

STBN06I - STBN5D0

V_{BR} : 6.8 - 200 Volts

P_{PK} : 1500 Watts

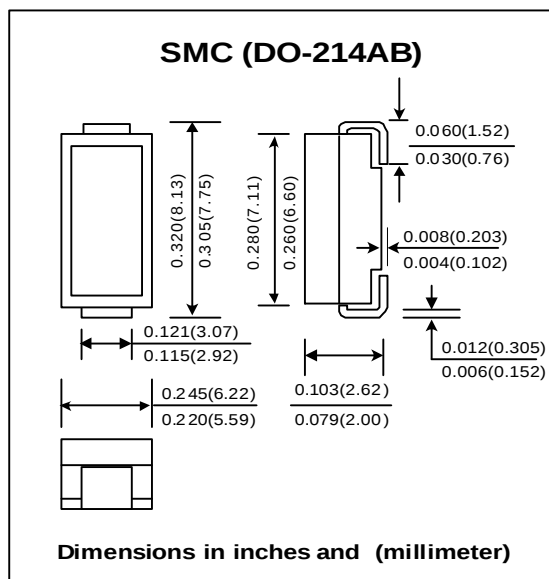
FEATURES :

- * 1500W 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 : SMC 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 : 0.21 grams

SURFACE MOUNT BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR



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)	P _{PK}	Minimum 1500	W
Steady State Power Dissipation at T _L = 75 °C (Note 2)	P _D	5.0	W
Operating and Storage Temperature Range	T _J , T _{STG}	- 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 @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ VRWM	Maximum Reverse Current	Maximum Clamping Voltage @ IRSM	Maximum Temperature Co-efficient of VBR of VBR (% / °C)				
	VBR (V)		It						VRWM	IR	IRSM	VRSM
	Min.	Max.	(mA)						(V)	(μA)	(A)	(V)
STBN06I	6.12	7.48	10	5.50	2000	139	10.8	0.057				
STBN56I	6.45	7.14	10	5.80	2000	143	10.5	0.057				
STBN07F	6.75	8.25	10	6.05	1000	128	11.7	0.061				
STBN57F	7.13	7.88	10	6.40	1000	132	11.3	0.061				
STBN08C	7.38	9.02	10	6.63	400	120	12.5	0.065				
STBN58C	7.79	8.61	10	7.02	400	124	12.1	0.065				
STBN09B	8.19	10.0	1.0	7.37	100	109	13.8	0.068				
STBN59B	8.65	9.55	1.0	7.78	100	112	13.4	0.068				
STBN010	9.00	11.0	1.0	8.10	10	100	15.0	0.073				
STBN510	9.50	10.5	1.0	8.55	10	103	14.5	0.073				
STBN011	9.90	12.1	1.0	8.92	10	93.0	16.2	0.075				
STBN511	10.5	11.6	1.0	9.40	10	96.0	15.6	0.075				
STBN012	10.8	13.2	1.0	9.72	5.0	87.0	17.3	0.078				
STBN512	11.4	12.6	1.0	10.2	5.0	90.0	16.7	0.078				
STBN013	11.7	14.3	1.0	10.5	5.0	79.0	19.0	0.081				
STBN513	12.4	13.7	1.0	11.1	5.0	82.0	18.2	0.081				
STBN015	13.5	16.5	1.0	12.1	5.0	68.0	22.0	0.084				
STBN515	14.3	15.8	1.0	12.8	5.0	71.0	21.2	0.084				
STBN016	14.4	17.6	1.0	12.9	5.0	64.0	23.5	0.086				
STBN516	15.2	16.8	1.0	13.6	5.0	67.0	22.5	0.086				
STBN018	16.2	19.8	1.0	14.5	5.0	56.5	26.5	0.088				
STBN518	17.1	18.9	1.0	15.3	5.0	59.5	25.2	0.088				
STBN020	18.0	22.0	1.0	16.2	5.0	51.5	29.1	0.090				
STBN520	19.0	21.0	1.0	17.1	5.0	54.0	27.7	0.090				
STBN022	19.8	24.2	1.0	17.8	5.0	47.0	31.9	0.092				
STBN522	20.9	23.1	1.0	18.8	5.0	49.0	30.6	0.092				
STBN024	21.6	26.4	1.0	19.4	5.0	43.0	34.7	0.094				
STBN524	22.8	25.2	1.0	20.5	5.0	45.0	33.2	0.094				
STBN027	24.3	29.7	1.0	21.8	5.0	38.5	39.1	0.096				
STBN527	25.7	28.4	1.0	23.1	5.0	40.0	37.5	0.096				
STBN030	27.0	33.0	1.0	24.3	5.0	34.5	43.5	0.097				
STBN530	28.5	31.5	1.0	25.6	5.0	36.0	41.4	0.097				
STBN033	29.7	36.3	1.0	26.8	5.0	31.5	47.7	0.098				
STBN533	31.4	34.7	1.0	28.2	5.0	33.0	45.7	0.098				
STBN036	32.4	39.6	1.0	29.1	5.0	29.0	52.0	0.099				
STBN536	34.2	37.8	1.0	30.8	5.0	30.0	49.9	0.099				
STBN039	35.1	42.9	1.0	31.6	5.0	26.5	56.4	0.100				
STBN539	37.1	41.0	1.0	33.3	5.0	28.0	53.9	0.100				
STBN043	38.7	47.3	1.0	34.8	5.0	24.0	61.9	0.101				
STBN543	40.9	45.2	1.0	36.8	5.0	25.3	59.3	0.101				
STBN047	42.3	51.7	1.0	38.1	5.0	22.2	67.8	0.101				
STBN547	44.7	49.4	1.0	40.2	5.0	23.2	64.8	0.101				
STBN051	45.9	56.1	1.0	41.3	5.0	20.4	73.5	0.102				
STBN551	48.5	53.6	1.0	43.6	5.0	21.4	70.1	0.102				
STBN056	50.4	61.6	1.0	45.4	5.0	18.6	80.5	0.103				
STBN556	53.2	58.8	1.0	47.8	5.0	19.5	77.0	0.103				

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

TYPE	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ VRWM	Maximum Reverse Current	Maximum Clamping Voltage @ IRSM	Maximum Temperature Co-efficient of VBR
	VBR (V)		It					
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	(% / °C)
STBN062	55.8	68.2	1.0	50.2	5.0	16.9	89.0	0.104
STBN562	58.9	65.1	1.0	53.0	5.0	17.7	85.0	0.104
STBN068	61.2	74.8	1.0	55.1	5.0	15.3	98.0	0.104
STBN568	64.6	71.4	1.0	58.1	5.0	16.3	92.0	0.104
STBN075	67.5	82.5	1.0	60.7	5.0	13.9	108	0.105
STBN575	71.3	78.8	1.0	64.1	5.0	14.6	103	0.105
STBN082	73.8	90.2	1.0	66.4	5.0	12.7	118	0.105
STBN582	77.9	86.1	1.0	70.1	5.0	13.3	113	0.105
STBN091	81.9	100	1.0	73.7	5.0	11.4	131	0.106
STBN591	86.5	95.5	1.0	77.8	5.0	12.0	125	0.106
STBN0B0	90.0	110	1.0	81.0	5.0	10.4	144	0.106
STBN5B0	95.0	105	1.0	85.5	5.0	11.0	137	0.106
STBN0B1	99.0	121	1.0	89.2	5.0	9.5	158	0.107
STBN5B1	105	116	1.0	94.0	5.0	9.9	152	0.107
STBN0B2	108	132	1.0	97.2	5.0	8.7	173	0.107
STBN5B2	114	126	1.0	102	5.0	9.1	165	0.107
STBN0B3	117	143	1.0	105	5.0	8.0	187	0.107
STBN5B3	124	137	1.0	111	5.0	8.4	179	0.107
STBN0B5	135	165	1.0	121	5.0	7.0	215	0.108
STBN5B5	143	158	1.0	128	5.0	7.2	207	0.108
STBN0B6	144	176	1.0	130	5.0	6.5	230	0.108
STBN5B6	152	168	1.0	136	5.0	6.8	219	0.108
STBN0B7	153	187	1.0	138	5.0	6.2	244	0.108
STBN5B7	162	179	1.0	145	5.0	6.4	234	0.108
STBN0B8	162	198	1.0	146	5.0	5.8	258	0.108
STBN5B8	171	189	1.0	154	5.0	6.1	246	0.108
STBN0D0	180	220	1.0	162	5.0	5.2	287	0.108
STBN5D0	190	210	1.0	171	5.0	5.5	274	0.108

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 (STBN06I - STBN5D0)

FIG.1 - PULSE DERATING CURVE

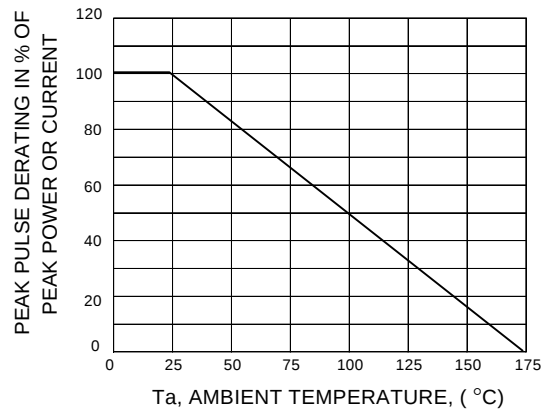


FIG.2 - PULSE WAVEFORM

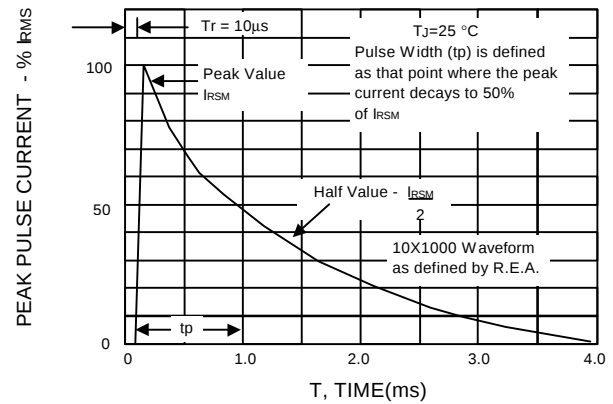


FIG.3 - STEADY STATE POWER DERATING

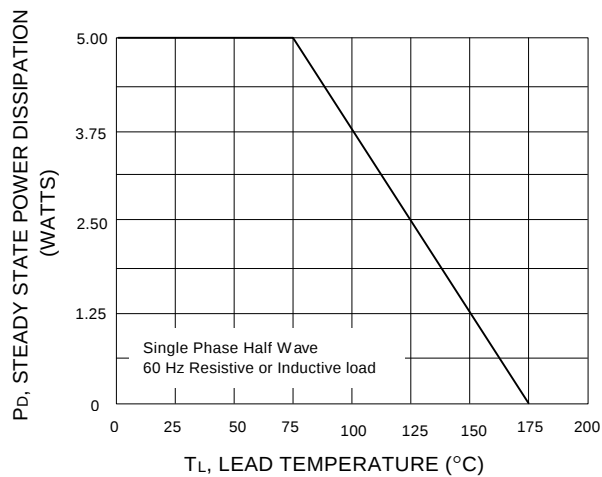


FIG.4 - PULSE RATING CURVE

