPA198A		DS		198	221.2	5	94.7	2	319.8
SMD30KPA216A		DT		216	241.3	5	86.9	2	348.6
SMD30KPA240A		DU		240	268.1	5	78.3	2	387.0
SMD30KPA258A		DV		258	288.2	5	72.8	2	416.4
SMD30KPA260A		DW		260	290.4	5	72.8	2	416.0
SMD30KPA270A		DX		270	301.6	5	69.5	2	436.2
SMD30KPA280A		DY		280	312.8	5	65.3	2	464.0

For bidirectional type having Vrwm of 26 volts and less, the IR limit is double.

For surge test limit at maximum 599 Amps.

RATINGS AND CHARACTERISTIC CURVES

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

Fig. 1 - Peak Pulse Power Rating

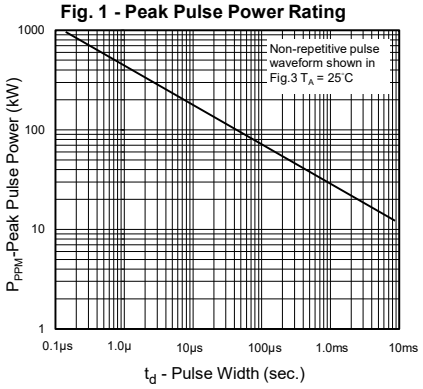


Fig.2 - Pulse Derating Curve

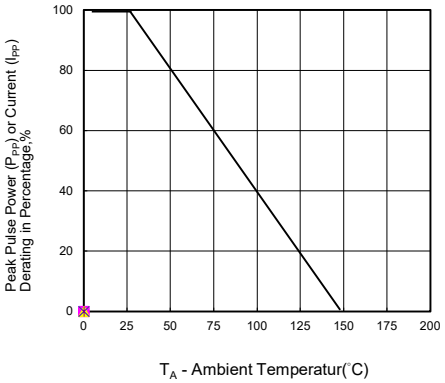


Fig.3 - Test Pulse Waveform

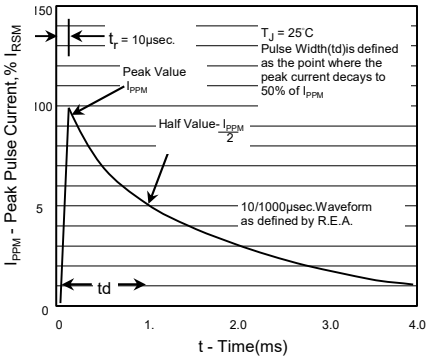


Fig. 4 - Typical Junction Capacitance

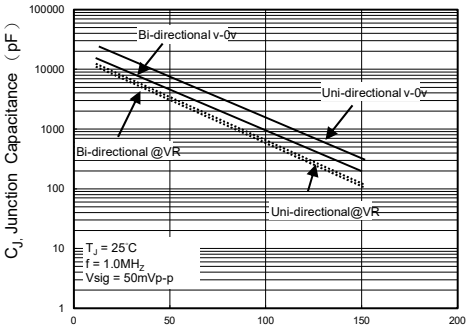


Fig. 5 - Steady State Power Derating Curve

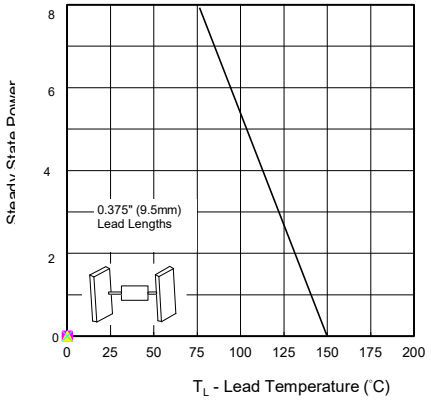
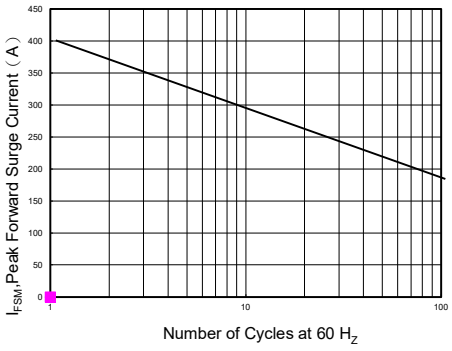


Fig.6 - Maximum Non-repetitive Forward Surge current



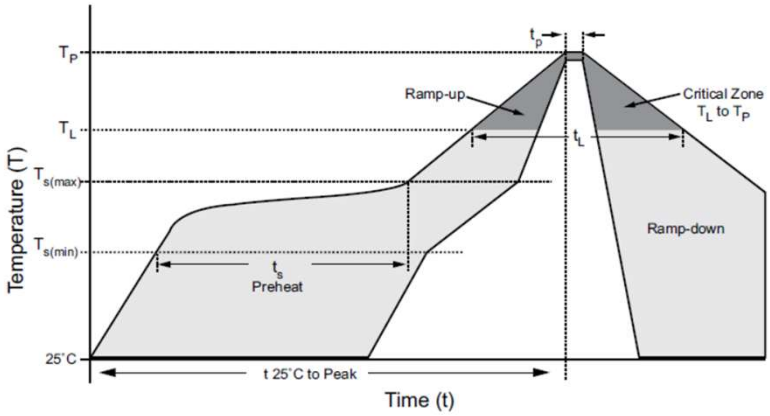
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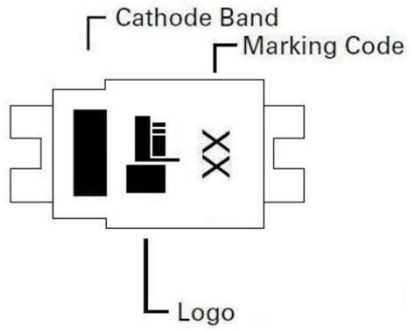
Soldering Parameters

Reflow Condition		Lead-free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150℃
	-Temperature Max ($T_{s(max)}$)	200℃
	-Time (min to max) (t_s)	60 -120 secs
Average ramp up rate(Liquidus Temp(T_L) to peak		3℃/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/second max
Reflow	-Temperature Min (T_L)	217℃
	Time (t_L) maintained above T_L	60 - 150 seconds
Peak temperature(T_P)		245 $^{+0/-5}$℃
Time within 5℃ of actual peak Temperature(t_p)		20 - 40 seconds
Ramp-down Rate		6℃/second max
Time 2 5℃ to peak Temperature(T_p)		8 minutes Max.

Soldering Profile



Part Marking System



Part number	Quantity	Remark
SMD30KPAxxx	20	Bulk packing