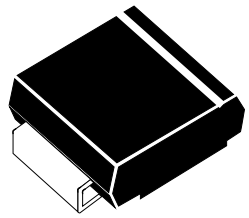
WSxxP30SMC(-B) Series

Power Transient Voltage Suppressor

Features

- 3000 watts Peak Pulse Capability(10/1000μs waveform) Repetition Rate(duty cycles):0.01%
- Typical Maximum Temperature Coefficient $\Delta V_{BR} = 0.1\% \times V_{BR}$@25°C
- Glass Passivated chip junction in P600 Package
- Fast Response Time: Typically < 1.0ps from 0V to BV min
- Excellent Clamping Capability
- Low incremental surge resistance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Typical I_R less than 2μA above 12V
- High temperature soldering guaranteed:260°C /40 seconds/.375",(9.5mm) lead length,5lbs.,(2.3kg) tension
- Matte Tin Lead-free plated



SMCJ
(JEDEC DO-214AB)

Mechanical Characteristics

- JEDEC DO-214AB molded plastic
- Polarity: Color band denoted cathode except Bipolar
- Marking : Marking Code
- Mounting Position: Any
- RoHS/WEEE Compliant

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Signal lines of sensor units for consumer
- Industrial Electronics
- Computer

Maximum Rating and Thermal Characteristics (T_A=25°C)

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =10/1000μs) (see Note1,2& 3)	P_{PPM}	3000	W
Peak pulse current (10/1000 μs) (see Note2&3)	I_{PPM}	See Electrical Characteristics	A
Peak Forward surge current (see Note4&5)	I_{FSM}	300	A
Power Dissipation on infinite heat sink T_A = 50 °C (Fig5)	P_D	6.5	W
Operating Junction Temperature range	T_J	-65 to 150	°C
Typical Thermal Resistance Junction to Lead	R_{uJL}	15	°C/W

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.
2. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 per minute maximum.
3. Mounted on copper pad area of 0.31x0.31"(8.0x8.0mm) to each terminal

Electrical Characteristics

Part Number		Reverse Stand off Voltage V_{RWM}	Breakdown Voltage V_{BR}(V)@I_T		Test Current I_T	Maximum Clamping Voltage V_c@I_{PP}	Maximum PeakPulse Current I_{pp}	Maximum Reverse Leakage Current I_R@V_{RWM}
UNI-POLAR	BI-POLAR	(V)	MIN	MAX	(mA)	(V)	(A)	(μA)
WS5.0P30SMC	WS5.0P30SMC-B	5.0	6.40	7.00	10	9.2	326.1	800
WS6.0P30SMC	WS6.0P30SMC-B	6.0	6.67	7.37	10	10.3	291.3	800
WS6.5P30SMC	WS6.5P30SMC-B	6.5	7.22	7.98	10	11.2	267.9	500
WS7.0P30SMC	WS7.0P30SMC-B	7.0	7.78	8.60	10	12.0	250.0	200
WS7.5P30SMC	WS7.5P30SMC-B	7.5	8.33	9.21	1	12.9	232.6	100
WS8.0P30SMC	WS8.0P30SMC-B	8.0	8.89	9.83	1	13.6	220.6	50
WS8.5P30SMC	WS8.5P30SMC-B	8.5	9.44	10.40	1	14.4	208.3	20
WS9.0P30SMC	WS9.0P30SMC-B	9.0	10.00	11.10	1	15.4	194.8	10
WS10P30SMC	WS10P30SMC-B	10.0	11.10	12.30	1	17.0	176.5	5
WS11P30SMC	WS11P30SMC-B	11.0	12.20	13.50	1	18.2	164.8	2
WS12P30SMC	WS12P30SMC-B	12.0	13.30	14.70	1	19.9	150.8	2
WS13P30SMC	WS13P30SMC-B	13.0	14.40	15.90	1	21.5	139.5	2
WS14P30SMC	WS14P30SMC-B	14.0	15.60	17.20	1	23.2	129.3	2
WS15P30SMC	WS15P30SMC-B	15.0	16.70	18.50	1	24.4	123.0	2
WS16P30SMC	WS16P30SMC-B	16.0	17.80	19.70	1	26.0	115.4	2
WS17P30SMC	WS17P30SMC-B	17.0	18.90	20.90	1	27.6	108.7	2
WS18P30SMC	WS18P30SMC-B	18.0	20.00	22.10	1	29.2	102.7	2
WS20P30SMC	WS20P30SMC-B	20.0	22.20	24.50	1	32.4	92.6	2
WS22P30SMC	WS22P30SMC-B	22.0	24.40	26.90	1	35.5	84.5	2
WS24P30SMC	WS24P30SMC-B	24.0	26.70	29.50	1	38.9	77.1	2
WS26P30SMC	WS26P30SMC-B	26.0	28.90	31.90	1	42.1	71.3	2
WS28P30SMC	WS28P30SMC-B	28.0	31.10	34.40	1	45.4	66.1	2
WS30P30SMC	WS30P30SMC-B	30.0	33.30	36.80	1	48.4	62.0	2
WS33P30SMC	WS33P30SMC-B	33.0	36.70	40.60	1	53.3	56.3	2
WS36P30SMC	WS36P30SMC-B	36.0	40.00	44.20	1	58.1	51.6	2
WS40P30SMC	WS40P30SMC-B	40.0	44.40	49.10	1	64.5	46.5	2
WS43P30SMC	WS43P30SMC-B	43.0	47.80	52.80	1	69.4	43.2	2

Electrical Characteristics (Cont.)

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR}(V)@I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_c@I_{PP} (V)	Maximum PeakPulse Current I_{pp} (A)	Maximum Reverse Leakage Current I_R@V_{RWM} (μA)
UNI-POLAR	BI-POLAR		MIN	MAX				
WS45P30SMC	WS45P30SMC-B	45.0	50.00	55.30	1	72.7	41.3	2
WS48P30SMC	WS48P30SMC-B	48.0	53.30	58.90	1	77.4	38.8	2
WS51P30SMC	WS51P30SMC-B	51.0	56.70	62.70	1	82.4	36.4	2
WS54P30SMC	WS54P30SMC-B	54.0	60.00	66.30	1	87.1	34.4	2
WS58P30SMC	WS58P30SMC-B	58.0	64.40	71.20	1	93.6	32.1	2
WS60P30SMC	WS60P30SMC-B	60.0	66.70	73.70	1	96.8	31.0	2
WS64P30SMC	WS64P30SMC-B	64.0	71.10	78.60	1	103.0	29.1	2
WS70P30SMC	WS70P30SMC-B	70.0	77.80	86.00	1	113.0	26.5	2
WS75P30SMC	WS75P30SMC-B	75.0	83.30	92.10	1	121.0	24.8	2
WS78P30SMC	WS78P30SMC-B	78.0	86.70	95.80	1	126.0	23.8	2
WS85P30SMC	WS85P30SMC-B	85.0	94.40	104.00	1	137.0	21.9	2
WS90P30SMC	WS90P30SMC-B	90.0	100.00	111.00	1	146.0	20.5	2
WS100P30SMC	WS100P30SMC-B	100.0	111.00	123.00	1	162.0	18.5	2
WS110P30SMC	WS110P30SMC-B	110.0	122.00	135.00	1	177.0	16.9	2
WS120P30SMC	WS120P30SMC-B	120.0	133.00	147.00	1	193.0	15.5	2
WS130P30SMC	WS130P30SMC-B	130.0	144.00	159.00	1	209.0	14.4	2
WS150P30SMC	WS150P30SMC-B	150.0	167.00	185.00	1	243.0	12.3	2
WS160P30SMC	WS160P30SMC-B	160.0	178.00	197.00	1	259.0	11.6	2
WS170P30SMC	WS170P30SMC-B	170.0	189.00	209.00	1	275.0	10.9	2

Typical Characteristics

Figure 1. Peak Pulse Power Rating Curve

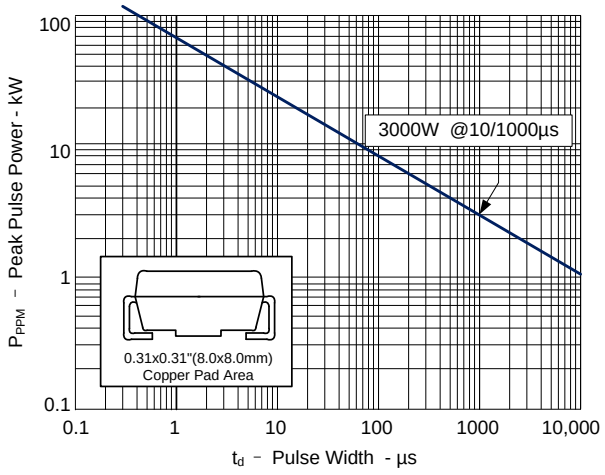


Figure 2. Pulse Derating Curve

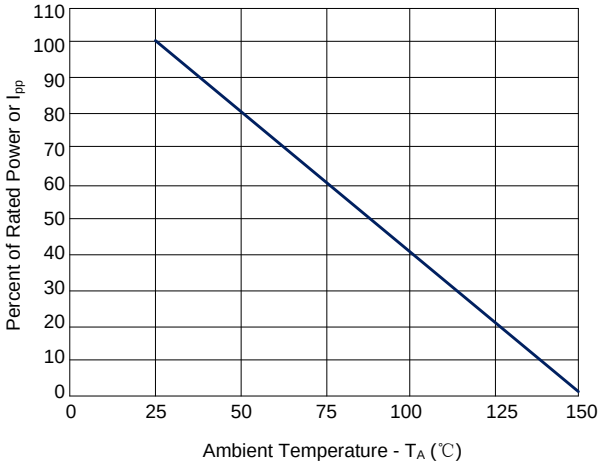


Figure 3. Pulse Waveform

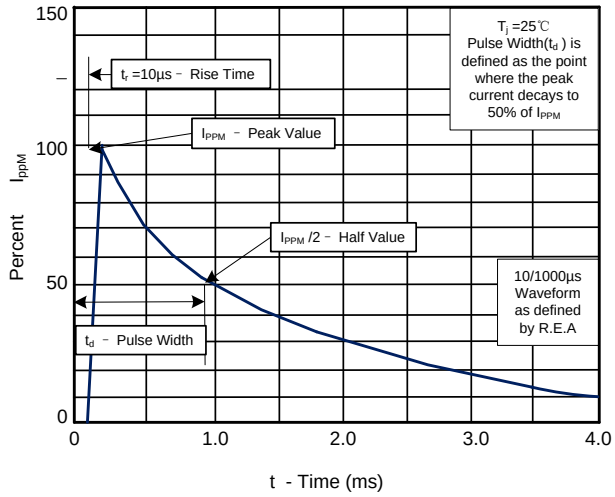


Figure 4. Typical Junction Capacitance

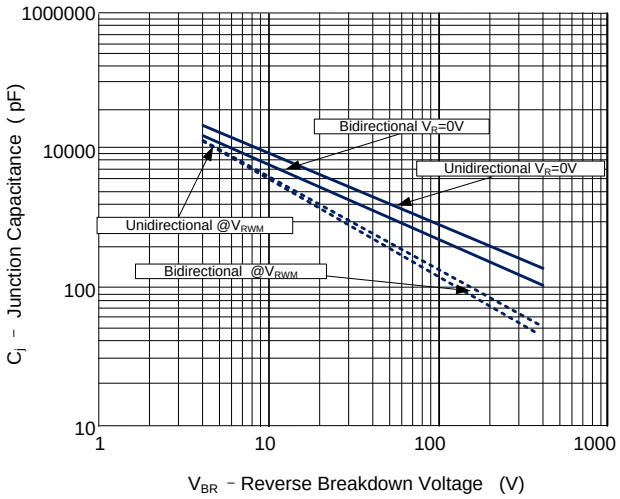


Figure 5. Steady State Power Dissipation Derating Curve

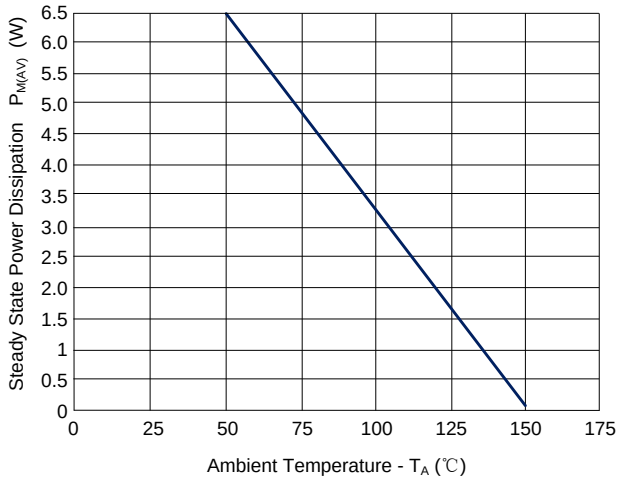
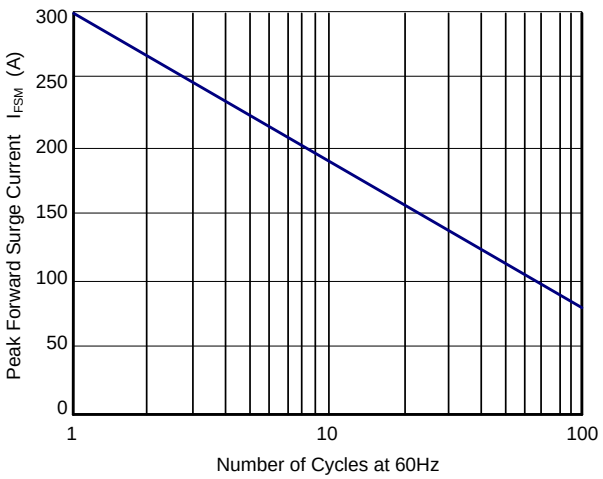


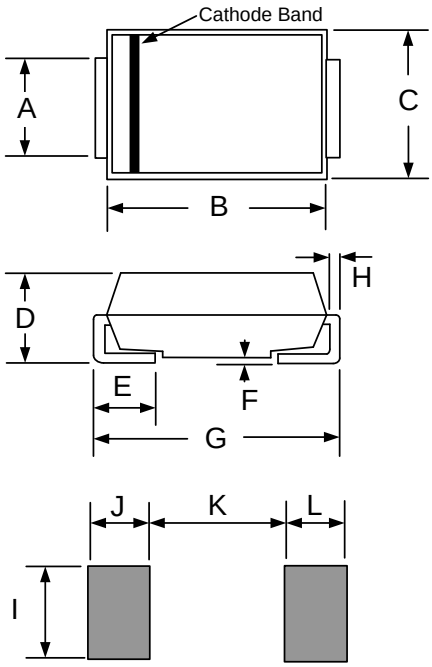
Figure 6. Maximum Non-Repetitive Forward Surge Current Only Unidirectional



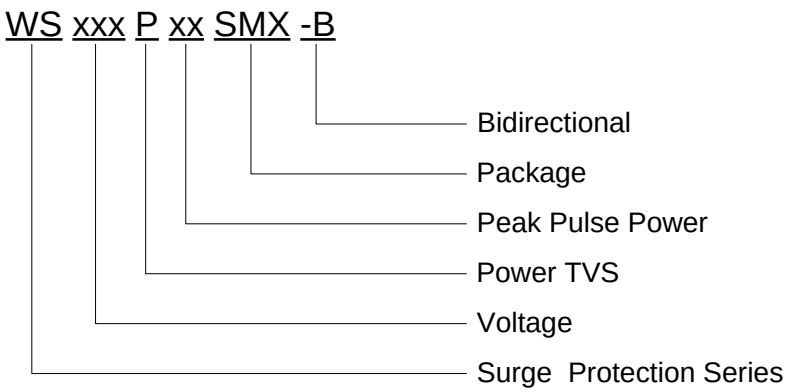
Package Outline Dimension

Ref.(mm)	Inches		Millimeters	
	Min	Max	Min.	Max.
A	0.114	0.126	2.900	3.200
B	0.260	0.280	6.600	7.110
C	0.220	0.245	5.590	6.220
D	0.079	0.103	2.060	2.620
E	0.030	0.060	0.760	1.520
F	-	0.008	-	0.203
G	0.305	0.320	7.750	8.130
H	0.006	0.012	0.152	0.305
I	0.129	-	3.300	-
J	0.094	-	2.400	-
K	-	0.165	4.200	
L	0.094	-	2.400	-

DO-214AB(SMC J-Bend)



Part Numbering System



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