

MDE Semiconductor, Inc.

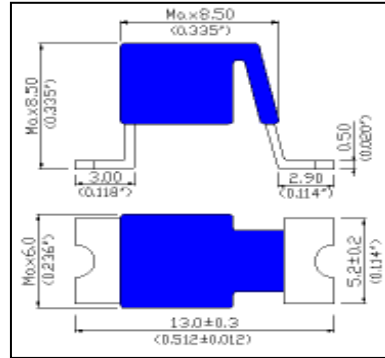
201 Shipyard Way, Unit C, Newport Beach, CA., USA 92663 Tel : 760-564-8656 • Fax : 760-564-2414
1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

SMD15KPA SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE-17.0 TO 280 Volts
15000 Watt Peak Pulse Power

FEATURES

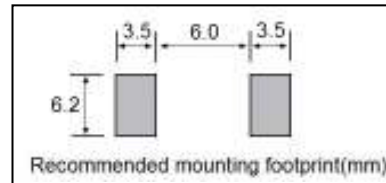
- RoHS Compliant E4
- Typical maximum temperature coefficient
 $\Delta VBR=0.1\% \times VBR @ 25^{\circ}C \times \Delta T$
- 15000W Peak Pulse Power capability on 10/1000 μs waveform
- Excellent clamping capability
- Repetition rate (duty cycle):0.05%
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV
Bidirectional less than 10 ns
- Silver plated lead



Dimensions in millimeters (inches)

MECHANICAL DATA

Case: Epoxy powder over glass passivated junction
Terminals: Solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode)
except Bipolar
Mounting Position: Any
Weight: 0.033 ounce, 1.2 gram



DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types SMD15KPA17A thru types SMD15KPA280A (e.g. SMD15KPA17CA, SMD15KPA130CA)
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μs	P_{PPM}	Minimum 15000	Watts
Peak Pulse Current of on 10/1000 μs waveform	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current, 1/20 second / 25°C (JEDEC Method)	I_{FSM}	400.0	Amps
Operatings and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	°C

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15000 Watt TVS

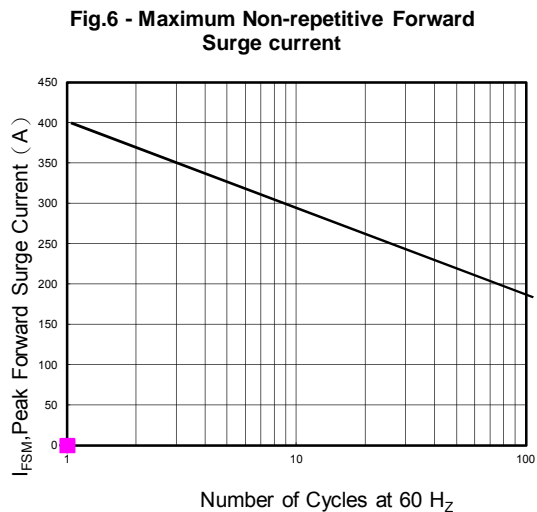
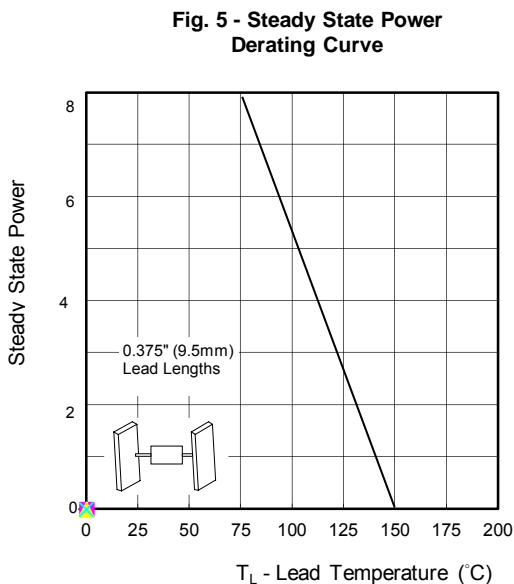
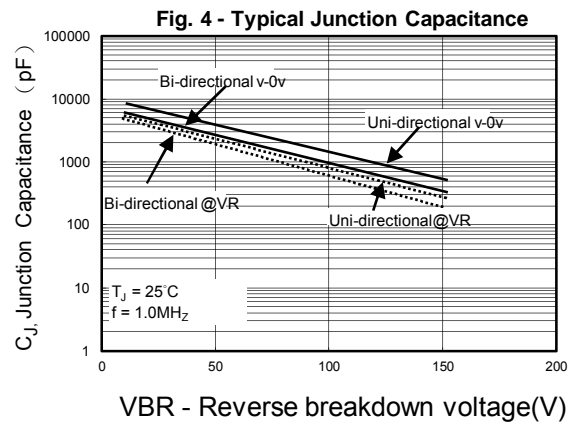
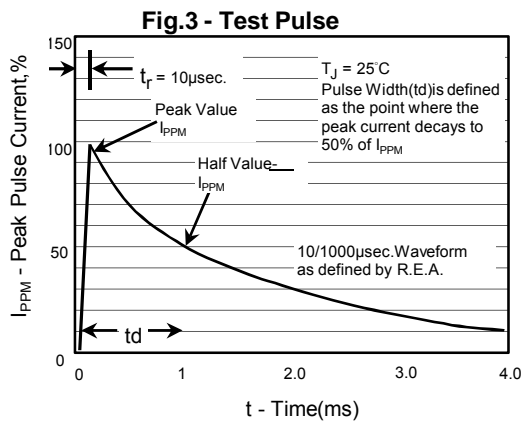
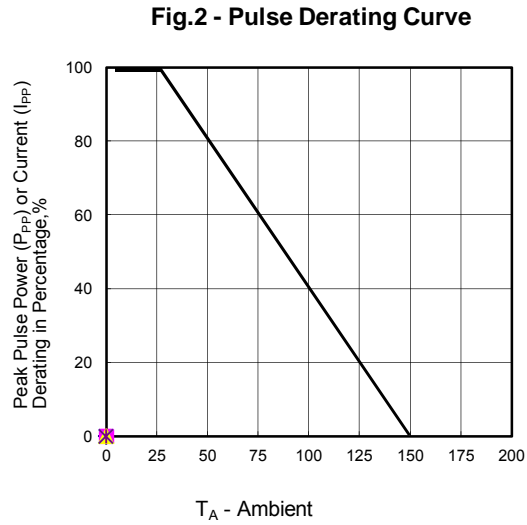
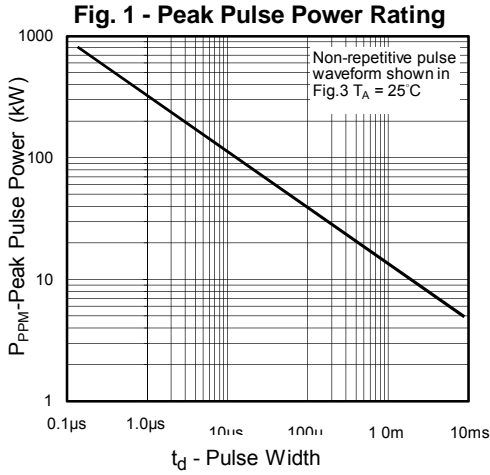
UNI-POLAR	BI-POLAR	Marking Code		REVERSE	BREAKDOWN	TEST	MAXIMUM	PEAK	REVERSE
				STANDOFF	VOLTAGE	CURRENT	CLAMPING	PULSE	LEAKAGE
				V _{RWM} (V)	V _{BR} (V) MIN. @ I _T	(I _T) mA	@I _{PP} V _C (V)	CURRENT I _{PP} (A)	@ V _{RWM} I _R (µA)
SMD15KPA17A	SMD15KPA17CA	UA	BA	17.00	18.99	50	29.3	515.4	5000
SMD15KPA18A	SMD15KPA18CA	UB	BB	18.00	20.11	50	30.9	488.7	5000
SMD15KPA20A	SMD15KPA20CA	UC	BC	20.00	22.34	20	34.3	440.2	1500
SMD15KPA22A	SMD15KPA22CA	UD	BD	22.00	24.57	10	37.1	407.0	500
SMD15KPA24A	SMD15KPA24CA	UE	BE	24.00	26.81	5	40.7	371.0	150
SMD15KPA26A	SMD15KPA26CA	UF	BF	26.00	29.04	5	44.0	343.2	50
SMD15KPA28A	SMD15KPA28CA	UG	BG	28.00	31.28	5	47.5	317.9	25
SMD15KPA30A	SMD15KPA30CA	UH	BH	30.00	33.51	5	50.7	297.8	15
SMD15KPA33A	SMD15KPA33CA	UJ	BJ	33.00	36.90	5	54.7	276.1	10
SMD15KPA36A	SMD15KPA36CA	UK	BK	36.00	40.20	5	59.8	252.5	10
SMD15KPA40A	SMD15KPA40CA	UL	BL	40.00	44.70	5	65.8	229.5	10
SMD15KPA43A	SMD15KPA43CA	UM	BM	43.00	48.00	5	69.8	216.3	10
SMD15KPA45A	SMD15KPA45CA	UN	BN	45.00	50.30	5	73.2	206.3	10
SMD15KPA48A	SMD15KPA48CA	UP	BP	48.00	53.60	5	77.7	194.3	10
SMD15KPA51A	SMD15KPA51CA	UQ	BQ	51.00	57.00	5	82.9	182.1	10
SMD15KPA54A	SMD15KPA54CA	UR	BR	54.00	60.30	5	87.7	172.2	10
SMD15KPA58A	SMD15KPA58CA	US	BS	58.00	64.80	5	93.8	161.0	10
SMD15KPA60A	SMD15KPA60CA	UT	BT	60.00	67.00	5	97.4	155.0	10
SMD15KPA64A	SMD15KPA64CA	UU	BU	64.00	71.50	5	104.2	144.9	10
SMD15KPA70A	SMD15KPA70CA	UV	BV	70.00	78.20	5	113.6	132.9	10
SMD15KPA75A	SMD15KPA75CA	UW	BW	75.00	83.80	5	122.0	123.8	10
SMD15KPA78A	SMD15KPA78CA	UX	BX	78.00	87.10	5	126.1	119.7	10
SMD15KPA85A	SMD15KPA85CA	UY	BY	85.00	93.90	5	137.6	109.7	10
SMD15KPA90A	SMD15KPA90CA	UZ	BZ	90.00	100.50	5	145.6	103.7	10
SMD15KPA100A	SMD15KPA100CA	DA	CA	100.00	111.70	5	161.3	93.6	10
SMD15KPA110A	SMD15KPA110CA	DB	CB	110.00	122.90	5	178.6	84.5	10
SMD15KPA120A	SMD15KPA120CA	DC	CC	120.00	134.00	5	192.3	78.5	10
SMD15KPA130A	SMD15KPA130CA	DD	CD	130.00	145.20	5	208.3	72.5	10
SMD15KPA150A		DE		150.00	167.60	5	241.9	62.4	10
SMD15KPA160A		DF		160.00	178.70	5	258.6	58.4	10
SMD15KPA170A		DG		170.00	189.90	5	272.7	55.4	10
SMD15KPA180A		DH		180.00	201.10	5	288.5	52.3	10
SMD15KPA200A		DJ		200.00	223.40	5	319.1	47.3	10
SMD15KPA220A		DK		220.00	245.70	5	356.0	42.4	10
SMD15KPA240A		DL		240.00	268.10	5	384.6	39.3	10
SMD15KPA260A		DM		260.00	290.40	5	416.7	36.2	10
SMD15KPA280A		DN		280.00	312.80	5	454.6	33.20	10

For bidirectional type having V_{rw} of 30 volts and less, the I_R limit is double.

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SMD15KPA SERIES RATINGS AND CHARACTERISTIC CURVES



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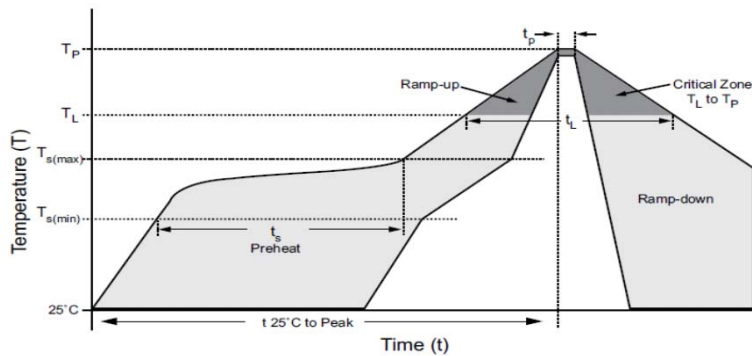
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SMD15KPA SERIES SOLDERING PROFILE

Soldering Parameters

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

Soldering Profile

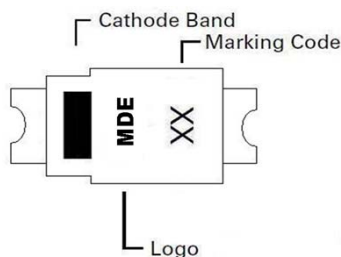


Physical Specifications

Weight	Contact Manufacturer
Case	Epoxy encapsulated
Terminal	Silver plated leads, solderable per MIL-STD-202 Method 208

Flow/Wave Soldering (Solder Dipping)

Peak Temperature:		265°C
Dipping Time:		10 seconds
Soldering:		1 time



Part Number	Qty	Remark
SMD15KPAxxx	20	Bulk Packaging