

STBB06I - STBB5G4

SURFACE MOUNT BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR

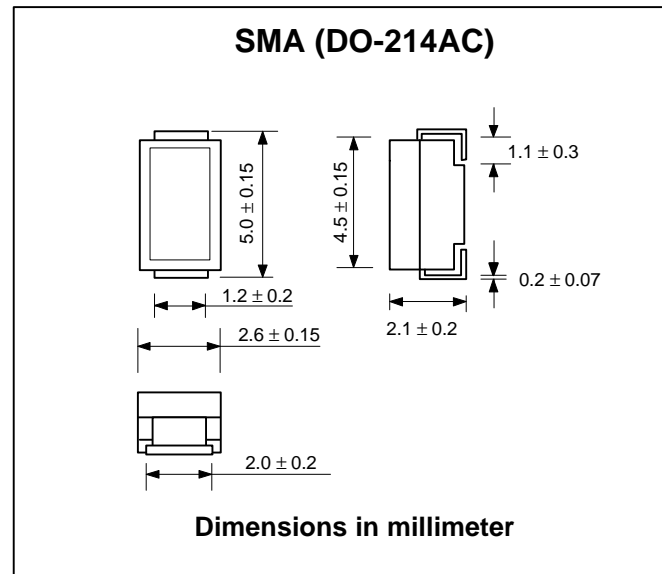
V_{BR} : 6.8 - 440 Volts
PPK : 400 Watts

FEATURES :

- * 400W surge capability at 1ms
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time : typically less than 1.0 ps from 0 volt to V_{BR(min.)}
- * Typical I_R less than 1μA above 10V
- * **Pb / RoHS Free**

MECHANICAL DATA

- * Case : SMA Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Polarity : Color band denotes cathode end except Bipolar.
- * Mounting position : Any
- * Weight : 0.064 grams



DEVICES FOR UNIPOLAR APPLICATIONS

For Uni-directional altered the third letter of type from "B" to be "U".
Electrical characteristics apply in both directions

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Power Dissipation at Ta = 25 °C, Tp=1ms (Note1)	PPK	Minimum 400	W
Steady State Power Dissipation at TL = 75 °C (Note 2)	PD	1.0	W
Operating and Storage Temperature Range	TJ, TSTG	- 55 to + 150	°C

Note :

- (1) Non-repetitive Current pulse, per Fig. 2 and derated above Ta = 25 °C per Fig. 1
- (2) Mounted on copper Lead area at 5.0 mm² (0.013 mm thick).

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

TYPE	Breakdown Voltage @ I_t (Note 1)		Working Peak Reverse Voltage V_{RWM}	Maximum Reverse Leakage @ V_{RWM} I_R (μA)	Maximum Reverse Current I_{RSM} (A)	Maximum Clamping Voltage @ I_{RSM} V_{RSM} (V)	Maximum Temperature Co-efficient of V_{BR} (% / °C)	
	V_{BR} (V)							
	Min.	Max.	I_t (mA)	(V)	(μA)	(A)	(V)	(% / °C)
STBB06I	6.45	7.48	10	5.80	2000	38.0	10.5	0.057
STBB56I	6.45	7.14	10	5.80	2000	38.0	10.5	0.057
STBB07F	7.13	8.25	10	6.40	1000	35.4	11.3	0.061
STBB57F	7.13	7.88	10	6.40	1000	35.4	11.3	0.061
STBB08C	7.79	9.02	10	7.02	400	33.0	12.1	0.065
STBB58C	7.79	8.61	10	7.02	400	33.0	12.1	0.065
STBB09B	8.65	10.0	1.0	7.78	100	30.0	13.4	0.068
STBB59B	8.65	9.55	1.0	7.78	100	30.0	13.4	0.068
STBB010	9.50	11.0	1.0	8.55	20	27.6	14.5	0.073
STBB510	9.50	10.5	1.0	8.55	20	27.6	14.5	0.073
STBB011	10.5	12.1	1.0	9.40	10	25.7	15.6	0.075
STBB511	10.5	11.6	1.0	9.40	10	25.7	15.6	0.075
STBB012	11.4	13.2	1.0	10.2	5.0	24.0	16.7	0.078
STBB512	11.4	12.6	1.0	10.2	5.0	24.0	16.7	0.078
STBB013	12.4	14.3	1.0	11.1	5.0	22.0	18.2	0.081
STBB513	12.4	13.7	1.0	11.1	5.0	22.0	18.2	0.081
STBB015	14.3	16.5	1.0	12.8	5.0	19.0	21.2	0.084
STBB515	14.3	15.8	1.0	12.8	5.0	19.0	21.2	0.084
STBB016	15.2	17.6	1.0	13.6	5.0	17.8	22.5	0.086
STBB516	15.2	16.8	1.0	13.6	5.0	17.8	22.5	0.086
STBB018	17.1	19.8	1.0	15.3	5.0	16.0	25.2	0.088
STBB518	17.1	18.9	1.0	15.3	5.0	16.0	25.2	0.088
STBB020	19.0	22.0	1.0	17.1	5.0	14.5	27.7	0.090
STBB520	19.0	21.0	1.0	17.1	5.0	14.5	27.7	0.090
STBB022	20.9	24.2	1.0	18.8	5.0	13.0	30.6	0.092
STBB522	20.9	23.1	1.0	18.8	5.0	13.0	30.6	0.092
STBB024	22.8	26.4	1.0	20.5	5.0	12.0	33.2	0.094
STBB524	22.8	25.2	1.0	20.5	5.0	12.0	33.2	0.094
STBB027	25.7	29.7	1.0	23.1	5.0	10.7	37.5	0.096
STBB527	25.7	28.4	1.0	23.1	5.0	10.7	37.5	0.096
STBB030	28.5	33.0	1.0	25.6	5.0	9.6	41.5	0.097
STBB530	28.5	31.5	1.0	25.6	5.0	9.6	41.5	0.097
STBB033	31.4	36.3	1.0	28.2	5.0	8.8	45.7	0.098
STBB533	31.4	34.7	1.0	28.2	5.0	8.8	45.7	0.098
STBB036	34.2	39.6	1.0	30.8	5.0	8.0	49.9	0.099
STBB536	34.2	37.8	1.0	30.8	5.0	8.0	49.9	0.099
STBB039	37.1	42.9	1.0	33.3	5.0	7.4	53.9	0.100
STBB539	37.1	41.0	1.0	33.3	5.0	7.4	53.9	0.100
STBB043	40.9	47.3	1.0	36.8	5.0	6.7	59.3	0.101
STBB543	40.9	45.2	1.0	36.8	5.0	6.7	59.3	0.101
STBB047	44.7	51.7	1.0	40.2	5.0	6.2	64.8	0.101
STBB547	44.7	49.4	1.0	40.2	5.0	6.2	64.8	0.101
STBB051	48.5	56.1	1.0	43.6	5.0	5.7	70.1	0.102
STBB551	48.5	53.6	1.0	43.6	5.0	5.7	70.1	0.102
STBB056	53.2	61.6	1.0	47.8	5.0	5.2	77.0	0.103
STBB556	53.2	58.8	1.0	47.8	5.0	5.2	77.0	0.103

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

TYPE	Breakdown Voltage @ I_t (Note 1)		Working Peak Reverse Voltage V_{RWM}	Maximum Reverse Leakage @ V_{RWM} I_R	Maximum Reverse Current I_{RSM}	Maximum Clamping Voltage @ I_{RSM} V_{RSM}	Maximum Temperature Co-efficient of V_{BR} (% / °C)	
	V_{BR} (V)							I_t
	Min.	Max.	(mA)	(V)	(μ A)	(A)	(V)	(% / °C)
STBB062	58.9	68.2	1.0	53.0	5.0	4.7	85.0	0.104
STBB562	58.9	65.1	1.0	53.0	5.0	4.7	85.0	0.104
STBB068	64.6	74.8	1.0	58.1	5.0	4.3	92.0	0.104
STBB568	64.6	71.4	1.0	58.1	5.0	4.3	92.0	0.104
STBB075	71.3	82.5	1.0	64.1	5.0	3.9	103	0.105
STBB575	71.3	78.8	1.0	64.1	5.0	3.9	103	0.105
STBB082	77.9	90.2	1.0	70.1	5.0	3.5	113	0.105
STBB582	77.9	86.1	1.0	70.1	5.0	3.5	113	0.105
STBB091	86.5	100	1.0	77.8	5.0	3.2	125	0.106
STBB591	86.5	95.5	1.0	77.8	5.0	3.2	125	0.106
STBB0B0	95.0	110	1.0	85.5	5.0	2.9	137	0.106
STBB5B0	95.0	105	1.0	85.5	5.0	2.9	137	0.106
STBB0B1	105	121	1.0	94.0	5.0	2.6	152	0.107
STBB5B1	105	116	1.0	94.0	5.0	2.6	152	0.107
STBB0B2	114	132	1.0	102	5.0	2.4	165	0.107
STBB5B2	114	126	1.0	102	5.0	2.4	165	0.107
STBB0B3	124	143	1.0	111	5.0	2.2	179	0.107
STBB5B3	124	137	1.0	111	5.0	2.2	179	0.107
STBB0B5	143	165	1.0	128	5.0	2.0	207	0.108
STBB5B5	143	158	1.0	128	5.0	2.0	207	0.108
STBB0B6	152	176	1.0	136	5.0	1.8	219	0.108
STBB5B6	152	168	1.0	136	5.0	1.8	219	0.108
STBB0B7	161	187	1.0	145	5.0	1.7	234	0.108
STBB5B7	161	179	1.0	145	5.0	1.7	234	0.108
STBB0B8	171	198	1.0	154	5.0	1.6	246	0.108
STBB5B8	171	189	1.0	154	5.0	1.6	246	0.108
STBB0D0	190	220	1.0	171	5.0	1.5	274	0.108
STBB5D0	190	210	1.0	171	5.0	1.5	274	0.108
STBB0D2	209	242	1.0	188	5.0	1.4	301	0.108
STBB5D2	209	231	1.0	188	5.0	1.4	301	0.108
STBB0D5	237	275	1.0	213	5.0	1.3	344	0.110
STBB5D5	237	263	1.0	213	5.0	1.3	344	0.110
STBB0D8	266	308	1.0	239	5.0	1.3	384	0.110
STBB5D8	266	294	1.0	239	5.0	1.3	384	0.110
STBB0E0	285	330	1.0	256	5.0	1.2	414	0.110
STBB5E0	285	315	1.0	256	5.0	1.2	414	0.110
STBB0E2	304	352	1.0	273	5.0	1.2	438	0.110
STBB5E2	304	336	1.0	273	5.0	1.2	438	0.110
STBB0E5	332	385	1.0	299	5.0	0.9	482	0.110
STBB5E5	332	368	1.0	299	5.0	0.9	482	0.110
STBB0G0	380	440	1.0	342	5.0	0.9	548	0.110
STBB5G0	380	420	1.0	342	5.0	0.9	548	0.110
STBB0G4	418	484	1.0	376	5.0	0.8	603	0.110
STBB5G4	418	462	1.0	376	5.0	0.8	603	0.110

Note:

- (1) V_{BR} measured after I_t applied for 300 μ s., I_t = square wave pulse or equivalent.
- (2) "STB" will be omitted in marking on the diode.

RATING AND CHARACTERISTIC CURVES (STBB06 - STBB5G4)

FIG.1 - PULSE DERATING CURVE

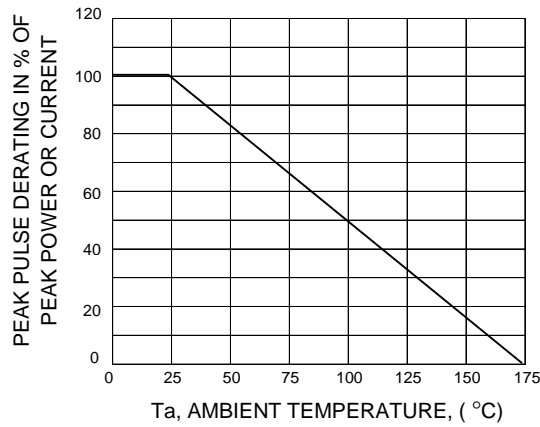


FIG.2 - PULSE WAVEFORM

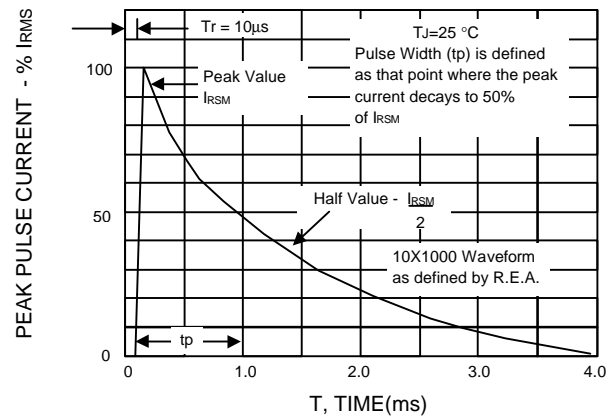


FIG.3 - STEADY STATE POWER DERATING

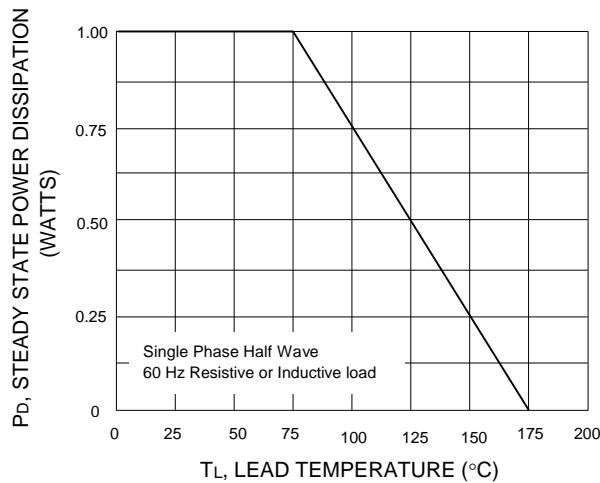


FIG.4 - PULSE RATING CURVE

