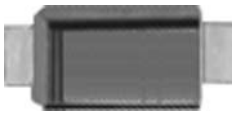
BZD27C Series

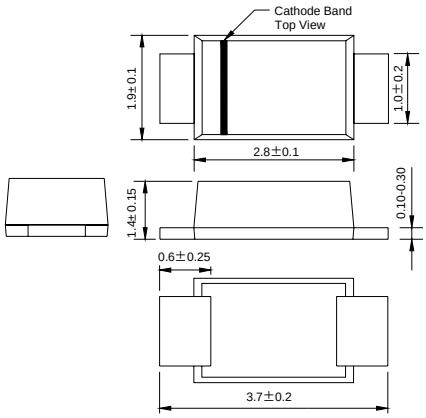
Voltage Regulator Diodes

BREAKDOWN VOLTAGE : 7 - 188 VOLTS

PEAK PULSE POWER : 150 WATTS



SOD-123FL



Dimensions in millimeters

Features

- ◇ Sillicon planar zener diodes.
- ◇ Low profile surface-mount package.
- ◇ Zener and surge current specification
- ◇ Low leakage current
- ◇ Excellent stability
- ◇ High temperature soldering guaranteed: 265°C/10 seconds, at terminals

Mechanical Data

- ◇ Case: JEDEC SOD-123FL molded plastic
- ◇ Polarity: Color band denotes positive end (cathode) except for bidirectional
- ◇ Marking code: see TABLE 1
- ◇ Weight: 0.006 ounces, 0.02 grams
- ◇ Mounting position: Any

ABSOLUTE MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	SYMBOL	VALUE	UNITS
Non-repetitive peak pulse power dissipation with a 10/1000μs waveform (NOTE 1)	P_{PPM}	150	Watts
Power dissipation at T_A=25°C (NOTE 2)	P_{tot}	0.8	Watts
Reverse current at stand-off voltage @ V_{WM}	I_R	SEE TABLE 1	μ A
Maximum instantaneous forward voltage at 0.2A	V_F	1.2	Volts
Thermal resistance junction to ambient	$R_{\theta JA}$	180	K/W
Operating temperature junction range	T_J	- 55 to +150	°C
Storage temperature range	T_{STG}	- 55 to +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" (10/1000μs pulse)

BZD27C Series

Voltage Regulator Diodes

ELECTRICAL CHARACTERISTICS(at T_J=25°C unless otherwise noted)

When used as voltage regulator diodes

Partnumber	Working voltage (NOTE 1)		Differential resistance		Temperature coefficient		Test current	Reverse current at reverse voltage	
	V_z@I_{zT}		r_{dif}@I_z		α_z@I_z		I_{ZT}	I_R	V_R
	V		Ω		%/°C		m A	μ A	V
	min	max	typ	max	min	max		max	
BZD27C3V6P	3.4	3.8	4	8	-0.14	-0.04	100	100	1
BZD27C3V9P	3.7	4.1	4	8	-0.14	-0.04	100	50	1
BZD27C4V3P	4	4.6	4	7	-0.12	-0.02	100	25	1
BZD27C4V7P	4.4	5	3	7	-0.1	0	100	10	1
BZD27C5V1P	4.8	5.4	3	6	-0.08	0.02	100	5	1
BZD27C5V6P	5.2	6	2	4	-0.04	0.04	100	10	2
BZD27C6V2P	5.8	6.6	2	3	-0.01	0.06	100	5	2
BZD27C6V8P	6.4	7.2	1	3	0	0.07	100	10	3
BZD27C7V5P	7	7.9	1	2	0	0.07	100	50	3
BZD27C8V2P	7.7	8.7	1	2	0.03	0.08	100	10	3
BZD27C9V1P	8.5	9.6	2	4	0.03	0.08	50	10	5
BZD27C10P	9.4	10.6	2	4	0.05	0.09	50	7	7.5
BZD27C11P	10.4	11.6	4	7	0.05	0.1	50	4.0	8.2
BZD27C12P	11.4	12.7	4	7	0.05	0.1	50	3.0	9.1
BZD27C13P	12.4	14.1	5	10	0.05	0.1	50	2	10
BZD27C15P	13.8	15.6	5	10	0.05	0.1	50	1	11
BZD27C16P	15.3	17.1	6	15	0.06	0.11	25	1	12
BZD27C18P	16.8	19.1	6	15	0.06	0.11	25	1	13
BZD27C20P	18.8	21.2	6	15	0.06	0.11	25	1	15
BZD27C22P	20.8	23.3	6	15	0.06	0.11	25	1	16
BZD27C24P	22.8	25.6	7	15	0.06	0.11	25	1	18
BZD27C27P	25.1	28.9	7	15	0.06	0.11	25	1	20
BZD27C30P	28	32	8	15	0.06	0.11	25	1	22
BZD27C33P	31	35	8	15	0.06	0.11	25	1	24
BZD27C36P	34	38	21	40	0.06	0.11	10	1	27
BZD27C39P	37	41	21	40	0.06	0.11	10	1	30
BZD27C43P	40	46	24	45	0.07	0.12	10	1	33
BZD27C47P	44	50	24	45	0.07	0.12	10	1	36
BZD27C51P	48	54	25	60	0.07	0.12	10	1	39
BZD27C56P	52	60	25	60	0.07	0.12	10	1	43
BZD27C62P	58	66	25	80	0.08	0.13	10	1	47
BZD27C68P	64	72	25	80	0.08	0.13	10	1	51
BZD27C75P	70	79	30	100	0.08	0.13	10	1	56
BZD27C82P	77	87	30	100	0.08	0.13	10	1	62
BZD27C91P	85	96	60	200	0.08	0.13	5	1	68
BZD27C100P	94	106	60	200	0.09	0.13	5	1	75
BZD27C110P	104	116	80	250	0.09	0.13	5	1	82
BZD27C120P	114	127	80	250	0.09	0.13	5	1	91
BZD27C130P	124	141	110	300	0.09	0.13	5	1	100
BZD27C150P	138	156	130	300	0.09	0.13	5	1	110
BZD27C160P	153	171	150	350	0.09	0.13	5	1	120
BZD27C180P	168	191	180	400	0.09	0.13	5	1	130
BZD27C200P	188	212	200	500	0.09	0.13	5	1	150

Note:1.Pulse test:tp≤5ms.

BZD27C Series

Voltage Regulator Diodes

ELECTRICAL CHARACTERISTICS(at T_J=25℃ unless otherwise noted)

When used as protection diodes

Partnumber	Rev.Breakdown voltage	Test current	Temperature coefficient		Clamping voltage		Reverse current at stand-off voltage	
	$V_{(BR)R}$@I_{test}	I_{test}	α_z@I_{test}		V_C	@I_{RSM} 1)	I_R	@V_{wm}
	V	m A	%/℃		V	A	μ A	V
	min		min	max	max		max	
BZD27C7V5P	7	100	0	0.07	11.3	13.3	1500	6.2
BZD27C8V2P	7.7	100	0.03	0.08	12.3	12.2	1200	6.8
BZD27C9V1P	8.5	50	0.03	0.08	13.3	11.3	100	7.5
BZD27C10P	9.4	50	0.05	0.09	14.8	10.1	20	8.2
BZD27C11P	10.4	50	0.05	0.1	15.7	9.6	5	9.1
BZD27C12P	11.4	50	0.05	0.1	17	8.8	5	10.0
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
BZD27C20P	18.8	25	0.06	0.11	28.4	5.3	5	16
BZD27C22P	20.8	25	0.06	0.11	31	4.8	5	18
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
BZD27C30P	28	25	0.06	0.11	42.2	3.6	5	24
BZD27C33P	31	25	0.06	0.11	46.2	3.2	5	27
BZD27C36P	34	10	0.06	0.11	50.1	3	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
BZD27C56P	52	10	0.07	0.12	78.6	1.9	5	47
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
BZD27C82P	77	10	0.08	0.13	114	1.3	5	68
BZD27C91P	85	5	0.09	0.13	126	1.2	5	75
BZD27C100P	94	5	0.09	0.13	139	1.1	5	82
BZD27C110P	104	5	0.09	0.13	139	0.72	5	91
BZD27C120P	114	5	0.09	0.13	152	0.65	5	100
BZD27C130P	124	5	0.09	0.13	169	0.59	5	110
BZD27C150P	138	5	0.09	0.13	187	0.53	5	120
BZD27C160P	153	5	0.09	0.13	205	0.48	5	130
BZD27C180P	168	5	0.09	0.13	229	0.43	5	150
BZD27C200P	188	5	0.09	0.13	254	0.39	5	160

Note:1)Non-repetitive peak reverse current in accordance with"IEC 60-1,Section 8"(10/1000μs pulse);see Fig.4.

Ratings AND Charactieristic Curves

Figure 1. Forward Current vs. Forward Voltage

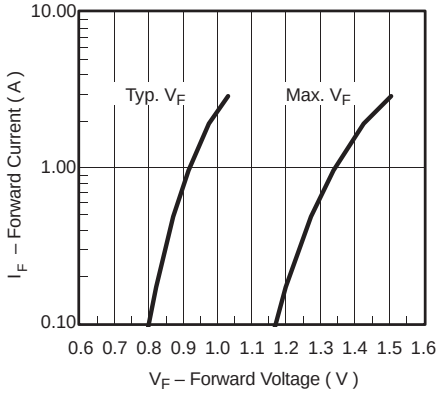


Figure 2. Maximum Pulse Power Dissipation vs. Zener Voltage

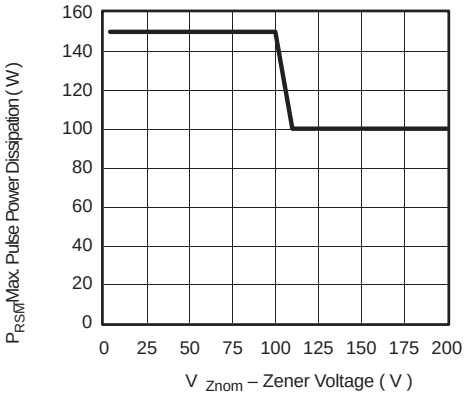


Figure 3. Typ. Diode Capacitance vs. Reverse Voltage

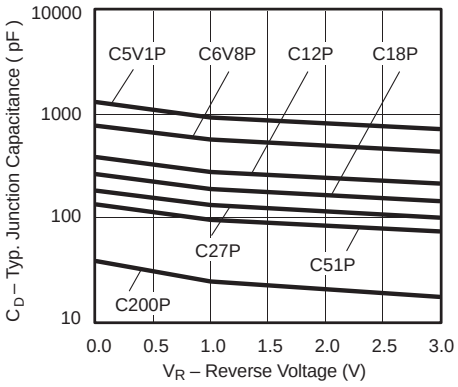


Figure 4. Non-Repetitive Peak Reverse Current Pulse Definition

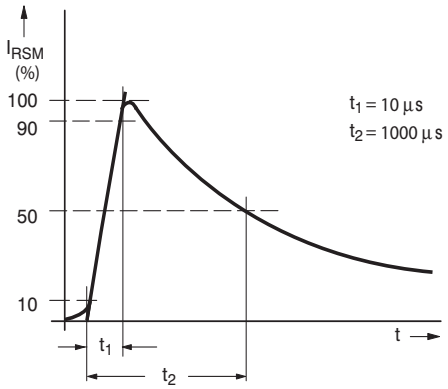
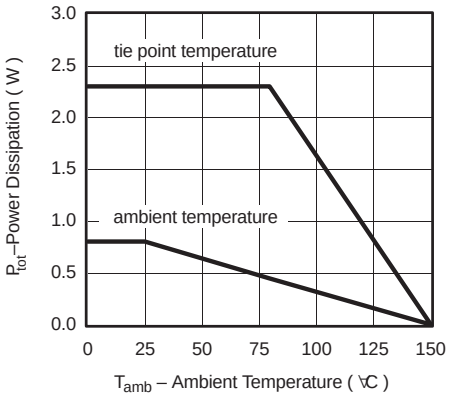


Figure 5. Power Dissipation vs. Ambient Temperature



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