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SILICON Z-DIODES AND TRANSIENT VOLTAGE SUPPRESSORS

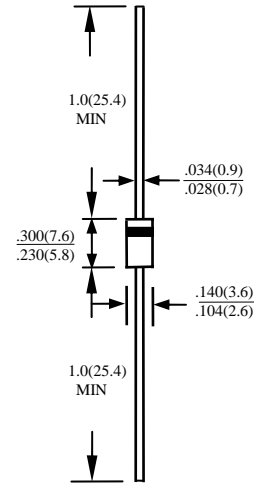
BZT03C6V2 THRU BZT03C270

FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- EXCELLENT CLAMPING CAPABILITY
- LOW ZENER IMPEDANCE
- FAST RESPONSE TIME: TYPICALLY LESS THAN 1.0 ps FROM 0 VOLTS TO BV MIN
- HIGH TEMPERATURE SOLDERING GUARANTEED: 260°C/10S / .375" (9.5mm) LEAD LENGTH/5LBS., (2.3KG) TENSION

MECHANICAL DATA

- CASE: MOLDED PLASTIC, DO15, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINALS: AXIAL LEADS, SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: COLOR BAND DENOTES CATHODE EXCEPT BIPOLAR
- WEIGHT: 0.4 GRAMS



ABSOLUTE MAXIMUM RATINGS

T_j = 25°C

RATINGS	TEST CONDITIONS	SYMBOL	VALUE	UNITS
POWER DISSIPATION	l=10mm ; T _L =25°C	P _V	3.25	W
	T _{amb} =25°C		1.30	W
REPETITIVE PEAK REVERSE POWER DISSIPATION		P _{ZRM}	10	W
NON REPETITIVE PEAK SURGE POWER DISSIPATION	T _p =100us ; T _j =25°C	P _{ZSM}	600	W
JUNCTION TEMPERATURE		T _J	175	°C
STORAGE TEMPERATURE RANGE		T _{STG}	- 55 TO + 175	°C

MAXIMUM THERMAL RESISTANCE

T_j = 25°C

RATINGS	TEST CONDITIONS	SYMBOL	VALUE	UNITS
JUNCTION AMBIENT	l=10mm ; T _L =CONSTANT	R _{thJA}	46	K/W
	ON PC BOARD WITH SPACING 25mm		100	

ELECTRICAL CHARACTERISTICS

T_j = 25°C

RATINGS	TEST CONDITIONS	SYMBOL	VALUE	UNITS
FORWARD VOLTAGE	I _F =0.5A	V _F	1.2	V

TYPE NUMBER	VZ			Rzj and		TK _{vz} at		I _z	IR at VR	
	V			Ω	Ω	% /K	% /K	mA	uA	V
	MIN.	TYP.	MAX.	TYP.	MAX.	MIN.	MAX.		MAX.	
BZT03C6V2	5.8	6.2	6.6	1	2	0	0.07	100	1500	4.7
BZT03C6V8	6.4	6.8	7.2	1	2	0	0.07	100	1000	5.1
BZT03C7V5	7.0	7.5	7.9	1	2	0	0.07	100	750	5.6
BZT03C8V2	7.7	8.2	8.7	1	2	0.03	0.08	100	600	6.2
BZT03C9V1	8.5	9.1	9.6	2	4	0.03	0.08	50	20	6.8
BZT03C10	9.4	10	10.6	2	4	0.05	0.09	50	10	7.5
BZT03C11	10.4	10	11.6	4	7	0.05	0.10	50	4	8.2
BZT03C12	11.4	12	12.7	4	7	0.05	0.10	50	3	9.1
BZT03C13	12.4	13	14.1	5	10	0.05	0.10	50	2	10
BZT03C15	13.8	15	15.6	5	10	0.05	0.10	50	1	11
BZT03C16	15.3	16	17.1	6	15	0.06	0.11	25	1	12
BZT03C18	16.8	18	19.1	6	15	0.06	0.11	25	1	13
BZT03C20	18.8	20	21.2	6	15	0.06	0.11	25	1	15
BZT03C22	20.8	22	23.3	6	15	0.06	0.11	25	1	16
BZT03C24	22.8	24	25.6	7	15	0.06	0.11	25	1	18
BZT03C27	25.1	27	28.9	7	15	0.06	0.11	25	1	20
BZT03C30	28	30	32	8	15	0.06	0.11	25	1	22
BZT03C33	31	33	35	8	15	0.06	0.11	25	1	24
BZT03C36	34	36	38	21	40	0.06	0.11	10	1	27
BZT03C39	37	39	41	21	40	0.06	0.11	10	1	30
BZT03C43	40	43	46	24	45	0.07	0.12	10	1	33
BZT03C47	44	47	50	24	45	0.07	0.12	10	1	36
BZT03C51	48	51	54	25	60	0.07	0.12	10	1	39
BZT03C56	52	56	60	25	60	0.07	0.12	10	1	43
BZT03C62	58	62	66	25	80	0.08	0.13	10	1	47
BZT03C68	64	68	72	25	80	0.08	0.13	10	1	51
BZT03C75	70	75	79	30	100	0.08	0.13	10	1	56
BZT03C82	77	82	87	30	100	0.08	0.13	10	1	62
BZT03C91	85	91	96	60	200	0.09	0.13	5	1	68
BZT03C100	94	100	106	60	200	0.09	0.13	5	1	75
BZT03C110	104	110	116	80	250	0.09	0.13	5	1	82
BZT03C120	114	120	127	80	250	0.09	0.13	5	1	91
BZT03C130	124	130	141	110	300	0.09	0.13	5	1	100
BZT03C150	138	150	156	130	300	0.09	0.13	5	1	110
BZT03C160	153	160	171	150	350	0.09	0.13	5	1	120
BZT03C180	168	180	191	180	400	0.09	0.13	5	1	130
BZT03C200	188	200	212	200	500	0.09	0.13	5	1	150
BZT03C220	208	220	233	350	750	0.09	0.13	2	1	160
BZT03C240	228	240	256	400	850	0.09	0.13	2	1	180
BZT03C270	251	270	289	450	1000	0.09	0.13	2	1	200

TYPE NUMBER	CLAMPING AT		STAND-OFF AT	
	$V_{(CLR)}^{1)}$	I_{RSM}	I_R	$V_R^{2)}$
	V	A	uA	V
	MAX.		MAX.	
BZT03C6V2	9.3	34.0	3000	5.1
BZT03C6V8	10.2	31.0	2000	5.6
BZT03C7V5	11.3	26.5	1500	6.2
BZT03C8V2	12.3	24.4	1200	6.8
BZT03C9V1	13.3	22.7	50	7.5
BZT03C10	14.8	20.3	20	8.2
BZT03C11	15.7	19.1	5	9.1
BZT03C12	17.0	17.7	5	10
BZT03C13	18.9	15.9	5	11
BZT03C15	20.9	14.4	5	12
BZT03C16	22.9	13.1	5	13
BZT03C18	25.6	11.7	5	15
BZT03C20	28.4	10.6	5	16
BZT03C22	31.0	9.7	5	18
BZT03C24	33.8	8.9	5	20
BZT03C27	38.1	7.9	5	22
BZT03C30	42.2	7.1	5	24
BZT03C33	46.2	6.5	5	27
BZT03C36	50.1	6.0	5	30
BZT03C39	54.1	5.5	5	33
BZT03C43	60.7	4.9	5	36
BZT03C47	65.5	4.6	5	39
BZT03C51	70.8	4.2	5	43
BZT03C56	78.6	3.8	5	47
BZT03C62	86.5	3.5	5	51
BZT03C68	94.4	3.2	5	56
BZT03C75	103.5	2.9	5	62
BZT03C82	114	2.6	5	68
BZT03C91	126	2.4	5	75
BZT03C100	139	2.2	5	82
BZT03C110	152	2.0	5	91
BZT03C120	167	1.8	5	100
BZT03C130	185	1.6	5	110
BZT03C150	204	1.5	5	120
BZT03C160	224	1.3	5	130
BZT03C180	249	1.2	5	150
BZT03C200	276	1.1	5	160
BZT03C220	305	1.0	5	180
BZT03C240	336	0.9	5	200
BZT03C270	380	0.8	5	220

¹⁾ 10/1000 EXP. FALLING PULSE $T_p = 1000\mu s$ DOWN TO 50%

RATINGS AND CHARACTERISTIC CURVE BZT03C6V2 THRU BZT03C270

CHARACTERISTICS ($T_r = 25^\circ\text{C}$ unless otherwise specified)

FIG. 1 – EPOXY GLASS HARD TISSUE,
BOARD THICKNESS 1.5mm,
 $R_{thJA} \leq 100\text{K/W}$

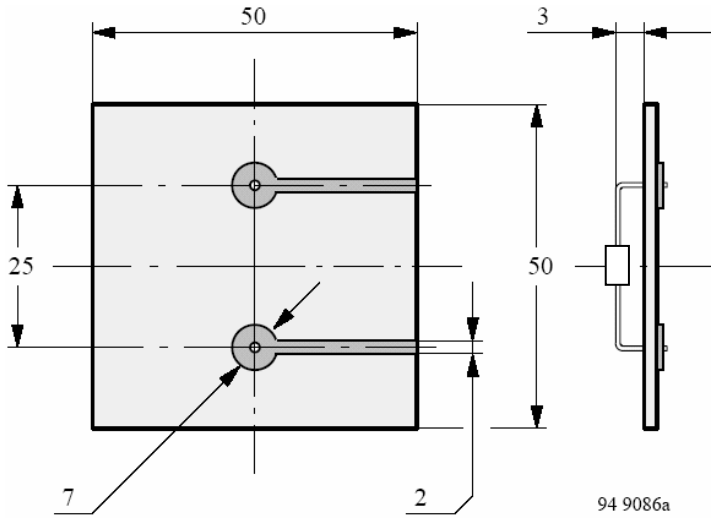


FIG. 2 – FORWARD CURRENT VS. FORWARD VOLTAGE

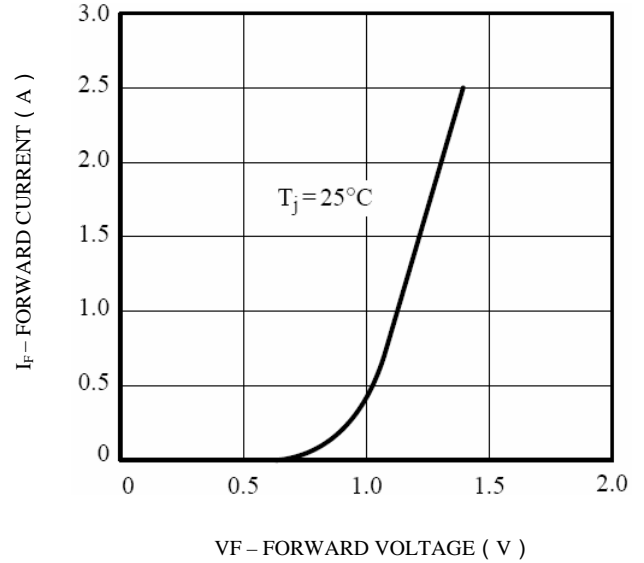
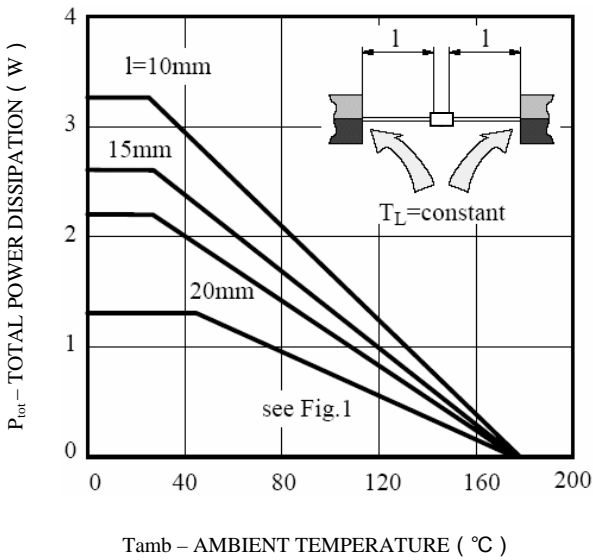


FIG. 3 – TOTAL POWER DISSIPATION VS. AMBIENT TEMPERATURE



REPETITIVE SURGE POWER DISSIPATION VS. PULSE LENGTH

