P4SMA SERIIES

VBR : 6.8 - 440 Volts

PPK : 400 Watts

Features

- 400W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time : typically less then 1.0 ps from 0 volt to VBR(min.)
- Typical IR less then 1μA above 10V
- RoHS compliant package

Applications

- For Bi-directional without “C”
- Electrical characteristics apply in both directions

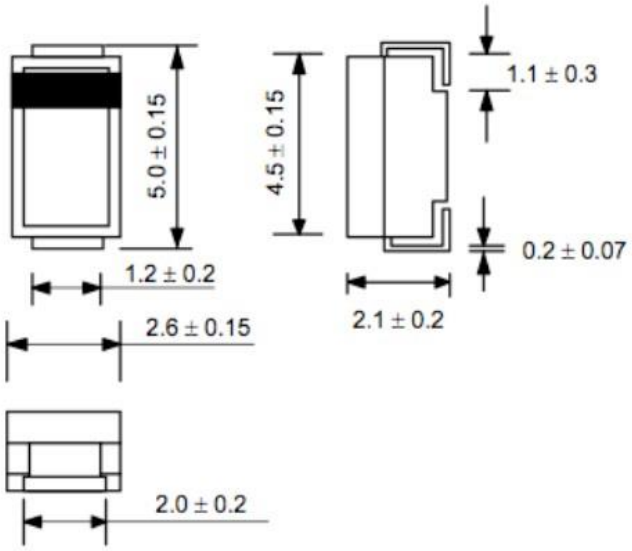
Mechanical Data

- Case : SMA Molded plastic
- Epoxy : UL94V-0 rate flame retardant
- Lead : Lead Formed for Surface Mount
- Polarity : Color band denotes cathode end
- Mounting position : Any
- Weight : 0.0.65 gram

Packing & Order Information

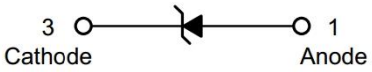
5,000/Reel

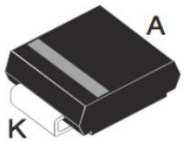
SMA (DO-214AC)



Dimensions in millimeters

Graphic symbol





RoHS
COMPLIANT

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Symbol	Parameter	Value	Unit
PPK	Peak Power Dissipation at Ta = 25ºC, Tp=1ms (Note1)	Minimum 400	W
PD	Steady State Power Dissipation at TL = 75 °C	1.0	W
IFSM	Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3) IFSM 100 Amps.	40	A
TJ, TSTG	Operating and Storage Temperature Range	-55 to + 150	°C

P4SMA SERIIES

VBR : 6.8 - 440 Volts

PPK : 400 Watts

Notes:

(1) Non-repetitive Current pulse, per Fig. 5 and derated above Ta = 25 °C per Fig. 1

(2) Mounted on copper Lead area at 5.0 mm^2 (0.013 mm thick).

(3) 8.3 ms single half sine-wave, duty cycle = 4 pulses per Minutes maximum.

ELECTRICAL CHARACTERISTICS (Rating at 25ºC ambient temperature unless otherwise specified)

Type No.	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ VRWM	Maximum Reverse Current	Maximum Clamping Voltage @ IRSM	Maximum Temperature Co-efficient of VBR
	VBR (V)		It	VRWM	IR	IRSM	VRSM	
	Min	Max	(mA)	(V)	(µA)	(A)	(V)	(% / °C)
PASMA6.8C	6.12	7.48	10	5.50	1000	38.0	10.8	0.057
PASMA6.8CA	6.45	7.14	10	5.80	1000	40.0	10.5	0.057
PASMA7.5C	6.75	8.25	10	6.05	500	36.0	11.7	0.061
PASMA7.5CA	7.13	7.88	10	6.40	500	37.0	11.3	0.061
PASMA8.2C	7.38	9.02	10	6.63	200	33.0	12.5	0.065
PASMA8.2CA	7.79	8.61	10	7.02	200	35.0	12.1	0.065
PASMA9.1C	8.19	10.0	1.0	7.37	50	30.0	13.8	0.068
PASMA9.1CA	8.65	9.55	1.0	7.78	50	31.0	13.4	0.068
PASMA10C	9.00	11.0	1.0	8.10	10	28.0	15.0	0.073
PASMA10CA	9.50	10.5	1.0	8.55	10	29.0	14.5	0.073
PASMA11C	9.90	12.1	1.0	8.92	5.0	26.0	16.2	0.075
PASMA11CA	10.5	11.6	1.0	9.40	5.0	27.0	15.6	0.075
PASMA12C	10.8	13.2	1.0	9.72	5.0	24.0	17.3	0.078
PASMA12CA	11.4	12.6	1.0	10.2	5.0	25.0	16.7	0.078
PASMA13C	11.7	14.3	1.0	10.5	5.0	22.0	19.0	0.081
PASMA13CA	12.4	13.7	1.0	11.1	5.0	23.0	18.2	0.081
PASMA15C	13.5	16.5	1.0	12.1	5.0	19.0	22.0	0.084
PASMA15CA	14.3	15.8	1.0	12.8	5.0	20.0	21.2	0.084
PASMA16C	14.4	17.6	1.0	12.9	5.0	18.0	23.5	0.086
PASMA16CA	15.2	16.8	1.0	13.6	5.0	19.0	22.5	0.086
PASMA17C	15.3	18.7	1.0	13.7	5.0	17.0	25.0	0.087
PASMA17CA	16.2	17.9	1.0	14.5	5.0	18.0	24.0	0.087
PASMA18C	16.2	19.8	1.0	14.5	5.0	16.0	26.5	0.088
PASMA18CA	17.1	18.9	1.0	15.3	5.0	17.0	25.5	0.088
PASMA20C	18.0	22.0	1.0	16.2	5.0	14.0	29.1	0.090
PASMA20CA	19.0	21.0	1.0	17.1	5.0	15.0	27.7	0.090

Brückewell

P4SMA SERIIES

VBR : 6.8 - 440 Volts

PPK : 400 Watts

ELECTRICAL CHARACTERISTICS (Rating at 25ºC ambient temperature unless otherwise specified)

Type No.	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ VRWM	Maximum Reverse Current	Maximum Clamping Voltage @ IRSM	Maximum Temperature Co-efficient of VBR
	VBR (V)		It	VRWM	IR	IRSM	VRSM	
	Min	Max	(mA)	(V)	(µA)	(A)	(V)	(% / °C)
PASMA22C	19.8	24.2	1.0	17.8	5.0	13.0	31.9	0.092
PASMA22CA	20.9	23.1	1.0	18.8	5.0	14.0	30.6	0.092
PASMA24C	21.6	26.4	1.0	19.4	5.0	12.0	34.7	0.094
PASMA24CA	22.8	25.2	1.0	20.5	5.0	13.0	33.2	0.094
PASMA27C	24.3	29.7	1.0	21.8	5.0	11.0	39.1	0.096
PASMA27CA	25.7	28.4	1.0	23.1	5.0	11.2	37.5	0.096
PASMA30C	27.0	33.0	1.0	24.3	5.0	10.0	43.5	0.097
PASMA30CA	28.5	31.5	1.0	25.6	5.0	10.0	41.4	0.097
PASMA33C	29.7	36.6	1.0	26.8	5.0	9.0	47.7	0.098
PASMA33CA	31.4	34.7	1.0	28.2	5.0	9.0	45.7	0.098
PASMA36C	32.4	39.6	1.0	29.1	5.0	8.0	52.0	0.099
PASMA36CA	34.2	37.8	1.0	30.8	5.0	8.4	49.9	0.099
PASMA39C	35.1	42.9	1.0	31.6	5.0	7.4	56.4	0.100
PASMA39CA	37.1	41.0	1.0	33.3	5.0	7.8	53.9	0.100
PASMA43C	38.7	47.3	1.0	34.8	5.0	6.8	61.9	0.101
PASMA43CA	40.9	45.2	1.0	36.8	5.0	7.1	59.3	0.101
PASMA47C	42.3	51.7	1.0	38.1	5.0	6.2	67.8	0.101
PASMA47CA	44.7	49.4	1.0	40.2	5.0	6.5	64.8	0.101
PASMA51C	45.9	56.1	1.0	41.3	5.0	5.7	73.5	0.102
PASMA51CA	48.5	53.6	1.0	43.6	5.0	6.0	70.1	0.102
PASMA56C	50.4	61.6	1.0	45.4	5.0	5.2	80.5	0.103
PASMA56CA	53.2	58.8	1.0	47.8	5.0	5.5	77.0	0.103
PASMA62C	55.8	68.2	1.0	50.2	5.0	4.7	89.0	0.104
PASMA62CA	58.9	65.1	1.0	53.0	5.0	5.0	85.0	0.104
PASMA68C	61.2	74.8	1.0	55.1	5.0	4.3	98.0	0.104
PASMA68CA	64.6	71.4	1.0	58.1	5.0	4.6	92.0	0.104
PASMA75C	67.5	82.5	1.0	60.7	5.0	3.9	108	0.105
PASMA75CA	71.3	78.8	1.0	64.1	5.0	4.1	103	0.105
PASMA82C	73.8	90.2	1.0	66.4	5.0	3.6	118	0.105

Brückewell

P4SMA SERIIES

VBR : 6.8 - 440 Volts

PPK : 400 Watts

ELECTRICAL CHARACTERISTICS (Rating at 25ºC ambient temperature unless otherwise specified)

Type No.	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ VRWM	Maximum Reverse Current	Maximum Clamping Voltage @ IRSM	Maximum Temperature Co-efficient of VBR
	VBR (V)		It	VRWM	IR	IRSM	VRSM	
	Min	Max	(mA)	(V)	(µA)	(A)	(V)	(% / °C)
PASMA82CA	77.9	86.1	1.0	70.1	5.0	3.7	113	0.105
PASMA91C	81.9	100	1.0	73.7	5.0	3.2	131	0.106
PASMA91CA	86.5	95.5	1.0	77.8	5.0	3.4	125	0.106
PASMA100C	90.0	110	1.0	81.0	5.0	2.9	144	0.106
PASMA100CA	95.0	105	1.0	85.5	5.0	3.1	137	0.106
PASMA110C	99.0	121	1.0	89.2	5.0	2.7	158	0.107
PASMA110CA	105	116	1.0	91.0	5.0	2.8	152	0.107
PASMA120C	108	132	1.0	97.2	5.0	2.4	173	0.107
PASMA120CA	114	126	1.0	102	5.0	2.5	165	0.107
PASMA130C	117	143	1.0	105	5.0	2.2	187	0.107
PASMA130CA	124	137	1.0	111	5.0	2.3	179	0.107
PASMA150C	135	165	1.0	121	5.0	2.0	215	0.108
PASMA150CA	143	158	1.0	128	5.0	2.0	207	0.108
PASMA160C	144	176	1.0	130	5.0	1.8	230	0.108
PASMA160CA	152	168	1.0	136	5.0	1.9	219	0.108
PASMA170C	153	187	1.0	138	5.0	1.7	244	0.108
PASMA170CA	162	179	1.0	145	5.0	1.8	234	0.108
PASMA180C	162	198	1.0	146	5.0	1.6	258	0.108
PASMA180CA	171	189	1.0	154	5.0	1.7	246	0.108
PASMA200C	180	220	1.0	162	5.0	1.5	287	0.108
PASMA200CA	190	210	1.0	171	5.0	1.53	274	0.108
PASMA220C	198	242	1.0	175	5.0	1.16	344	0.108
PASMA220CA	209	231	1.0	185	5.0	1.22	328	0.108
PASMA250C	225	275	1.0	202	5.0	1.11	360	0.110
PASMA250CA	237	263	1.0	214	5.0	1.16	344	0.110
PASMA300C	270	330	1.0	243	5.0	0.93	430	0.110
PASMA300CA	285	315	1.0	256	5.0	0.97	414	0.110
PASMA350C	315	385	1.0	284	5.0	0.79	504	0.110
PASMA350CA	332	368	1.0	300	5.0	0.83	482	0.110

P4SMA SERIIES

VBR : 6.8 - 440 Volts

PPK : 400 Watts

ELECTRICAL CHARACTERISTICS (Rating at 25ºC ambient temperature unless otherwise specified)

Type No.	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ VRWM	Maximum Reverse Current	Maximum Clamping Voltage @ IRSM	Maximum Temperature Co-efficient of VBR
	VBR (V)		It	VRWM	IR	IRSM	VRSM	
	Min	Max	(mA)	(V)	(μA)	(A)	(V)	(% / °C)
PASMA400C	360	440	1.0	324	5.0	0.70	574	0.110
PASMA400CA	380	420	1.0	342	5.0	0.73	548	0.110
PASMA440C	396	484	1.0	356	5.0	0.95	631	0.110
PASMA440CA	418	462	1.0	376	5.0	1.00	602	0.110

Note:

(1) "P4SMA" will be omitted in marking on the diode.

P4SMA SERIIES

VBR : 6.8 - 440 Volts

PPK : 400 Watts

■RATING AND CHARACTERISTIC CURVES (P4SMA SERIES)

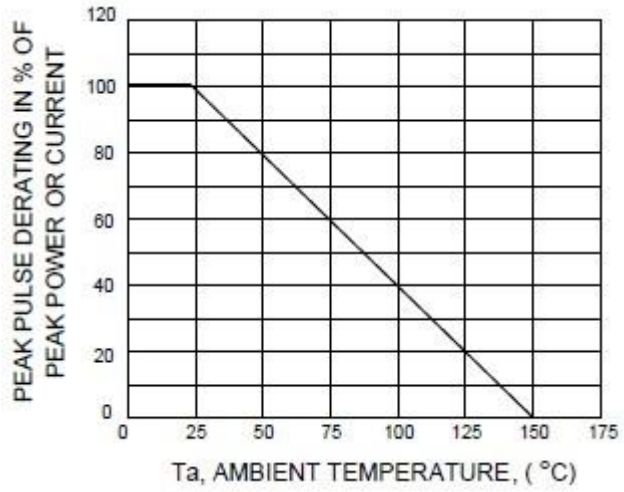


FIG.1 - PULSE DERATING CURVE

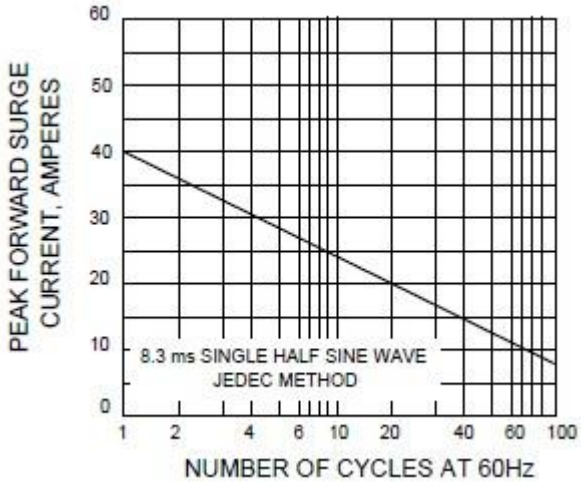


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

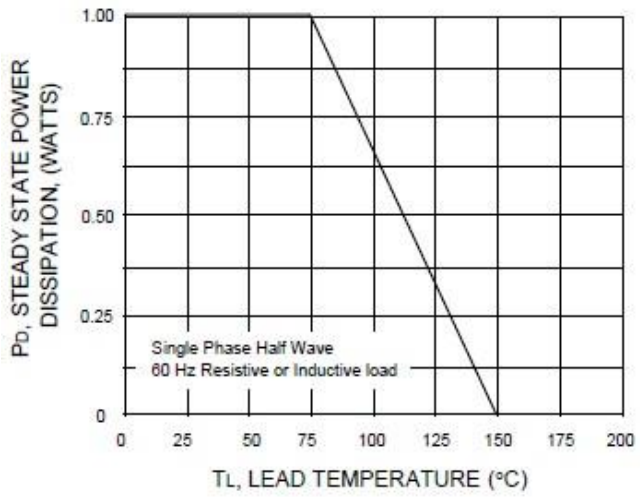


FIG.3 - STEADY STATE POWER DERATING

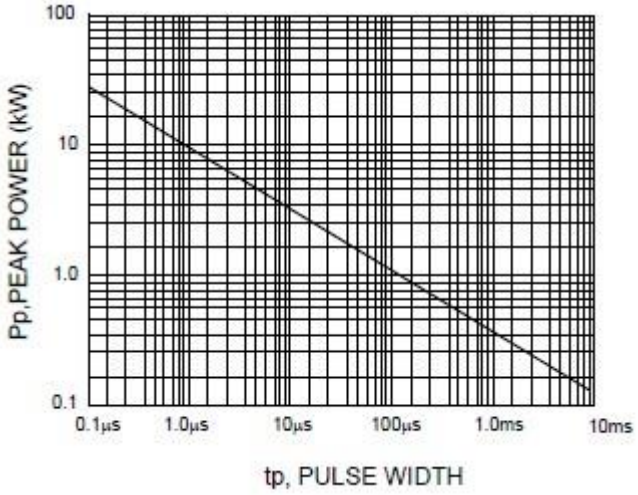


FIG.4 - PULSE RATING CURVE

FIG.5 - PULSE WAVEFORM

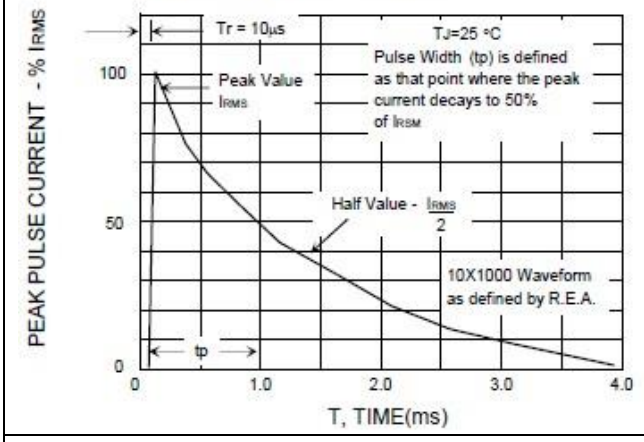


FIG.5 - PULSE WAVEFORM

P4SMA SERIIES

VBR : 6.8 - 440 Volts

PPK : 400 Watts

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