

Transient Voltage Suppressor

BZD27C - SERIES

Features

- Silicon planar zener diodes.
- Low profile surface-mount package.
- Low leakage current
- High temperature solder ability for terminals: 260°C @ 10s
- RoHS compliant with Halogen-free



Mechanical Data

- Case: SOD-123FL molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Polarity: Color band denotes cathode end

Maximum Ratings (@T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Non-repetitive peak pulse power dissipation with a 10/1000µs waveform (NOTE 1)	P _{PPM}	150	W
Power dissipation at T _A =25°C (NOTE 2)	P _{tot}	0.8	W
Reverse current at stand-off voltage @ V _{WM}	I _R	SEE TABLE 1	µA
Maximum instantaneous forward voltage at 0.2A	V _F	1.2	V
Thermal resistance junction to ambient	R _{θJA}	180	K/W
Operating temperature junction range	T _J	- 55 ~ +150	°C
Storage temperature range	T _{STG}	- 55 ~ +150	°C

Notes *1: T_J=25°C prior to surge.

*2: Mounted on epoxy-glass PCB with 3×3 mm Cu pads(≥40µm thick)

*3: Non-repetitive peak reverse current in accordance with "IEC 60-1,Section 8" (10/1000 µs pulse)

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Electrical Characteristics (@T_A = 25°C unless otherwise specified)

Part number	Marking code	V _{BR} Breakdown Voltage			Test Current I _T	Max. Clamping Voltage @I _{PP}	Max. Peak Pulse Current	Max. Reverse Leakage@ V _{RWM}	Reverse Stand off Voltage	Dynamic Resistance Z _Z at I _{ZT1}		Temperature coefficient V _Z at I _{ZT1}	
		V				V _C	I _{PP}	I _R	V _{RWM}	(Ω)		% / °C	
		MIN	NOM	MAX		mA	V	A	uA	V	TYP	MAX	MIN
BZD27C5V6P	J6	5.2	5.6	5.9	100	8.4	17.8	1500	4.6	1	3	0	0.07
BZD27C6V8P	J7	6.3	6.8	7.2	100	10.2	14.7	1500	5.6	1	3	0	0.07
BZD27C7V5P	J8	7.0	7.5	7.9	100	11.3	13.3	1500	6.2	1	2	0	0.07
BZD27C8V2P	J9	7.7	8.2	8.7	100	12.3	12.2	1200	6.8	1	2	0.03	0.08
BZD27C9V1P	K0	8.5	9.1	9.6	50	13.3	11.3	100	7.5	2	4	0.03	0.08
BZD27C10P	K1	9.4	10	10.6	50	14.8	10.1	20	8.2	2	4	0.05	0.09
BZD27C11P	K2	10.4	11	11.6	50	15.7	9.6	1	9.1	4	7	0.05	0.1
BZD27C12P	K3	11.4	12	12.7	50	17	8.8	1	10	4	7	0.05	0.1
BZD27C13P	K4	12.4	13	14.1	50	18.9	7.9	1	11	5	10	0.05	0.1
BZD27C15P	K5	13.8	15	15.6	50	20.9	7.2	1	12	5	10	0.05	0.1
BZD27C16P	K6	15.3	16	17.1	25	22.9	6.6	1	13	6	15	0.06	0.11
BZD27C18P	K7	16.8	18	19.1	25	25.6	5.9	1	15	6	15	0.06	0.11
BZD27C20P	K8	18.8	20	21.2	25	28.4	5.3	1	16	6	15	0.06	0.11
BZD27C22P	K9	20.8	22	23.3	25	31	4.8	1	18	6	15	0.06	0.11
BZD27C24P	L0	22.8	24	25.6	25	33.8	4.4	1	20	7	15	0.06	0.11
BZD27C25P	N4	23.7	25	26.7	25	35.2	4.3	1	21	7	15	0.06	0.11
BZD27C27P	L1	25.1	27	28.9	25	38.1	3.9	1	22	7	15	0.06	0.11
BZD27C30P	L2	28	30	32	25	42.2	3.6	1	24	8	15	0.06	0.11
BZD27C33P	L3	31	33	35	25	46.2	3.2	1	27	8	15	0.06	0.11
BZD27C36P	L4	34	36	38	10	50.1	3	1	30	21	40	0.06	0.11
BZD27C39P	L5	37	39	41	10	54.1	2.8	1	33	21	40	0.06	0.11
BZD27C43P	L6	40	43	46	10	60.7	2.5	1	36	24	45	0.07	0.12
BZD27C47P	L7	44	47	50	10	65.5	2.3	1	39	24	45	0.07	0.12
BZD27C51P	L8	48	51	54	10	70.8	2.1	1	43	25	60	0.07	0.12
BZD27C56P	L9	52	56	60	10	78.6	1.9	1	47	25	60	0.07	0.12
BZD27C62P	M0	58	62	66	10	86.5	1.7	1	51	25	80	0.08	0.13
BZD27C68P	M1	64	68	72	10	94.4	1.6	1	56	25	80	0.08	0.13
BZD27C75P	M2	70	75	79	10	103.5	1.4	1	62	30	100	0.08	0.13
BZD27C80P	N4	75	80	85	10	111.2	1.3	1	66	30	100	0.08	0.13
BZD27C82P	M3	77	82	87	10	114	1.3	1	68	30	100	0.08	0.13
BZD27C91P	M4	85	91	96	5	126	1.2	1	75	60	200	0.08	0.13
BZD27C100P	M5	94	100	106	5	139	1.1	1	82	60	200	0.09	0.13
BZD27C110P	M6	104	110	116	5	139	1.1	1	91	80	250	0.09	0.13
BZD27C120P	M7	114	120	127	5	152	1	1	100	80	250	0.09	0.13
BZD27C130P	M8	124	130	141	5	169	0.9	1	110	110	300	0.09	0.13
BZD27C150P	M9	138	150	156	5	187	0.8	1	120	130	300	0.09	0.13
BZD27C160P	N1	153	160	171	5	205	0.7	1	130	150	350	0.09	0.13
BZD27C180P	N2	168	180	191	5	229	0.7	1	150	180	400	0.09	0.13
BZD27C200P	N3	188	200	212	5	254	0.6	1	160	200	500	0.09	0.13

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Ratings and Characteristic Curves (@ $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Forward Current vs. Forward Voltage

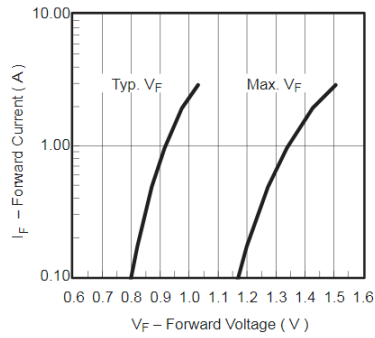


Figure 2. Maximum Pulse Power Dissipation vs. Zener Voltage

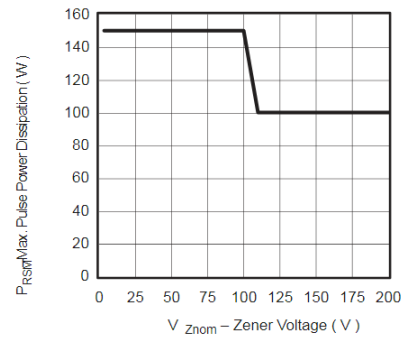


Figure 3. Non-Repetitive Peak Reverse Current Pulse Definition

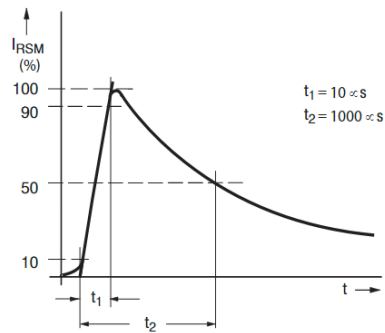
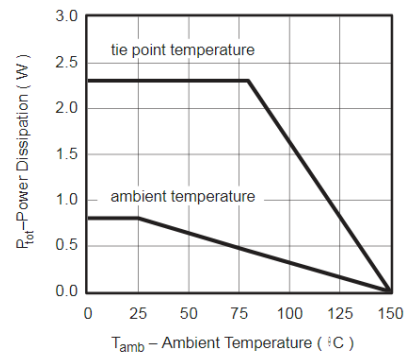


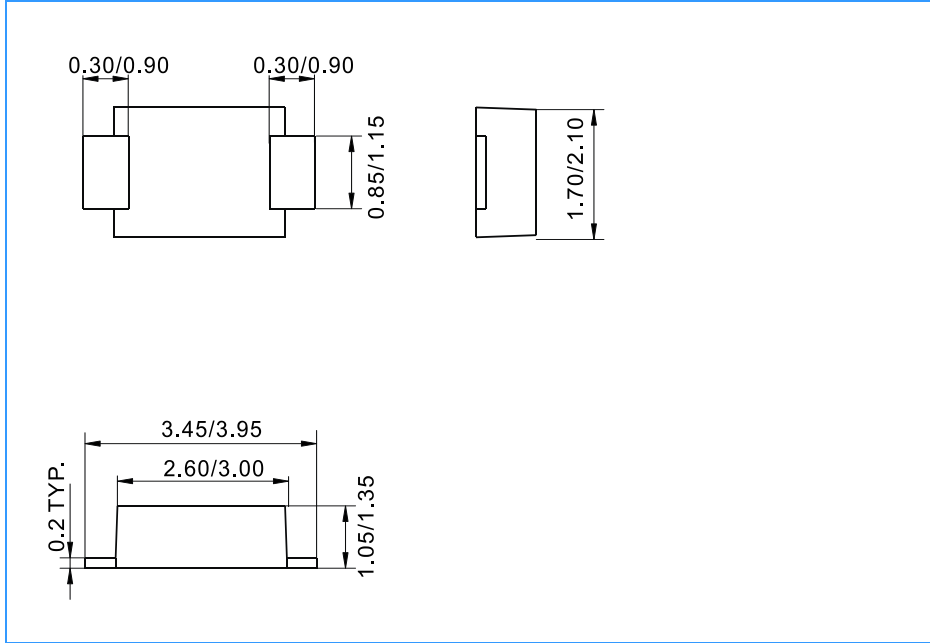
Figure 4. Power Dissipation vs. Ambient Temperature



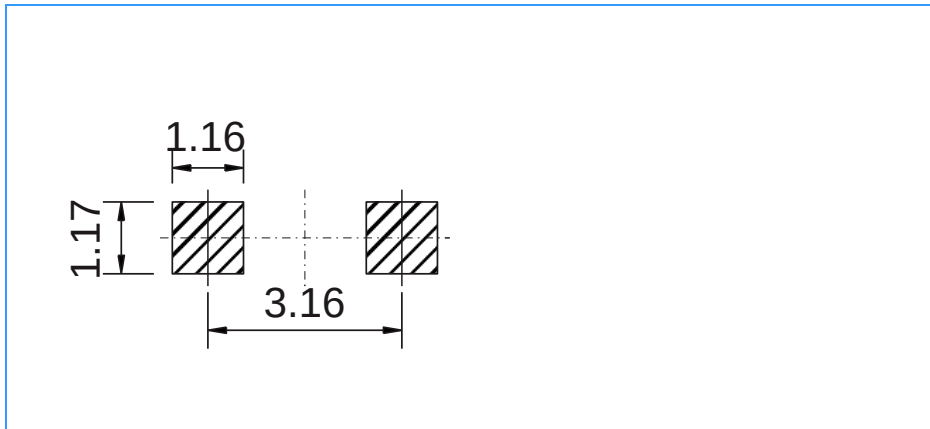
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Package	Shipping Quantity
BZD27C - SERIES	SOD-123FL	10000 / Tape & Reel