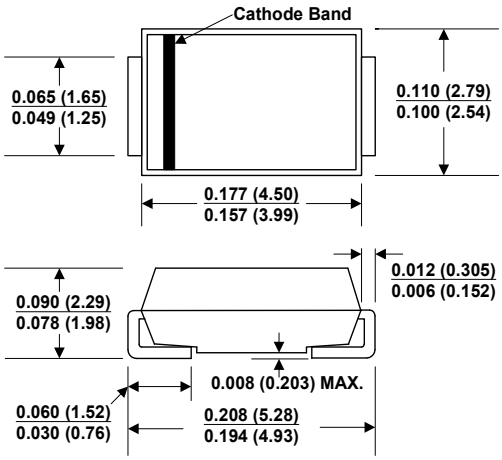
P4SMA SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE - 6.8 TO 550 Volts
400 Watt Peak Pulse Power

DO-214AC (SMA)



Dimensions in inches and(millimeters)

FEATURES

◎ For surface mounted applications in order to optimize board space
◎ Halogen-Free
◎ RoHS compliant
◎ Typical maximum temperature coefficient $\triangle V_{BR}$=0.1%xV_{BR}@25℃x$\triangle$T
◎ Low profile package
◎ Built-in strain relief
◎ Glass passivated junction
◎ Low inductance
◎ Excellent clamping capability
◎ Repetition Rate (duty cycle):0.01%
◎ Fast response time: typically less than 1.0ps from 0 Volts to V(BR)
◎ Typical IR less than 1μA above 12V
◎ IEC-61000-4-2 ESD 30kV(Air), 30kV (Contact)
◎ High temperature soldering: 260°C/40 seconds at terminals
◎ Matte Tin Lead-free plated

MECHANICAL DATA

Case: JEDEC DO214AC. Molded plastic over glass passivated junction
Terminal: Solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bidirectional
Standard Packaging: 12mm tape (EIA STD RS-481)
Weight: 0.002 ounce, 0.061 gram

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1.2 ,FIG.1)	P_{PPM}	Minimum 400	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note2, 3)	I_{FSM}	40	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 150	℃

Notes :
1.Non-repetitive current pulse , per Fig. 3 and derated above T_A = 25℃ per Fig. 2 .
2.Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal
3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

P4SMA SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE - 6.8 TO 550 Volts

400 Watt Peak Pulse Power

P4SMA PART NUMBER		DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE V_{RWM}(V)	BREAKDOWN VOLTAGE V_{BR}(V) @I_T		TEST CURRENT I_T (mA)	MAXIMUN CLAMPING VOLTAGE @Ipp Vc(V) (10/1000uS)	PEAK PULSE CURRENT Ipp (A) (10/1000uS)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V) (8/20uS)	PEAK PULSE CURRENT Ipp (A) (8/20uS)	REVERSE LEAKAGE @ V_{RWM} I_R (μA)
UNI-POLAR	BI-POLAR	UNI	BI		MIN	MAX						
P4SMA 6.8A	P4SMA 6.8CA	6V8A	6V8C	5.8	6.45	7.14	10	10.5	39.00	13.7	195.0	1000.0
P4SMA 7.5A	P4SMA 7.5CA	7V5A	7V5C	6.4	7.13	7.88	10	11.3	36.30	14.7	181.5	500.0
P4SMA 8.2A	P4SMA 8.2CA	8V2A	8V2C	**7.1**	7.79	8.61	10	12.1	33.90	15.7	169.5	200.0
P4SMA 9.1A	P4SMA 9.1CA	9V1A	9V1C	7.8	8.65	9.55	1	13.4	30.60	17.4	153.0	50.0
P4SMA 10A	P4SMA 10CA	10A	10C	8.6	9.50	10.50	1	14.5	28.30	18.9	141.5	10.0
P4SMA 11A	P4SMA 11CA	11A	11C	9.4	10.50	11.60	1	15.2	26.39	20.3	131.5	5.0
P4SMA 12A	P4SMA 12CA	12A	12C	10.2	11.40	12.60	1	16.7	24.60	21.7	123.0	5.0
P4SMA 13A	P4SMA 13CA	13A	13C	11.1	12.40	13.70	1	18.2	22.50	23.7	112.5	1.0
P4SMA 15A	P4SMA 15CA	15A	15C	12.8	14.30	15.80	1	21.2	19.30	27.6	96.5	1.0
P4SMA 16A	P4SMA 16CA	16A	16C	13.6	15.20	16.80	1	22.5	18.20	29.3	91.0	1.0
P4SMA 18A	P4SMA 18CA	18A	18C	15.3	17.10	18.90	1	25.3	16.10	33.2	80.5	1.0
P4SMA 20A	P4SMA 20CA	20A	20C	17.1	19.00	21.00	1	27.7	14.80	36.0	74.0	1.0
P4SMA 22A	P4SMA 22CA	22A	22C	18.8	20.90	23.10	1	30.6	13.40	39.8	67.0	1.0
P4SMA 24A	P4SMA 24CA	24A	24C	20.5	22.80	25.20	1	33.2	12.30	43.2	61.5	1.0
P4SMA 27A	P4SMA 27CA	27A	27C	23.1	25.70	28.40	1	37.5	10.90	48.8	54.5	1.0
P4SMA 30A	P4SMA 30CA	30A	30C	25.6	28.50	31.50	1	41.4	9.90	53.8	49.5	1.0
P4SMA 33A	P4SMA 33CA	33A	33C	28.2	31.40	34.70	1	45.7	9.00	59.4	45.0	1.0
P4SMA 36A	P4SMA 36CA	36A	36C	30.8	34.20	37.80	1	49.9	8.20	64.9	41.0	1.0
P4SMA 39A	P4SMA 39CA	39A	39C	33.3	37.10	41.00	1	53.9	7.60	70.1	38.0	1.0
P4SMA 43A	P4SMA 43CA	43A	43C	36.8	40.90	45.20	1	59.3	6.90	77.1	34.5	1.0
P4SMA 47A	P4SMA 47CA	47A	47C	40.2	44.70	49.40	1	64.8	6.30	84.2	31.5	1.0
P4SMA 51A	P4SMA 51CA	51A	51C	43.6	48.50	53.60	1	70.1	5.80	91.1	29.0	1.0
P4SMA 56A	P4SMA 56CA	56A	56C	47.8	53.20	58.80	1	77.0	5.30	100.1	26.5	1.0
P4SMA 62A	P4SMA 62CA	62A	62C	53.0	58.90	65.10	1	85.0	4.80	110.5	24.0	1.0
P4SMA 68A	P4SMA 68CA	68A	68C	58.1	64.60	71.40	1	92.0	4.50	119.6	22.5	1.0
P4SMA 75A	P4SMA 75CA	75A	75C	64.1	71.30	78.80	1	103.0	4.00	133.9	20.0	1.0
P4SMA 82A	P4SMA 82CA	82A	82C	70.1	77.90	86.10	1	113.0	3.60	146.9	18.0	1.0
P4SMA 91A	P4SMA 91CA	91A	91C	77.8	86.50	95.50	1	125.0	3.30	162.5	16.5	1.0
P4SMA 100A	P4SMA 100CA	100A	100C	85.5	95.00	105.00	1	137.0	3.00	178.1	15.0	1.0
P4SMA 110A	P4SMA 110CA	110A	110C	94.0	105.00	116.00	1	152.0	2.70	197.6	13.5	1.0
P4SMA 120A	P4SMA 120CA	120A	120C	102.0	114.00	126.00	1	165.0	2.50	214.5	12.5	1.0
P4SMA 130A	P4SMA 130CA	130A	130C	111.0	124.00	137.00	1	179.0	2.30	232.7	11.5	1.0
P4SMA 150A	P4SMA 150CA	150A	150C	128.0	143.00	158.00	1	207.0	2.00	269.1	10.0	1.0
P4SMA 160A	P4SMA 160CA	160A	160C	136.0	152.00	168.00	1	219.0	1.90	284.7	9.5	1.0
P4SMA 170A	P4SMA 170CA	170A	170C	145.0	162.00	179.00	1	234.0	1.80	304.2	9.0	1.0
P4SMA 180A	P4SMA 180CA	180A	180C	154.0	171.00	189.00	1	246.0	1.70	319.8	8.5	1.0
P4SMA 200A	P4SMA 200CA	200A	200C	171.0	190.00	210.00	1	274.0	1.50	356.2	7.5	1.0
P4SMA 220A	P4SMA 220CA	220A	220C	185.0	209.00	231.00	1	328.0	1.30	426.4	6.5	1.0
P4SMA 250A	P4SMA 250CA	250A	250C	214.0	237.00	263.00	1	344.0	1.20	447.2	6.0	1.0
P4SMA 300A	P4SMA 300CA	300A	300C	256.0	285.00	315.00	1	414.0	1.00	538.2	5.0	1.0
P4SMA 350A	P4SMA 350CA	350A	350C	300.0	332.00	368.00	1	482.0	0.90	626.6	4.3	1.0
P4SMA 400A	P4SMA 400CA	400A	400C	342.0	380.00	420.00	1	548.0	0.80	712.4	3.8	1.0
P4SMA 440A	P4SMA 440CA	440A	440C	376.0	418.00	462.00	1	602.0	0.70	782.6	3.4	1.0
P4SMA 480A	P4SMA 480CA	480A	480C	408.0	456.00	504.00	1	658.0	0.61	855.4	3.1	1.0
P4SMA 510A	P4SMA 510CA	510A	510C	434.0	485.00	535.00	1	698.0	0.60	907.4	2.9	1.0
P4SMA 530A	P4SMA 530CA	530A	530C	477.0	503.50	556.50	1	725.0	0.60	942.5	2.8	1.0
P4SMA 540A	P4SMA 540CA	540A	540C	486.0	513.00	567.00	1	740.0	0.55	962.0	2.7	1.0
P4SMA 550A	P4SMA 550CA	550A	550C	495.0	522.50	577.50	1	760.0	0.53	988.0	2.6	1.0

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.

RATINGS AND CHARACTERISTIC CURVES

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

Fig. 1 - Peak Pulse Power Rating

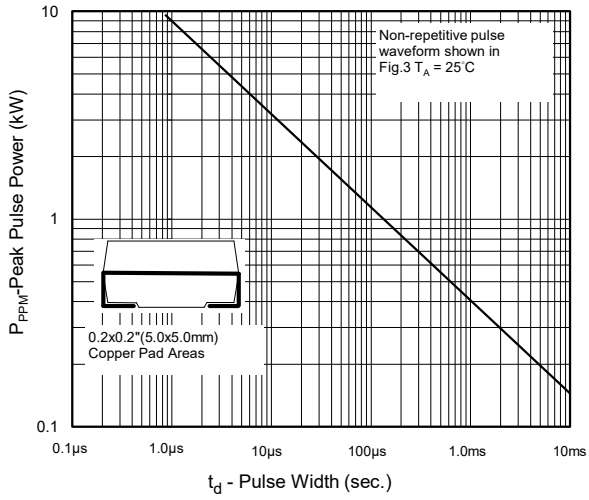


Fig.2 - Pulse Derating Curve

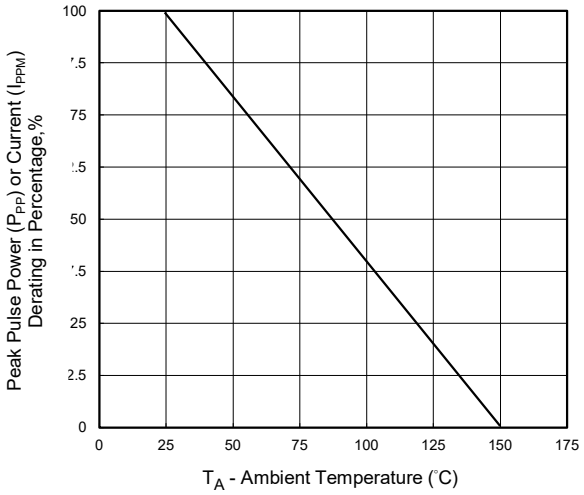


Fig.3 - Pulse Waveform

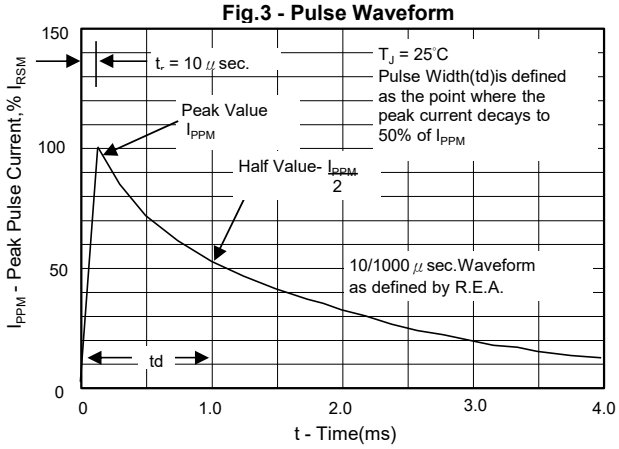


Fig. 4 - Typical Junction Capacitance

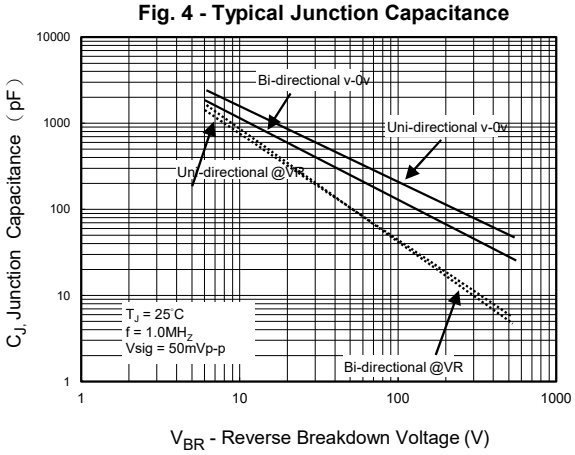


Fig. 5 - Steady State Power Derating Curve

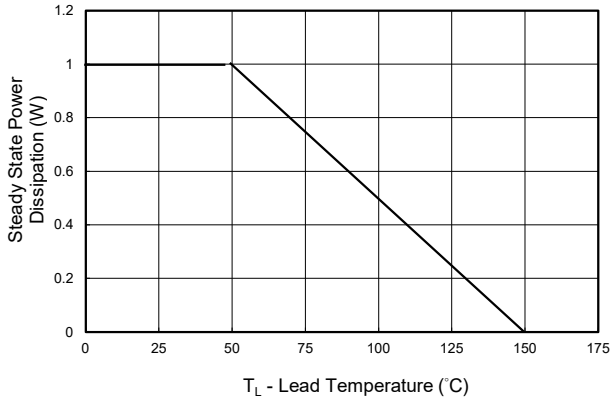
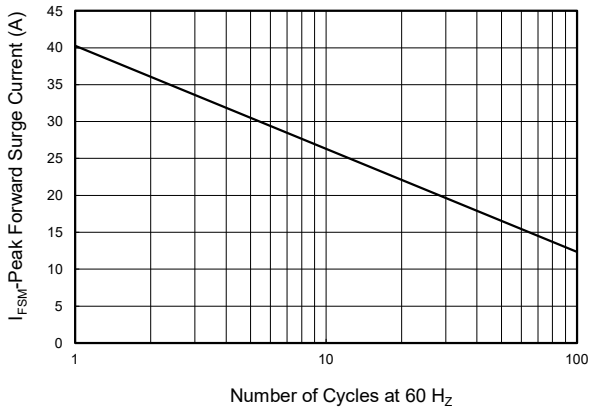


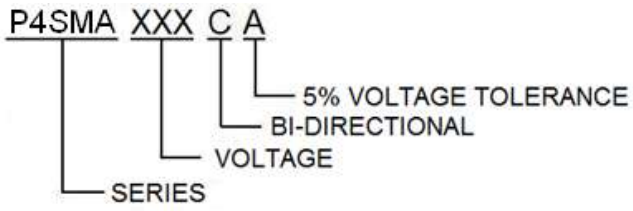
Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only



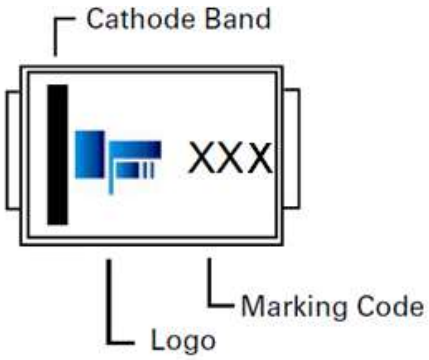
P4SMA SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
P4SMAxxxXX	DO-214AC	5000	Tape & Reel - 12mm/13" tape	EIA STD RS-481
P4SMAxxxXX	DO-214AC	1000	Tape & Reel - 12mm/ 7" tape	EIA STD RS-481