

STB606I - STB65G4

SURFACE MOUNT BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR

V_{BR} : 6.8 - 440 Volts

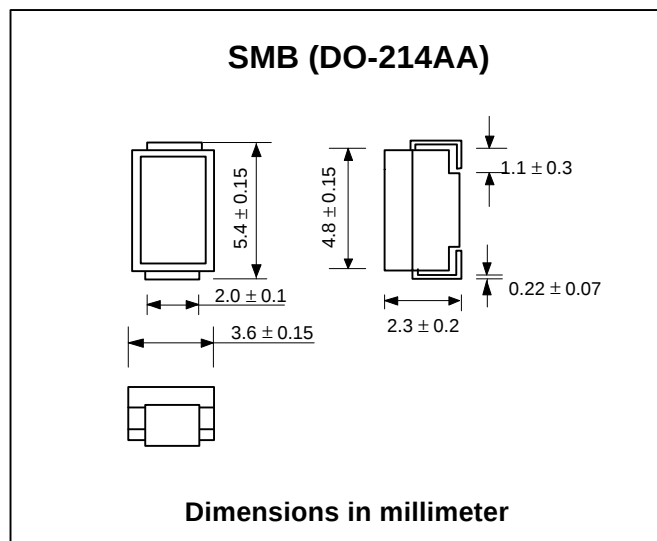
PPK : 600 Watts

FEATURES :

- * 600W 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 : SMB Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Mounting position : Any
- * Weight : 0.093 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 600	W
Steady State Power Dissipation at TL = 75 °C	PD	5.0	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

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				
	VBR (V)		It						VRWM	IR	IRSM	VRSM
	Min.	Max.	(mA)						(V)	(μA)	(A)	(V)
STB606I	6.12	7.48	10	5.50	2000	55.5	10.8	0.057				
STB656I	6.45	7.14	10	5.80	2000	57.0	10.5	0.057				
STB607F	6.75	8.25	10	6.05	1000	51.0	11.7	0.061				
STB657F	7.13	7.88	10	6.40	1000	53.0	11.3	0.061				
STB608C	7.38	9.02	10	6.63	400	48.0	12.5	0.065				
STB658C	7.79	8.61	10	7.02	400	50.0	12.1	0.065				
STB609B	8.19	10.0	1.0	7.37	100	44.0	13.8	0.068				
STB659B	8.65	9.55	1.0	7.78	100	45.0	13.4	0.068				
STB6010	9.00	11.0	1.0	8.10	20	40.0	15.0	0.073				
STB6510	9.50	10.5	1.0	8.55	20	41.0	14.5	0.073				
STB6011	9.90	12.1	1.0	8.92	10	37.0	16.2	0.075				
STB6511	10.5	11.6	1.0	9.40	10	38.0	15.6	0.075				
STB6012	10.8	13.2	1.0	9.72	5.0	35.0	17.3	0.078				
STB6512	11.4	12.6	1.0	10.2	5.0	36.0	16.7	0.078				
STB6013	11.7	14.3	1.0	10.5	5.0	32.0	19.0	0.081				
STB6513	12.4	13.7	1.0	11.1	5.0	33.0	18.2	0.081				
STB6015	13.5	16.5	1.0	12.1	5.0	27.0	22.0	0.084				
STB6515	14.3	15.8	1.0	12.8	5.0	28.0	21.2	0.084				
STB6016	14.4	17.6	1.0	12.9	5.0	26.0	23.5	0.086				
STB6516	15.2	16.8	1.0	13.6	5.0	27.0	22.5	0.086				
STB6018	16.2	19.8	1.0	14.5	5.0	23.0	26.5	0.088				
STB6518	17.1	18.9	1.0	15.3	5.0	24.0	25.2	0.088				
STB6020	18.0	22.0	1.0	16.2	5.0	21.0	29.1	0.090				
STB6520	19.0	21.0	1.0	17.1	5.0	22.0	27.7	0.090				
STB6022	19.8	24.2	1.0	17.8	5.0	19.0	31.9	0.092				
STB6522	20.9	23.1	1.0	18.8	5.0	20.0	30.6	0.092				
STB6024	21.6	26.4	1.0	19.4	5.0	17.0	34.7	0.094				
STB6524	22.8	25.2	1.0	20.5	5.0	18.0	33.2	0.094				
STB6027	24.3	29.7	1.0	21.8	5.0	15.0	39.1	0.096				
STB6527	25.7	28.4	1.0	23.1	5.0	16.0	37.5	0.096				
STB6030	27.0	33.0	1.0	24.3	5.0	14.0	43.5	0.097				
STB6530	28.5	31.5	1.0	25.6	5.0	14.4	41.4	0.097				
STB6033	29.7	36.3	1.0	26.8	5.0	12.6	47.7	0.098				
STB6533	31.4	34.7	1.0	28.2	5.0	13.2	45.7	0.098				
STB6036	32.4	39.6	1.0	29.1	5.0	11.6	52.0	0.099				
STB6536	34.2	37.8	1.0	30.8	5.0	12.0	49.9	0.099				
STB6039	35.1	42.9	1.0	31.6	5.0	10.6	56.4	0.100				
STB6539	37.1	41.0	1.0	33.3	5.0	11.2	53.9	0.100				
STB6043	38.7	47.3	1.0	34.8	5.0	9.6	61.9	0.101				
STB6543	40.9	45.2	1.0	36.8	5.0	10.1	59.3	0.101				
STB6047	42.3	51.7	1.0	38.1	5.0	8.9	67.8	0.101				
STB6547	44.7	49.4	1.0	40.2	5.0	9.3	64.8	0.101				
STB6051	45.9	56.1	1.0	41.3	5.0	8.2	73.5	0.102				
STB6551	48.5	53.6	1.0	43.6	5.0	8.6	70.1	0.102				
STB6056	50.4	61.6	1.0	45.4	5.0	7.4	80.5	0.103				
STB6556	53.2	58.8	1.0	47.8	5.0	7.8	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 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)		It					
	Min.	Max.	(mA)					
				(V)	(μA)	(A)	(V)	
STB6062	55.8	68.2	1.0	50.2	5.0	6.8	89.0	0.104
STB6562	58.9	65.1	1.0	53.0	5.0	7.1	85.0	0.104
STB6068	61.2	74.8	1.0	55.1	5.0	6.1	98.0	0.104
STB6568	64.6	71.4	1.0	58.1	5.0	6.5	92.0	0.104
STB6075	67.5	82.5	1.0	60.7	5.0	5.5	108	0.105
STB6575	71.3	78.8	1.0	64.1	5.0	5.8	103	0.105
STB6082	73.8	90.2	1.0	66.4	5.0	5.1	118	0.105
STB6582	77.9	86.1	1.0	70.1	5.0	5.3	113	0.105
STB6091	81.9	100	1.0	73.7	5.0	4.5	131	0.106
STB6591	86.5	95.5	1.0	77.8	5.0	4.8	125	0.106
STB60B0	90.0	110	1.0	81.0	5.0	4.2	144	0.106
STB65B0	95.0	105	1.0	85.5	5.0	4.4	137	0.106
STB60B1	99.0	121	1.0	89.2	5.0	3.8	158	0.107
STB65B1	105	116	1.0	94.0	5.0	4.0	152	0.107
STB60B2	108	132	1.0	97.2	5.0	3.5	173	0.107
STB65B2	114	126	1.0	102	5.0	3.6	165	0.107
STB60B3	117	143	1.0	106	5.0	3.2	187	0.107
STB65B3	124	137	1.0	111	5.0	3.3	179	0.107
STB60B5	135	165	1.0	121	5.0	2.8	215	0.108
STB65B5	143	158	1.0	128	5.0	2.9	207	0.108
STB60B6	144	176	1.0	130	5.0	2.6	230	0.108
STB65B6	152	168	1.0	136	5.0	2.7	219	0.108
STB60B7	153	187	1.0	138	5.0	2.5	244	0.108
STB65B7	162	179	1.0	145	5.0	2.6	234	0.108
STB60B8	162	198	1.0	146	5.0	2.3	258	0.108
STB65B8	171	189	1.0	154	5.0	2.4	246	0.108
STB60D0	180	220	1.0	162	5.0	2.1	287	0.108
STB65D0	190	210	1.0	171	5.0	2.2	274	0.108
STB60D2	198	242	1.0	175	5.0	1.75	344	0.108
STB65D2	209	231	1.0	185	5.0	1.83	328	0.108
STB60D5	225	275	1.0	202	5.0	1.67	360	0.110
STB65D5	237	263	1.0	214	5.0	1.75	344	0.110
STB60E0	270	330	1.0	243	5.0	1.40	430	0.110
STB65E0	285	315	1.0	256	5.0	1.45	414	0.110
STB60E5	315	385	1.0	284	5.0	1.20	504	0.110
STB65E5	332	368	1.0	300	5.0	1.25	482	0.110
STB60G0	360	440	1.0	324	5.0	1.05	574	0.110
STB65G0	380	420	1.0	342	5.0	1.10	548	0.110
STB60G4	396	484	1.0	356	5.0	0.95	631	0.110
STB65G4	418	462	1.0	376	5.0	1.00	602	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 (STB606I - STB65G4)

FIG.1 - PULSE DERATING CURVE

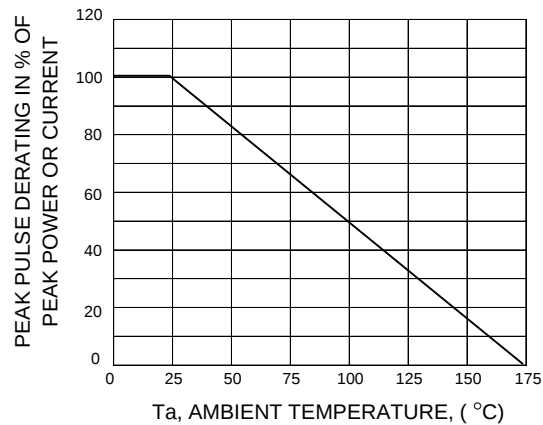


FIG.2 - PULSE WAVEFORM

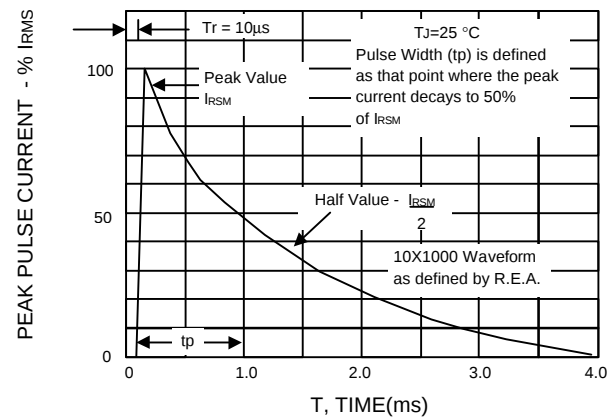


FIG.3 - STEADY STATE POWER DERATING

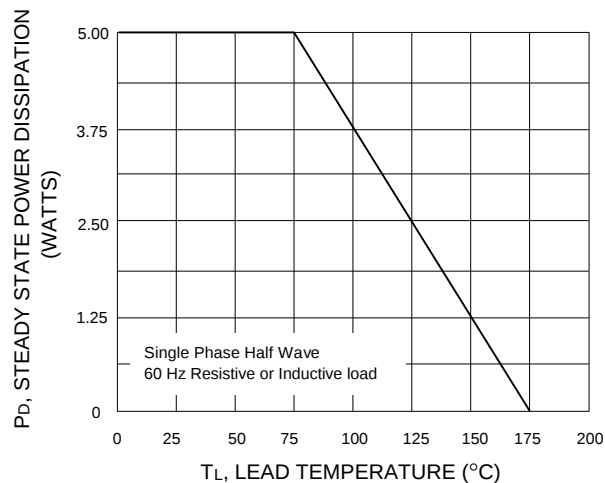


FIG.4 - PULSE RATING CURVE

