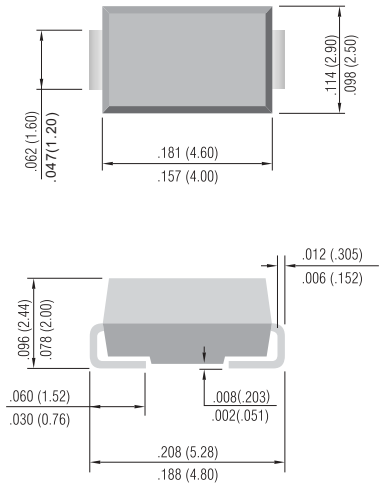
P4SMA SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 400 Watts

BREAK DOWN VOLTAGE | **6.8 to 250 Volts**

SMA / DO-214AC — Unit: inch (mm)



FEATURES

- For surface mounted applications in order to optimize board space.
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

- Case: JEDEC DO-214AC,Molded plastic over passivated junction.
- Terminals: Solder plated,solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode)
- Standard Packaging:12mm tape (EIA-481)
- Weight: 0.0023 ounce, 0.0679 gram

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types P4SMA6.8 thru types P4SMA250.
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on T_A = 25 °C (Notes 1,2,5, Fig.1)	P_{PPM}	400	Watts
Peak Forward Surge Current per Fig.5 (Note 3)	I_{FSM}	40	Amps
Peak Pulse Current on 10/1000µs waveform(Note 1)Fig.2	I_{PPM}	see Table 1	Amps
Typical Thermal Resistance Junction to Air (NOTE 2)	$R_{\theta JA}$	70	°C / W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	°C

NOTES:
1. Non-repetitive current pulse, per Fig.3 and derated above T_A = 25 °C per Fig. 2.
2. Mounted on 5.0mm² copper pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.
4. Lead temperature at 75°C = T_L.
5. Peak pulse power waveform is 10/1000µS.

P4SMA SERIES

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current	Marking Code	
		V_{RWM}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		V_C @ I_{PP}	I_{PP}		
			Min.	Max.		UNI	BI				
UNI	**BI**	**V**	**V**	**V**	**mA**	**µA**	**µA**	**V**	**A**	**UNI**	**BI**
400W Transient Voltage Suppressor											
P4SMA6.8	P4SMA6.8C	5.5	6.12	7.48	10	1000	2000	10.8	38	MZA	NZA
P4SMA6.8A	P4SMA6.8CA	5.8	6.45	7.14	10	1000	2000	10.5	40	MZB	NZB
P4SMA7.5	P4SMA7.5C	6.05	6.75	8.25	10	500	1000	11.7	36	MZC	NZC
P4SMA7.5A	P4SMA7.5CA	6.4	7.13	7.88	10	500	1000	11.3	37	MZD	NZD
P4SMA8.2	P4SMA8.2C	6.63	7.38	9.02	10	200	400	12.5	33	MZE	NZE
P4SMA8.2A	P4SMA8.2CA	7.02	7.79	8.61	10	200	400	12.1	35	MZF	NZF
P4SMA9.1	P4SMA9.1C	7.37	8.19	10	1	50	100	13.8	30	MZG	NZG
P4SMA9.1A	P4SMA9.1CA	7.78	8.65	9.5	1	50	100	13.4	31	MZH	NZH
P4SMA10	P4SMA10C	8.1	9	11	1	10	20	15	28	MZJ	NZJ
P4SMA10A	P4SMA10CA	8.55	9.5	10.5	1	10	20	14.5	29	MZK	NZK
P4SMA11	P4SMA11C	8.92	9.9	12.1	1	5	10	16.2	26	MZL	NZL
P4SMA11A	P4SMA11CA	9.4	10.5	11.6	1	5	10	15.6	27	MZM	NZM
P4SMA12	P4SMA12C	9.72	10.8	13.2	1	1	1	17.3	24	MZN	NZN
P4SMA12A	P4SMA12CA	10.2	11.4	12.6	1	1	1	16.7	25	MZP	NZP
P4SMA13	P4SMA13C	10.5	11.7	14.3	1	1	1	19	22	MZQ	NZQ
P4SMA13A	P4SMA13CA	11.1	12.4	13.7	1	1	1	18.2	23	MZR	NZR
P4SMA15	P4SMA15C	12.1	13.5	16.5	1	1	1	22	19	MZS	NZS
P4SMA15A	P4SMA15CA	12.8	14.3	15.8	1	1	1	21.2	20	MZT	NZT
P4SMA16	P4SMA16C	12.9	14.4	17.6	1	1	1	23.5	18	MZU	NZU
P4SMA16A	P4SMA16CA	13.6	15.2	16.8	1	1	1	22.5	19	MZV	NZV
P4SMA18	P4SMA18C	14.5	16.2	19.8	1	1	1	26.5	16	MZW	NZW
P4SMA18A	P4SMA18CA	15.3	17.1	18.9	1	1	1	25.2	17	MZX	NZX
P4SMA20	P4SMA20C	16.2	18	22	1	1	1	29.1	14	MZY	NZY
PSMA20A	P4SMA20CA	17.1	19	21	1	1	1	27.7	15	MZZ	NZZ
P4SMA22	P4SMA22C	17.8	19.8	24.2	1	1	1	31.9	13	MXA	NXA
P4SMA22A	P4SMA22CA	18.8	20.9	23.1	1	1	1	30.6	14	MXB	NXB
P4SMA24	PSMA24C	19.4	21.6	26.4	1	1	1	34.7	12	MXC	NXC
P4SMA24A	P4SMA24CA	20.5	22.8	25.2	1	1	1	33.2	13	MXD	NXD
P4SMA27	P4SMA27C	21.8	24.3	29.7	1	1	1	39.1	11	MXE	NXE
P4SMA27A	P4SMA27CA	23.1	25.7	28.4	1	1	1	37.5	11.2	MXF	NXF
P4SMA30	P4SMA30C	24.3	27	33	1	1	1	43.5	10	MXG	NXG
P4SMA30A	P4SMA30CA	25.6	28.5	31.5	1	1	1	41.4	10	MXH	NXH
P4SMA33	P4SMA33C	26.8	29.7	36.3	1	1	1	47.7	9	MXJ	NXJ
P4SMA33A	P4SMA33CA	28.2	31.4	34.7	1	1	1	45.7	9	MXK	NXK
P4SMA36	P4SMA36C	29.1	32.4	39.6	1	1	1	52	8	MXL	NXL
P4SMA36A	P4SMA36CA	30.8	34.2	37.8	1	1	1	49.9	8.4	MXM	NXM
P4SMA39	P4SMA39C	31.6	35.1	42.9	1	1	1	56.4	7.4	MXN	NXN
P4SMA39A	P4SMA39CA	33.3	37.1	41	1	1	1	53.9	7.8	MXP	NXP
P4SMA43	P4SMA43C	34.8	38.7	47.3	1	1	1	61.9	6.8	MXQ	NXQ

P4SMA SERIES

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Curre-nt	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current	Marking Code	
		V_{RWM}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		V_C @ I_{PP}	I_{PP}		
			Min.	Max.		UNI	BI				
UNI	**BI**	**V**	**V**	**V**	**mA**	**µA**	**µA**	**V**	**A**	**UNI**	**BI**
400W Transient Voltage Suppressor											
P4SMA43A	P4SMA43CA	36.8	40.9	45.2	1	1	1	59.3	7.1	MXR	NXR
P4SMA47	P4SMA47C	38.1	42.3	51.7	1	1	1	67.8	6.2	MXS	NXS
P4SMA47A	P4SMA47CA	40.2	44.7	49.4	1	1	1	64.8	5	MXT	NXT
P4SMA51	P4SMA51C	41.3	45.9	56.1	1	1	1	73.5	5.7	MXU	NXU
P4SMA51A	P4SMA51CA	43.6	48.5	53.6	1	1	1	70.1	6	MXV	NXV
P4SMA56	P4SMA56C	45.6	50.4	61.6	1	1	1	80.5	5.2	MXW	NXW
P4SMA56A	P4SMA56CA	47.8	53.2	58.8	1	1	1	77	5.5	MXX	NXX
P4SMA62	P4SMA62C	50.2	55.8	68.2	1	1	1	89	4.7	MXY	NXY
P4SMA62A	P4SMA62CA	53	58.9	65.1	1	1	1	85	5	MXZ	NXZ
P4SMA68	P4SMA68C	55.1	61.2	74.8	1	1	1	98	4.3	MYA	NYA
P4SMA68A	P4SMA68CA	58.1	64.6	71.4	1	1	1	92	4.6	MYB	NYB
P4SMA75	P4SMA75C	60.7	67.5	82.5	1	1	1	108	3.9	MYC	NYC
P4SMA75A	P4SMA75CA	64.1	71.3	78.8	1	1	1	103	4.1	MYD	NYD
P4SMA82	P4SMA82C	66.4	73.8	90.2	1	1	1	118	3.6	MYE	NYE
P4SMA82A	P4SMA82CA	70.1	77.9	86.1	1	1	1	113	3.7	MYF	NYF
P4SMA91	P4SMA91C	73.7	81.9	100	1	1	1	131	3.2	MYG	NYG
P4SMA91A	P4SMA91CA	77.8	86.5	95.5	1	1	1	125	3.4	MYH	NYH
P4SMA100	P4SMA100C	81	90	110	1	1	1	144	2.9	MYJ	NYJ
P4SMA100A	P4SMA100CA	85.5	95	105	1	1	1	137	3.1	MYK	NYK
P4SMA110	P4SMA110C	89.2	99	121	1	1	1	158	2.7	MYL	NYL
P4SMA110A	P4SMA110CA	94	105	116	1	1	1	152	2.8	MYM	NYM
P4SMA120	P4SMA120C	97.2	108	132	1	1	1	173	2.4	MYN	NYN
P4SMA120A	P4SMA120CA	102	114	126	1	1	1	165	2.5	MYP	NYP
P4SMA130	P4SMA130C	105	117	143	1	1	1	187	2.2	MYQ	NYQ
P4SMA130A	P4SMA130CA	111	124	137	1	1	1	179	2.3	MYR	NYR
P4SMA150	P4SMA150C	121	135	165	1	1	1	215	2	MYS	NYS
P4SMA150A	P4SMA150CA	128	143	158	1	1	1	207	2	MYT	NYT
P4SMA160	P4SMA160C	130	144	176	1	1	1	230	1.8	MYU	NYU
P4SMA160A	P4SMA160CA	136	152	168	1	1	1	219	1.9	MYV	NYV
P4SMA170	P4SMA170C	138	153	187	1	1	1	244	1.7	MYW	NYW
P4SMA170A	P4SMA170CA	145	162	179	1	1	1	234	1.8	MYX	NYX
P4SMA180	P4SMA180A	146	162	198	1	1	1	258	1.6	MYY	NYY
P4SMA180A	P4SMA180CA	154	171	189	1	1	1	246	1.7	MYZ	NYZ
P4SMA200	P4SMA200A	162	180	220	1	1	1	287	1.5	MWA	NWA
P4SMA200A	P4SMA200CA	171	190	210	1	1	1	274	1.5	MWB	NWB
P4SMA220	P4SMA220A	175	198	242	1	1	1	344	1.2	MWC	NWC
P4SMA220A	P4SMA220CA	185	209	231	1	1	1	328	1.2	MWD	NWD
P4SMA250	P4SMA250C	202	225	275	1	1	1	360	1.1	MWE	NWE
P4SMA250A	P4SMA250CA	214	237	263	1	1	1	344	1.2	MWF	NWF

P4SMA SERIES

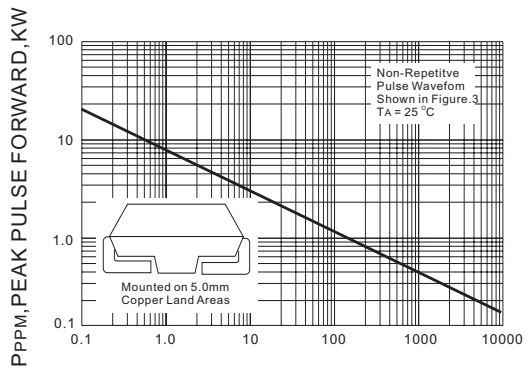


Fig.1 PEAK PULSE POWER RATING CURVE

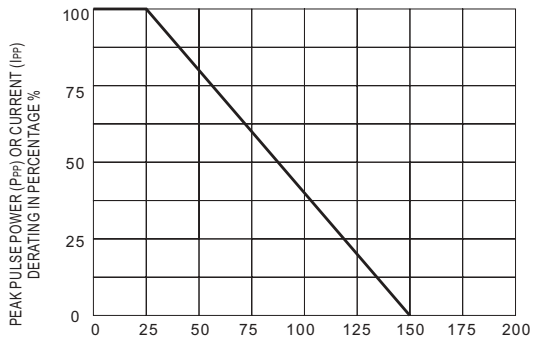


Fig.2 DERATING CURVE

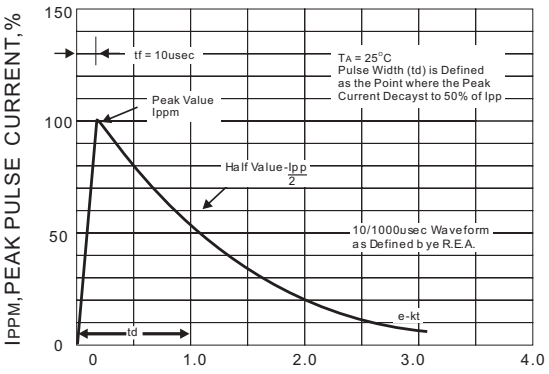


Fig.3 PULSE WAVEFORM

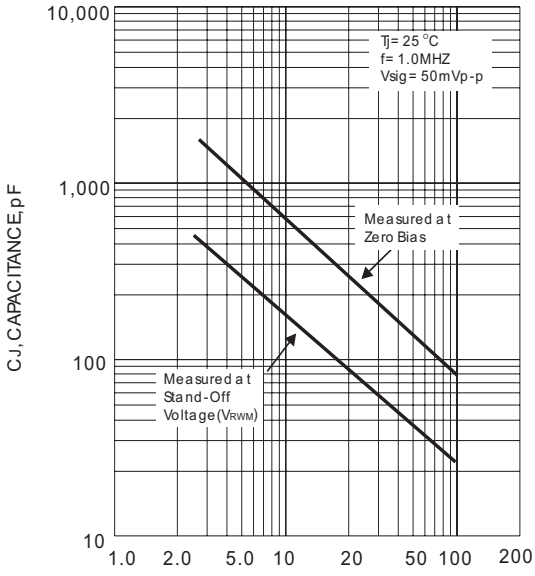


Fig.4 TYPICAL JUNCTION CAPACITANCE

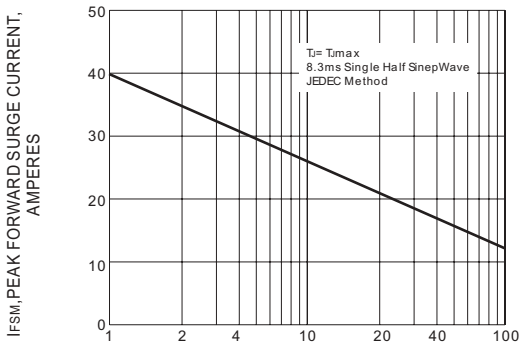
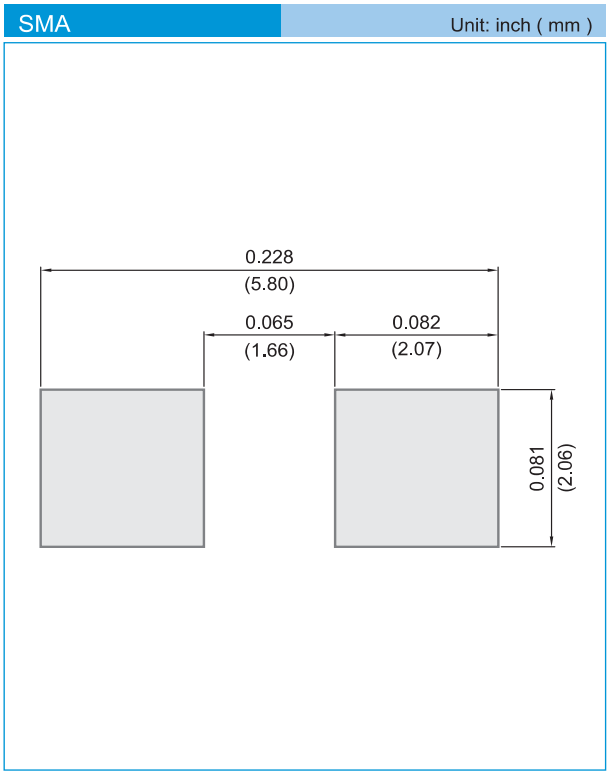


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

P4SMA SERIES

MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information

  T/R - 7.5K per 13" plastic Reel

  T/R - 1.8Kper 7" plastic Reel

LEGAL STATEMENT

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