

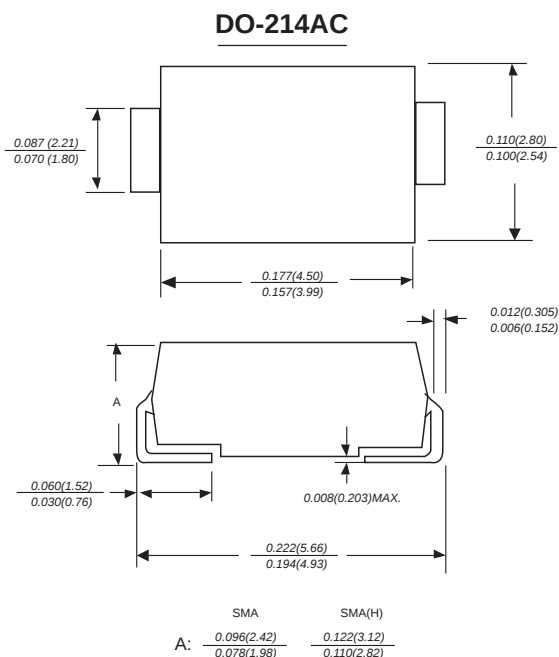
Surface Mount Transient Voltage Suppressors (TVS)

Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)



Dimensions in inches and (millimeters)

Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$) (Note 1)	P_{PK}	400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I_{FSM}	40	A
Instantaneous Forward Voltage @ $I_{PP} = 35\text{A}$ (Notes 1, 2, & 3)	V_F	3.5	V
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	$^\circ\text{C}$

- Notes:
1. Valid provided that terminals are kept at ambient temperature.
 2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
 3. Unidirectional units only.

ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$, continued

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
(UNI)	(BI)	$V_{RWM}(V)$	$V_{BR\ MIN}(V)$	$V_{BR\ MAX}(V)$	$I_T(mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
P4SMA6.8	P4SMA6.8C	5.50	6.12	7.48	10	10.8	38.0	1000.0
P4SMA6.8A	P4SMA6.8CA	5.80	6.45	7.14	10	10.5	40.0	1000.0
P4SMA7.5	P4SMA7.5C	6.05	6.75	8.25	10	11.7	36.0	500.0
P4SMA7.5A	P4SMA7.5CA	6.40	7.13	7.88	10	11.3	37.0	500.0
P4SMA8.2	P4SMA8.2C	6.63	7.38	9.02	10	12.5	33.0	200.0
P4SMA8.2A	P4SMA8.2CA	7.02	7.79	8.61	10	12.1	35.0	200.0
P4SMA9.1	P4SMA9.1C	7.37	8.19	10.0	1.0	13.8	30.0	50.0
P4SMA9.1A	P4SMA9.1CA	7.78	8.65	9.55	1.0	13.4	31.0	50.0
P4SMA10	P4SMA10C	8.10	9.00	11.0	1.0	15.0	28.0	10.0
P4SMA10A	P4SMA10CA	8.55	9.50	10.5	1.0	14.5	29.0	10.0
P4SMA11	P4SMA11C	8.92	9.90	12.1	1.0	16.2	26.0	5.0
P4SMA11A	P4SMA11CA	9.40	10.5	11.6	1.0	15.6	27.0	5.0
P4SMA12	P4SMA12C	9.72	10.8	13.2	1.0	17.3	24.0	5.0
P4SMA12A	P4SMA12CA	10.2	11.4	12.6	1.0	16.7	25.0	5.0
P4SMA13	P4SMA13C	10.5	11.7	14.3	1.0	19.0	22.0	5.0
P4SMA13A	P4SMA13CA	11.1	12.4	13.7	1.0	18.2	23.0	5.0
P4SMA15	P4SMA15C	12.1	13.5	16.5	1.0	22.0	19.0	5.0
P4SMA15A	P4SMA15CA	12.8	14.3	15.8	1.0	21.2	20.0	5.0
P4SMA16	P4SMA16C	12.9	14.4	17.6	1.0	23.5	18.0	5.0
P4SMA16A	P4SMA16CA	13.6	15.2	16.8	1.0	22.5	19.0	5.0
P4SMA18	P4SMA18C	14.5	16.2	19.8	1.0	26.5	16.0	5.0
P4SMA18A	P4SMA18CA	15.3	17.1	18.9	1.0	25.2	17.0	5.0
P4SMA20	P4SMA20C	16.2	18.0	22.0	1.0	29.1	14.0	5.0
P4SMA20A	P4SMA20CA	17.1	19.0	21.0	1.0	27.7	15.0	5.0
P4SMA22	P4SMA22C	17.8	19.8	24.2	1.0	31.9	13.0	5.0
P4SMA22A	P4SMA22CA	18.8	20.9	23.1	1.0	30.6	14.0	5.0
P4SMA24	P4SMA24C	19.4	21.6	26.4	1.0	34.7	12.0	5.0
P4SMA24A	P4SMA24CA	20.5	22.8	25.2	1.0	33.2	13.0	5.0
P4SMA27	P4SMA27C	21.8	24.3	29.7	1.0	39.1	11.0	5.0
P4SMA27A	P4SMA27CA	23.1	25.7	28.4	1.0	37.5	11.2	5.0
P4SMA30	P4SMA30C	24.3	27.0	33.0	1.0	43.5	10.0	5.0
P4SMA30A	P4SMA30CA	25.6	28.5	31.5	1.0	41.4	10.0	5.0
P4SMA33	P4SMA33C	26.8	29.7	36.3	1.0	47.7	9.0	5.0
P4SMA33A	P4SMA33CA	28.2	31.4	34.7	1.0	45.7	9.0	5.0
P4SMA36	P4SMA36C	29.1	32.4	39.6	1.0	52.0	8.0	5.0
P4SMA36A	P4SMA36CA	30.8	34.2	37.8	1.0	49.9	8.4	5.0
P4SMA39	P4SMA39C	31.6	35.1	42.9	1.0	56.4	7.4	5.0
P4SMA39A	P4SMA39CA	33.3	37.1	41.0	1.0	53.9	7.8	5.0
P4SMA43	P4SMA43C	34.8	38.7	47.3	1.0	61.9	6.8	5.0
P4SMA43A	P4SMA43CA	36.8	40.9	45.2	1.0	59.3	7.1	5.0
P4SMA47	P4SMA47C	38.1	42.3	51.7	1.0	67.8	6.2	5.0
P4SMA47A	P4SMA47CA	40.8	44.7	49.4	1.0	64.8	5.0	5.0
P4SMA51	P4SMA51C	41.3	45.9	56.1	1.0	73.5	5.7	5.0
P4SMA51A	P4SMA51CA	43.6	48.5	53.6	1.0	70.1	6.0	5.0

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
(UNI)	(BI)	V _{RWM} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
P4SMA56	P4SMA56C	45.4	50.4	61.6	1.0	80.5	5.2	5.0
P4SMA56A	P4SMA56CA	47.8	53.2	58.8	1.0	77.0	5.5	5.0
P4SMA62	P4SMA62C	50.2	55.8	68.2	1.0	89.0	4.7	5.0
P4SMA62A	P4SMA62CA	53.0	58.9	65.1	1.0	85.0	5.0	5.0
P4SMA68	P4SMA68C	55.1	61.2	74.8	1.0	98.0	4.3	5.0
P4SMA68A	P4SMA68CA	58.1	64.6	71.4	1.0	92.0	4.6	5.0
P4SMA75	P4SMA75C	60.7	67.5	82.5	1.0	108	3.9	5.0
P4SMA75A	P4SMA75CA	64.1	71.3	78.8	1.0	103	4.1	5.0
P4SMA82	P4SMA82C	66.4	73.8	90.2	1.0	118	3.6	5.0
P4SMA82A	P4SMA82CA	70.4	77.9	86.1	1.0	113	3.7	
P4SMA91	P4SMA91C	73.7	81.9	100	1.0	131	3.2	5.0
P4SMA91A	P4SMA91CA	77.8	86.5	95.5	1.0	125	3.4	5.0
P4SMA100	P4SMA100C	81.0	90.0	110	1.0	144	2.9	5.0
P4SMA100A	P4SMA100CA	85.5	95.0	105	1.0	137	3.1	5.0
P4SMA110	P4SMA110C	89.2	99.0	121	1.0	158	2.7	5.0
P4SMA110A	P4SMA110CA	94.0	105	116	1.0	152	2.8	5.0
P4SMA120	P4SMA120C	97.2	108	132	1.0	173	2.4	5.0
P4SMA120A	P4SMA120CA	102	114	126	1.0	165	2.5	5.0
P4SMA130	P4SMA130C	105	117	143	1.0	187	2.2	5.0
P4SMA130A	P4SMA130CA	111	124	137	1.0	179	2.3	5.0
P4SMA150	P4SMA150C	121	135	165	1.0	215	2.0	5.0
P4SMA150A	P4SMA150CA	128	143	158	1.0	207	2.0	5.0
P4SMA160	P4SMA160C	130	144	176	1.0	230	1.8	5.0
P4SMA160A	P4SMA160CA	136	152	168	1.0	219	1.9	5.0
P4SMA170	P4SMA170C	138	153	187	1.0	244	1.7	5.0
P4SMA170A	P4SMA170CA	145	162	179	1.0	234	1.8	5.0
P4SMA180	P4SMA180C	146	162	198	1.0	258	1.6	5.0
P4SMA180A	P4SMA180CA	154	171	189	1.0	246	1.7	5.0
P4SMA200	P4SMA200C	162	180	220	1.0	287	1.5	5.0
P4SMA200A	P4SMA200CA	171	190	210	1.0	274	1.53	5.0
P4SMA220	P4SMA220C	175	198	242	1.0	344	1.16	5.0
P4SMA220A	P4SMA220CA	185	209	231	1.0	328	1.22	5.0
P4SMA250	P4SMA250C	202	225	275	1.0	360	1.1	5.0
P4SMA250A	P4SMA250CA	214	237	263	1.0	344	1.16	5.0
P4SMA300	P4SMA300C	243	270	330	1.0	430	0.93	5.0
P4SMA300A	P4SMA300CA	256	285	315	1.0	414	0.97	5.0
P4SMA350	P4SMA350C	284	315	385	1.0	504	0.79	5.0
P4SMA350A	P4SMA350CA	300	333	368	1.0	482	0.83	5.0
P4SMA400	P4SMA400C	324	360	440	1.0	574	0.70	5.0
P4SMA400A	P4SMA400CA	342	380	420	1.0	548	0.73	5.0
P4SMA440	P4SMA440C	356	396	484	1.0	631	0.63	5.0
P4SMA440A	P4SMA440CA	376	418	462	1.0	602	0.65	5.0

Characteristic Curves $T_A = 25^\circ\text{C}$ unless otherwise noted

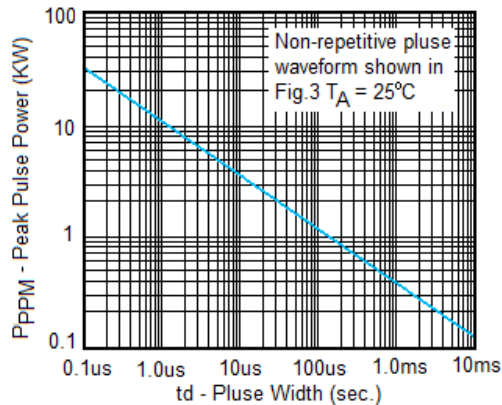


Fig. 1 Peak Pulse Power Rating

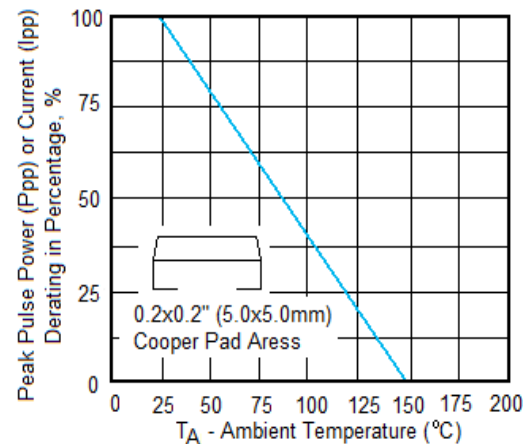


Fig. 2 Pulse Derating Curve

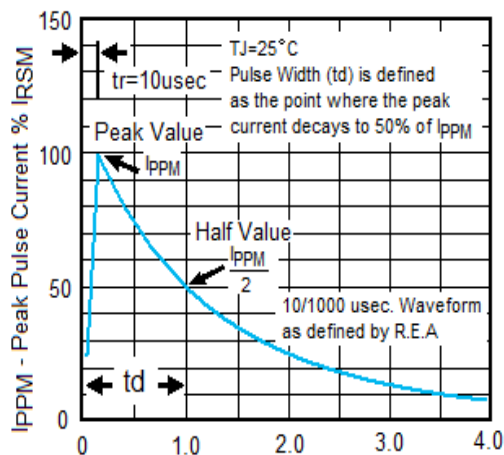


Fig. 3 Pulse Waveform

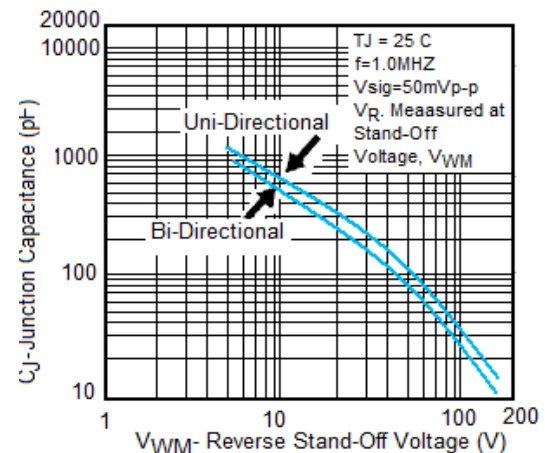
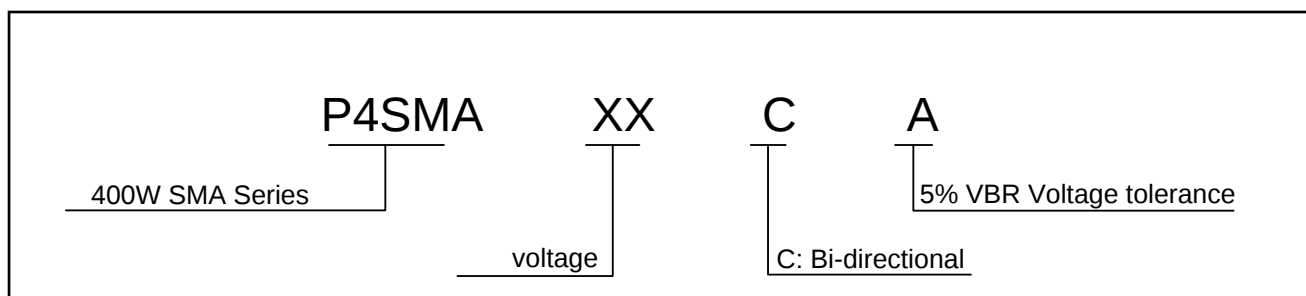


Fig. 4- Typical Junction Capacitance

Ordering Information





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