



BZD27C SERIES

0.8 Watts Voltage Regulator Diodes

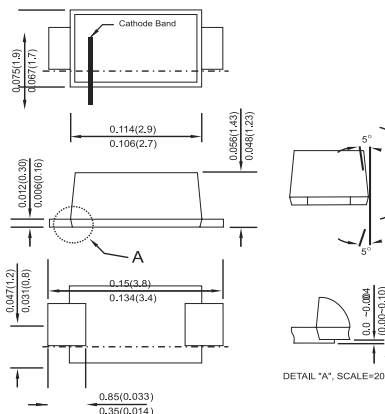
Sub SMA

Features

- ✧ Silicon zener diodes
- ✧ Low profile surface-mount package
- ✧ Zener and surge current specification
- ✧ Low leakage current
- ✧ Excellent stability
- ✧ High temperature soldering:
260°C / 10 sec. at terminals
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

Mechanical Data

- ✧ Case: Sub SMA Plastic
- ✧ Terminal : Pure tin plated lead free,
- ✧ Packaging method: refer to package code
- ✧ Marking code: as table
- ✧ Weight: 10 mg (approx.)



Dimensions in inches and (millimeters)

Marking Diagram



XX = Specific Device Code
G = Green Compound
Y = Year
M = Work Month

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Forward Voltage @ IF = 0.2A	V_F	1.2	V
Power Dissipation TL=80°C TA=25°C (Note 1)	P_{tot}	2.3 0.8	W
Non-Repetitive Peak Pulse Power Dissipation 100us square pulse (Note 2)	P_{ZSM}	300	W
Non-Repetitive Peak Pulse Power Dissipation 10/1000 us waveform (BZD27-C7V5P to BZD27-C100P) (Note 2)	P_{RSM}	150	W
Non-Repetitive Peak Pulse Power Dissipation 10/1000 us waveform (BZD27-110P to BZD27-C200P) (Note 2)	P_{RSM}	100	W
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	180	K/W
Thermal Resistance Junction to Lead	$R_{\theta JL}$	30	K/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 175	°C

- Notes:
1. Mounted on Epoxy-Glass PCB with 5 x 5 mm Cu pads ($\geq 40\mu\text{m}$ thick)
 2. $T_J=25^\circ\text{C}$ Prior to Surge.

RATINGS AND CHARACTERISTIC CURVES (BZD27C SERIES)

FIG.1- FORWARD CURRENT vs FORWARD VOLTAGE

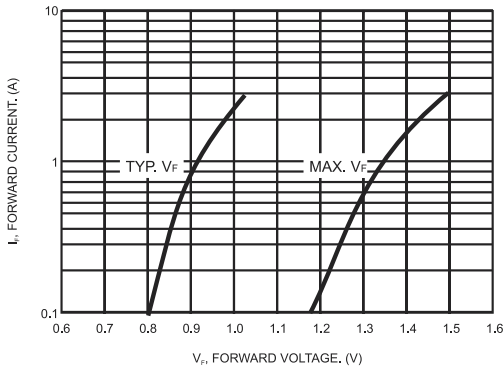


FIG.2- TYP. DIODE CAPACITANCE vs REVERSE VOLTAGE

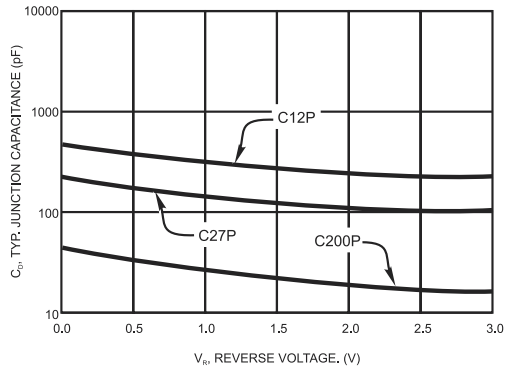


FIG.3- POWER DISSIPATION vs AMBIENT TEMPERATURE

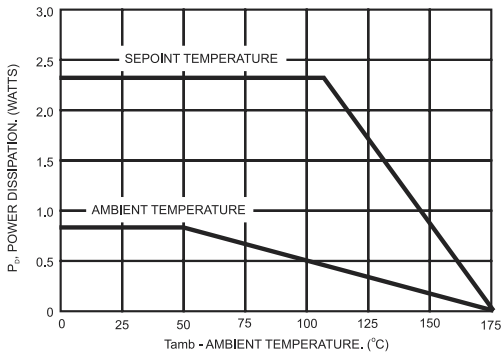
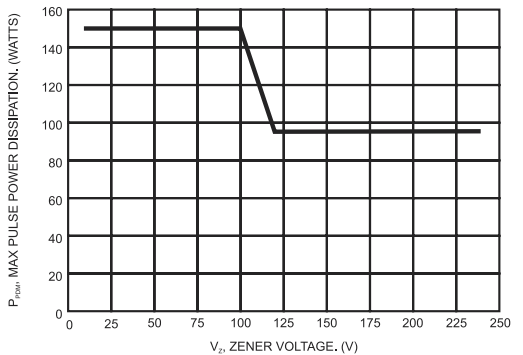


FIG.4- MAXIMUM PULSE POWER DISSIPATION vs ZENER VOLTAGE



ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Device	Device Marking Code	Working Voltage (Note 1)		Differential Resistance		Temperature Coefficient		Test	Reverse Current @ Reverse Voltage	
		V _Z @ I _{ZT}		r _{diff} @ I _{ZT}		ALPH _Z @ I _{ZT}		Current	I _R	V _R
		V		Ω		% / °C		I _{ZT}	μA	V _R
		Min.	Max.	typ	Max.	Min	Max.	mA	Max	V
BZD27C11P	E2	10.4	11.6	4.0	7	0.05	0.10	50	4.0	8.2
BZD27C12P	E3	11.4	12.7	4.0	7	0.05	0.10	50	3.0	9.1
BZD27C13P	E4	12.4	14.1	5.0	10	0.05	0.10	50	2.0	10
BZD27C15P	E5	13.8	15.6	5.0	10	0.05	0.10	25	1.0	11
BZD27C16P	E6	15.3	17.1	6.0	15	0.06	0.11	25	1.0	12
BZD27C18P	E7	16.8	19.1	6.0	15	0.06	0.11	25	1.0	13
BZD27C24P	F0	22.8	25.6	7.0	15	0.06	0.11	25	1.0	18
BZD27C27P	F1	25.1	28.9	7.0	15	0.06	0.11	25	1.0	20
BZD27C33P	F3	31	35	8.0	15	0.06	0.11	25	1.0	24
BZD27C36P	F4	34	38	21	40	0.06	0.11	10	1.0	27
BZD27C39P	F5	37	41	21	40	0.06	0.11	10	1.0	30
BZD27C43P	F6	40	46	24	45	0.07	0.12	10	1.0	33
BZD27C47P	F7	44	50	24	45	0.07	0.12	10	1.0	36
BZD27C51P	F8	48	54	25	60	0.07	0.12	10	1.0	39
BZD27C62P	G0	58	66	25	80	0.08	0.13	10	1.0	47
BZD27C68P	G1	64	72	25	80	0.08	0.13	10	1.0	51
BZD27C75P	G2	70	79	30	100	0.08	0.13	10	1.0	56
BZD27C100P	G5	94	106	60	200	0.09	0.13	4	1.0	75
BZD27C120P	G7	114	127	150	300	0.09	0.13	4	1.0	91
BZD27C180P	H1	168	191	280	450	0.09	0.13	4	1.0	130
BZD27C200P	H2	188	212	350	750	0.09	0.13	4	1.0	150
BZD27C220P	H3	208	233	430	900	0.09	0.13	4	1.0	160

Notes: 1. Pulse test: tp ≤ 5ms.

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Device	Rev. Breakdown Voltage	Test Current	Temperature Coefficient		Clamping Voltage		Reverse Current @ Stand-Off Voltage	
	$V_{(BR)R} @ I_{test}$	I_{test}	$\alpha Z @ I_{test}$		V_C	@ I_{RSM} (Note 1)	I_R	@ V_{WM}
	V	mA	% / °C		V	A	uA	V
	min		min	max	max		max	
BZD27C11P	10.4	50	0.05	0.1	15.7	9.6	5	9.1
BZD27C12P	11.4	50	0.05	0.1	17.0	8.8	5	10
BZD27C13P	12.4	50	0.05	0.1	18.9	7.9	5	11
BZD27C15P	13.8	50	0.05	0.1	20.9	7.2	5	12
BZD27C16P	15.3	25	0.06	0.11	22.9	6.6	5	13
BZD27C18P	16.8	25	0.06	0.11	25.6	5.9	5	15
BZD27C24P	22.8	25	0.06	0.11	33.8	4.4	5	20
BZD27C27P	25.1	25	0.06	0.11	38.1	3.9	5	22
BZD27C33P	31	25	0.06	0.11	46.2	3.2	5	27
BZD27C36P	34	10	0.06	0.11	50.1	3.0	5	30
BZD27C39P	37	10	0.06	0.11	54.1	2.8	5	33
BZD27C43P	40	10	0.07	0.12	60.7	2.5	5	36
BZD27C47P	44	10	0.07	0.12	65.5	2.3	5	39
BZD27C51P	48	10	0.07	0.12	70.8	2.1	5	43
BZD27C62P	58	10	0.08	0.13	86.5	1.7	5	51
BZD27C68P	64	10	0.08	0.13	94.4	1.6	5	56
BZD27C75P	70	10	0.08	0.13	103.5	1.5	5	62
BZD27C100P	94	5	0.09	0.13	139	1.1	5	82
BZD27C120P	114	5	0.09	0.13	152	0.65	5	100
BZD27C180P	168	5	0.09	0.13	229	0.43	5	150
BZD27C200P	188	5	0.09	0.13	254	0.39	5	160
BZD27C220P	208	5	0.09	0.13	279	0.35	5	176

Notes: 1. Non-repetitive peak reverse current in accordance with "IEC 60-1, Section 8" (10/1000 us pulse)