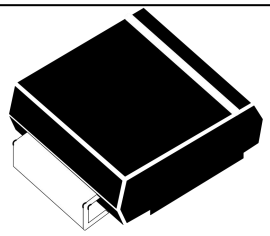
CYG WAYON
Let's make electronics safer!

WSxxP10SMB(-B)

Power Transient Voltage Suppressor

Features

- 1000 watts Peak Pulse Power (10/1000μs)
- Unidirectional and Bidirectional Protection
- Fast Response Time : Typically < 1ns
- Excellent Clamping Capability
- Glass Passivated Junction
- Built-in Strain relief
- Low inductance
- Low profile package
- High temperature solder:260℃/10 seconds at terminal



SMB
(JEDEC DO-214AA)

Mechanical Characteristics

- JEDEC DO-214AA package
- Molding compound flammability rating: UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Computers &Consumer Electronics
- Industrial Electronics

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =10/1000μs) (see Note1,2& 3)	P_{PPM}	1000	Watts
Peak pulse current (10/1000μs) (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	-55 to + 150	℃
Storage Temperature range	T_{STG}	-55 to + 150	℃

Note1: Peak Pulse Power Rating as Pulse Width ,per Fig1.

Note2: Peak Pulse Power or Current Derated above T_A=25℃ Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig.3.

Note3: Mounted on 5.0x5.0mm^2 copper pad to each terminal.

Note4: 8.3ms Single Half Sine Wave or Equivalent Square Wave.

Note5: Maximum Forward Surge Current only for Unidirectional Device per Fig6.

Electrical Characteristics

Part Number		Reverse Stand off Voltage V_{RWM}	Breakdown Voltage V_{BR}(Volts)@I_T		Test Current I_T	Maximum Clamping Voltage V_c@I_{PP}	Maximum Peak Pulse Current I_{pp}	Maximum Reverse Leakage I_R@V_{RWM}
UNI-POLAR	BI-POLAR	(Volts)	MIN	MAX	(mA)	(Volts)	(Amps)	(μA)
WS5.0P10SMB	WS5.0P10SMB-B	5.0	6.40	7.07	10	9.2	108.7	800
WS6.0P10SMB	WS6.0P10SMB-B	6.0	6.67	7.37	10	10.3	97.09	800
WS6.5P10SMB	WS6.5P10SMB-B	6.5	7.22	7.98	10	11.2	89.29	500
WS7.0P10SMB	WS7.0P10SMB-B	7.0	7.78	8.60	10	12.0	83.33	200
WS7.5P10SMB	WS7.5P10SMB-B	7.5	8.33	9.21	1	12.9	77.52	100
WS8.0P10SMB	WS8.0P10SMB-B	8.0	8.89	9.83	1	13.6	73.53	50
WS8.5P10SMB	WS8.5P10SMB-B	8.5	9.44	10.40	1	14.4	69.44	20
WS9.0P10SMB	WS9.0P10SMB-B	9.0	10.00	11.10	1	15.4	64.94	10
WS10P10SMB	WS10P10SMB-B	10	11.10	12.30	1	17.0	58.82	10
WS11P10SMB	WS11P10SMB-B	11	12.20	13.50	1	18.2	54.95	1
WS12P10SMB	WS12P10SMB-B	12	13.30	14.7	1	19.9	50.25	1
WS13P10SMB	WS13P10SMB-B	13	14.40	15.90	1	21.5	46.51	1
WS14P10SMB	WS14P10SMB-B	14	15.60	17.20	1	23.2	43.10	1
WS15P10SMB	WS15P10SMB-B	15	16.70	18.50	1	24.4	40.98	1
WS16P10SMB	WS16P10SMB-B	16	17.80	19.70	1	26.0	38.46	1
WS17P10SMB	WS17P10SMB-B	17	18.90	20.90	1	27.6	36.23	1
WS18P10SMB	WS18P10SMB-B	18	20.00	22.10	1	29.2	34.25	1
WS20P10SMB	WS20P10SMB-B	20	22.20	24.50	1	32.4	30.86	1
WS22P10SMB	WS22P10SMB-B	22	24.40	26.90	1	35.5	28.17	1
WS24P10SMB	WS24P10SMB-B	24	26.70	29.50	1	38.9	25.71	1
WS26P10SMB	WS26P10SMB-B	26	28.90	31.90	1	42.1	23.75	1
WS28P10SMB	WS28P10SMB-B	28	31.10	34.40	1	45.4	22.03	1
WS30P10SMB	WS30P10SMB-B	30	33.30	36.80	1	48.4	20.66	1
WS33P10SMB	WS33P10SMB-B	33	36.70	40.60	1	53.3	18.76	1
WS36P10SMB	WS36P10SMB-B	36	40.00	44.20	1	58.1	17.21	1
WS40P10SMB	WS40P10SMB-B	40	44.40	49.10	1	64.5	15.50	1
WS43P10SMB	WS43P10SMB-B	43	47.80	52.80	1	69.4	14.41	1
WS45P10SMB	WS45P10SMB-B	45	50.00	55.30	1	72.7	13.76	1

Electrical Characteristics (Cont.)

Part Number		Reverse Stand off Voltage V_{RWM}	Breakdown Voltage V_{BR}(Volts)@I_T		Test Current I_T	Maximum Clamping Voltage V_c@I_{PP}	Maximum Peak Pulse Current I_{pp}	Maximum Reverse Leakage I_R@V_{RWM}
UNI-POLAR	**BI-POLAR**	**(Volts)**	**MIN**	**MAX**	**(mA)**	**(Volts)**	**(Amps)**	**(μA)**
WS48P10SMB	WS48P10SMB-B	48	53.30	58.90	1	77.4	12.92	1
WS51P10SMB	WS51P10SMB-B	51	56.70	62.70	1	82.4	12.14	1
WS54P10SMB	WS54P10SMB-B	54	60.00	66.30	1	87.1	11.48	1
WS58P10SMB	WS58P10SMB-B	58	64.40	71.20	1	93.6	10.68	1
WS60P10SMB	WS60P10SMB-B	60	66.70	73.70	1	96.8	10.33	1
WS64P10SMB	WS64P10SMB-B	64	71.10	78.60	1	103	9.71	1
WS70P10SMB	WS70P10SMB-B	70	77.80	86.00	1	113	8.85	1
WS75P10SMB	WS75P10SMB-B	75	83.30	92.10	1	121	8.26	1
WS78P10SMB	WS78P10SMB-B	78	86.70	95.80	1	126	7.94	1
WS85P10SMB	WS85P10SMB-B	85	94.40	104	1	137	7.30	1
WS90P10SMB	WS90P10SMB-B	90	100	111	1	146	6.85	1
WS100P10SMB	WS100P10SMB-B	100	111	123	1	162	6.17	1
WS110P10SMB	WS110P10SMB-B	110	122	135	1	177	5.65	1
WS120P10SMB	WS120P10SMB-B	120	133	147	1	193	5.18	1
WS130P10SMB	WS130P10SMB-B	130	144	159	1	209	4.78	1
WS150P10SMB	WS150P10SMB-B	150	167	185	1	243	4.12	1
WS160P10SMB	WS160P10SMB-B	160	178	197	1	259	3.86	1
WS170P10SMB	WS170P10SMB-B	170	189	209	1	275	3.64	1
WS180P10SMB	WS180P10SMB-B	180	201	222	1	292	3.42	1
WS190P10SMB	WS190P10SMB-B	190	211	233	1	308	3.25	1
WS200P10SMB	WS200P10SMB-B	200	224	247	1	324	3.09	1
WS220P10SMB	WS220P10SMB-B	220	246	272	1	356	2.81	1
WS250P10SMB	WS250P10SMB-B	250	279	309	1	405	2.47	1
WS300P10SMB	WS300P10SMB-B	300	335	371	1	486	2.06	1
WS350P10SMB	WS350P10SMB-B	350	391	432	1	567	1.76	1
WS400P10SMB	WS400P10SMB-B	400	447	494	1	648	1.54	1
WS440P10SMB	WS440P10SMB-B	440	492	543	1	713	1.40	1

Typical Characteristics

Figure 1: Peak Pulse Power Rating Curve

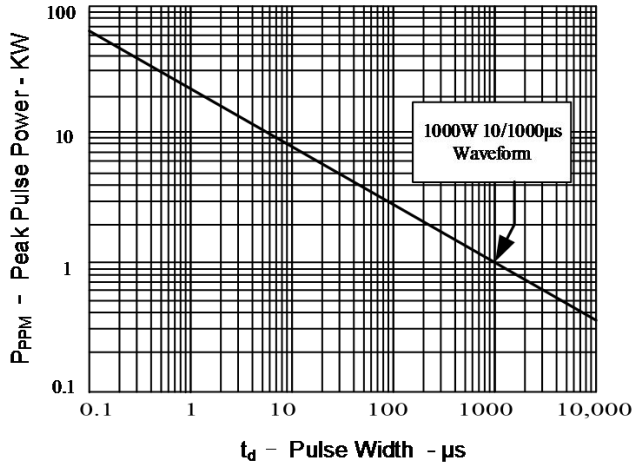


Figure 2: Pulse Derating Curve

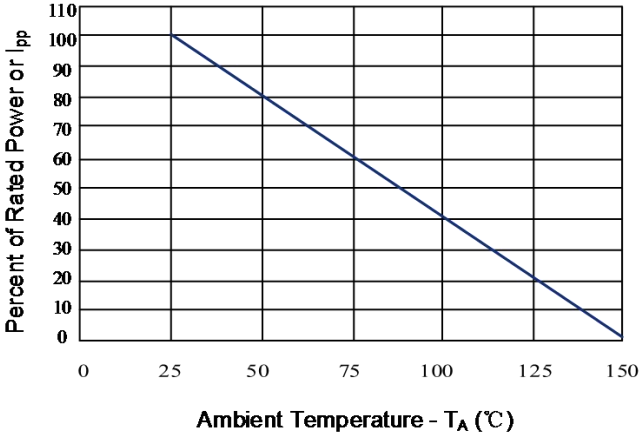


Figure 3: Pulse Waveform

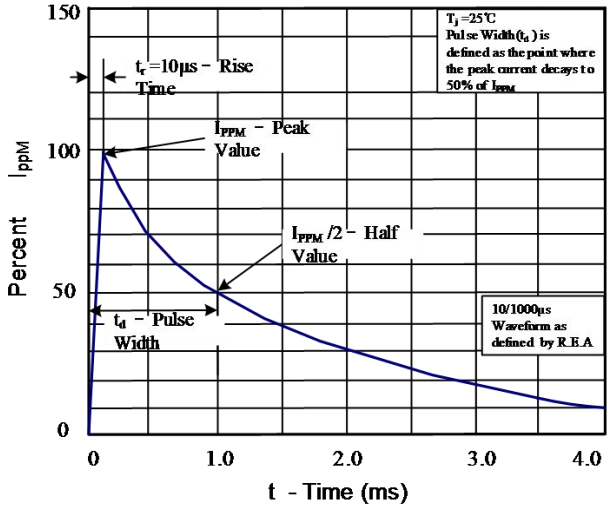


Figure 4: Typical Junction Capacitance

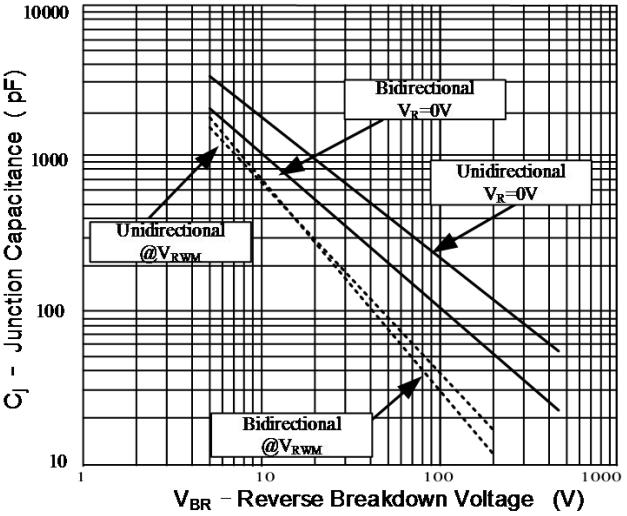


Figure 5: Steady State Power Dissipation Derating Curve

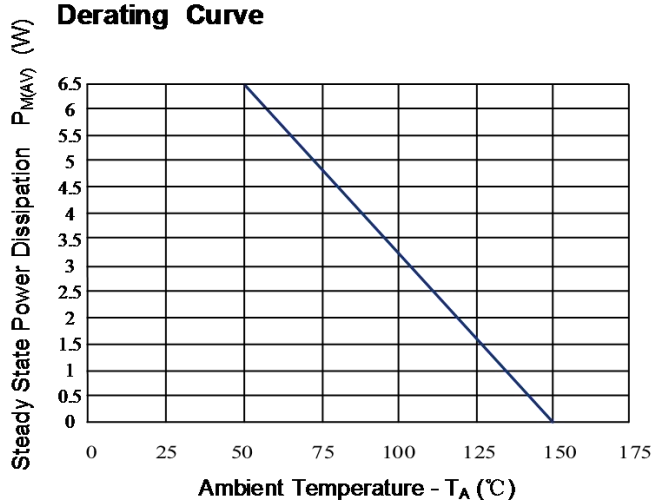
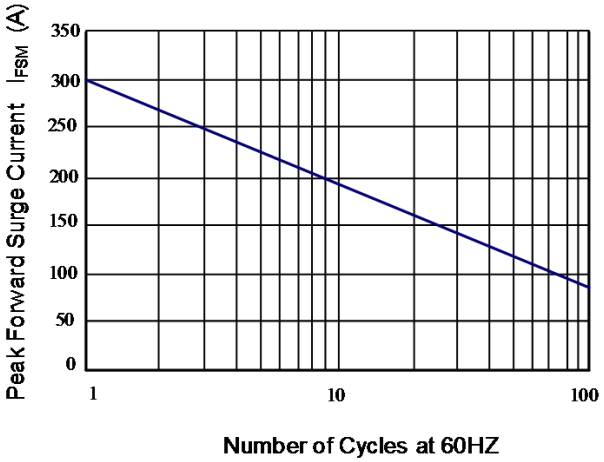
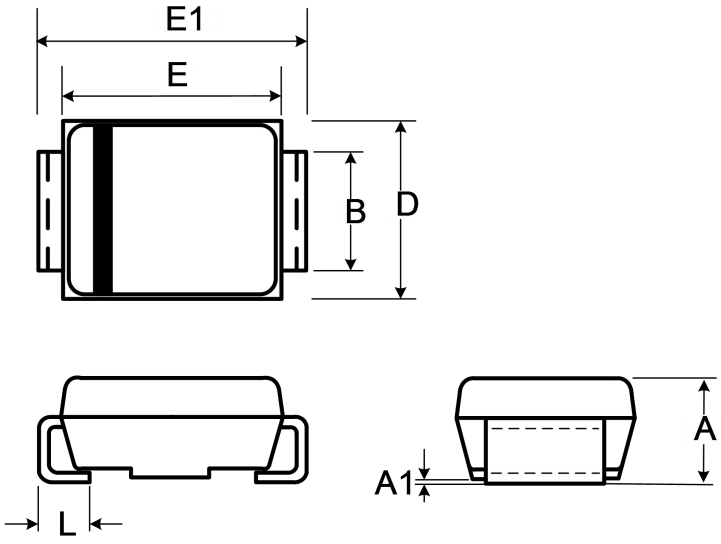


Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional

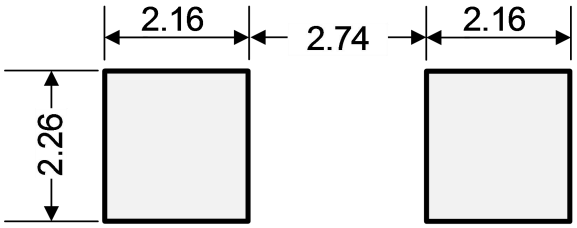


Outline Drawing – SMB(DO-214AA)

Ref.（mm）	Millimeters	
	Min.	Max.
A	2.130	2.440
A1	-	0.203
B	1.950	2.200
E	4.060	4.570
E1	5.210	5.590
D	3.300	3.940
L	0.760	1.520

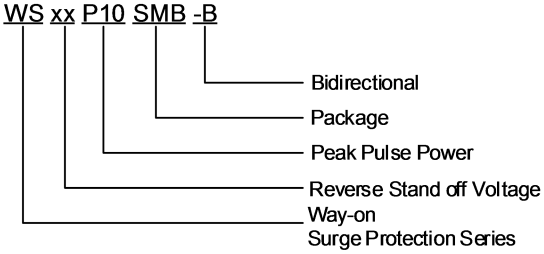


Recommended Solder Pad Layout

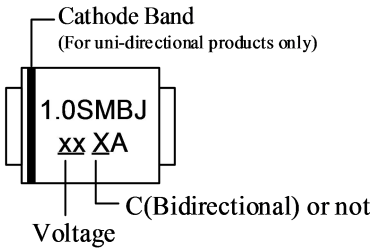


Dimensions in mm

Part Numbering System



Part Marking System



Package Information

Package Type	Description	Quantity（pcs）	Standard
DO-214AA	Tape & Reel -12mm/13″ tape	3000	EIA-481-D

Contact Information

CYG WAYON CIRCUIT PROTECTION CO., LTD.
No.1001, Shiwan(7) Road, Pudong District, Shanghai, P.R.China.201207
Tel: +86-21-68969993 Fax: 86-21-50757680 Email: market@way-on.com
WAYON website: **http://www.way-on.com**
For additional information, please contact your local Sales Representative.