

DATA SHEET

ZENER DIODES

GENERAL VOLTAGE REGULATION

BZT52CXXW SERIES

RoHS compliant & Halogen free

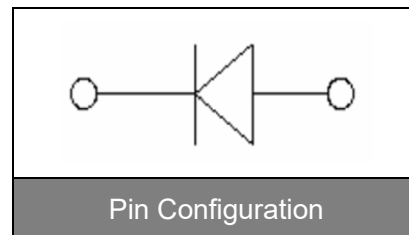
Product specification— May 14, 2026 V.1



Zener Diodes

Features

- Total power dissipation: max.500mW
- Zener voltage: 2.4V~75V
- Package: SOD-123
- Moisture sensitivity level 1
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102



Application

- Linear voltage regulator
- DC regulator
- Small-signal surge protection

Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Value	Unit
Forward Voltage@I _F =10mA	V _F	0.9	V
Power Dissipation	P _D	500	mW
Maximum Regulator Current	I _{ZM}	P _D /V _Z	mA
Junction Temperature	T _J	-55 to +150	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient	R _{θJA} ⁽¹⁾	250	°C/W
Thermal Resistance Junction to Case	R _{θJC} ⁽¹⁾	200	°C/W

⁽¹⁾ Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm*9mm copper pad areas.

Electrical Characteristics at Ta = 25°C

Type	Marking Code	V _{zt} (V)@I _{zt}			I _{zt}	Z _{zt} @I _{zt}	I _{zk}	Z _{zk} @I _{zk}	I _R @V _R	V _R
		Min.	Typ.	Max.	(mA)	Max(Ω)	(mA)	Max(Ω)	Max(μA)	(V)
BZT52C2V4W	WX.	2.2	2.4	2.6	5	100	1.0	600	50	1.0
BZT52C2V7W	W1.	2.5	2.7	2.9	5	100	1.0	600	20	1.0
BZT52C3V0W	W2.	2.8	3.0	3.2	5	95	1.0	600	10	1.0
BZT52C3V3W	W3.	3.1	3.3	3.5	5	95	1.0	600	5	1.0
BZT52C3V6W	W4.	3.4	3.6	3.8	5	90	1.0	600	5	1.0

Zener Diodes

BZT52CXXW SERIES

Type	Marking Code	Vzt (V)@Izt			Izt	Zzt@Izt	Izk	Zzk@Izk	IR@VR	VR
		Min.	Typ.	Max.	(mA)	Max(Ω)	(mA)	Max(Ω)	Max(μA)	(V)
BZT52C3V9W	W5.	3.7	3.9	4.1	5	90	1.0	600	3	1.0
BZT52C4V3W	W6.	4.0	4.3	4.6	5	90	1.0	600	3	1.0
BZT52C4V7W	W7.	4.4	4.7	5.0	5	80	1.0	500	3	2.0
BZT52C5V1W	W8.	4.8	5.1	5.4	5	60	1.0	480	2	2.0
BZT52C5V6W	W9.	5.2	5.6	6.0	5	40	1.0	400	1	2.0
BZT52C6V2W	WA.	5.8	6.2	6.6	5	10	1.0	150	3	4.0
BZT52C6V8W	WB.	6.4	6.8	7.2	5	15	1.0	80	2	4.0
BZT52C7V5W	WC.	7.0	7.5	7.9	5	15	1.0	80	1	5.0
BZT52C8V2W	WD.	7.7	8.2	8.7	5	15	1.0	80	0.7	5.0
BZT52C9V1W	WE.	8.5	9.1	9.6	5	15	1.0	100	0.5	6.0
BZT52C10W	WF.	9.4	10	10.6	5	20	1.0	150	0.2	7.0
BZT52C11W	WG.	10.4	11	11.6	5	20	1.0	150	0.1	8.0
BZT52C12W	WH.	11.4	12	12.7	5	25	1.0	150	0.1	8.0
BZT52C13W	WI.	12.4	13	14.1	5	30	1.0	170	0.1	8.0
BZT52C15W	WJ.	13.8	15	15.6	5	30	1.0	200	0.1	10.5
BZT52C16W	WK.	15.3	16	17.1	5	40	1.0	200	0.1	11.2
BZT52C18W	WL.	16.8	18	19.1	5	45	1.0	225	0.1	12.6
BZT52C20W	WM.	18.8	20	21.2	5	55	1.0	225	0.1	14.0
BZT52C22W	WN.	20.8	22	23.3	5	55	1.0	250	0.1	15.4
BZT52C24W	WO.	22.8	24	25.6	5	70	1.0	250	0.1	16.8
BZT52C27W	WP.	25.1	27	28.9	2	80	0.5	300	0.1	18.9
BZT52C30W	WQ.	28	30	32	2	80	0.5	300	0.1	21.0
BZT52C33W	WR.	31	33	35	2	80	0.5	325	0.1	23.1
BZT52C36W	WS.	34	36	38	2	90	0.5	350	0.1	25.2
BZT52C39W	WT.	37	39	41	2	130	0.5	350	0.1	27.3
BZT52C43W	WU.	40	43	46	5	100	1.0	750	0.1	32
BZT52C47W	WV.	44	47	50	5	100	1.0	750	0.1	35
BZT52C51W	WW.	48	51	54	2	180	0.5	400	0.05	35.7
BZT52C56W	X1.	53	56	59	2	200	1	1000	0.1	42
BZT52C62W	5X2.	58	62	66	2	215	0.5	450	0.05	43.4
BZT52C68W	5X3.	64	68	72	2	240	0.5	475	0.05	47.6
BZT52C75W	5X4.	70	75	79	2	255	0.5	500	0.05	52.5

Electrical Characteristic Curves

Figure 1. Zener Characteristics Curve

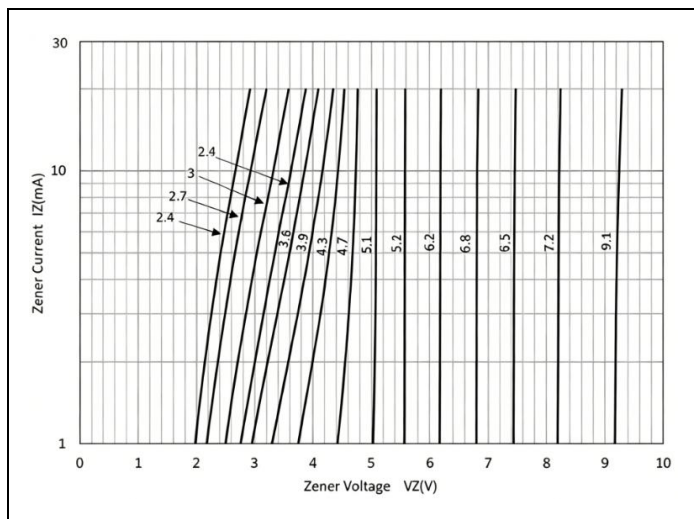


Figure 2. Zener Characteristics Curve

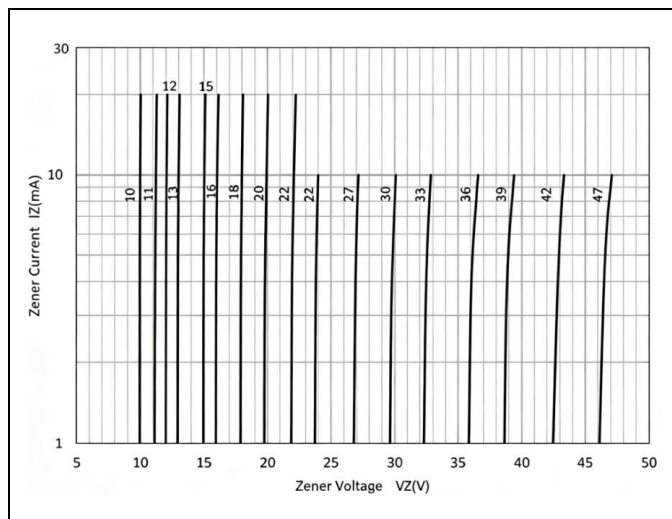


Figure 3. Zener Characteristics Curve

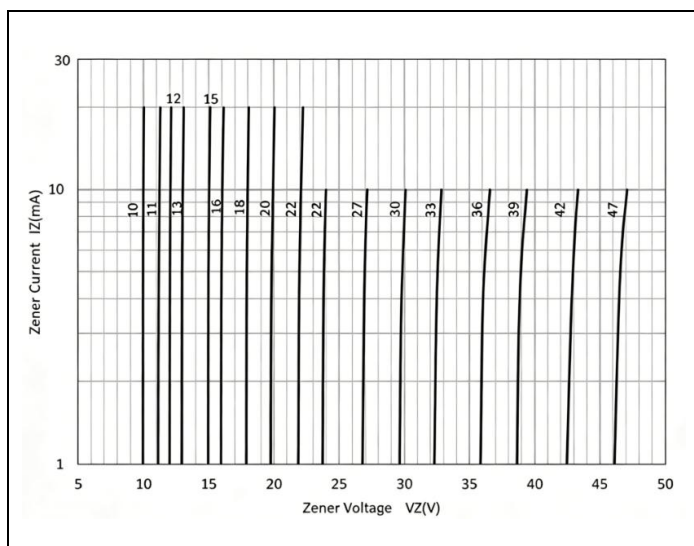
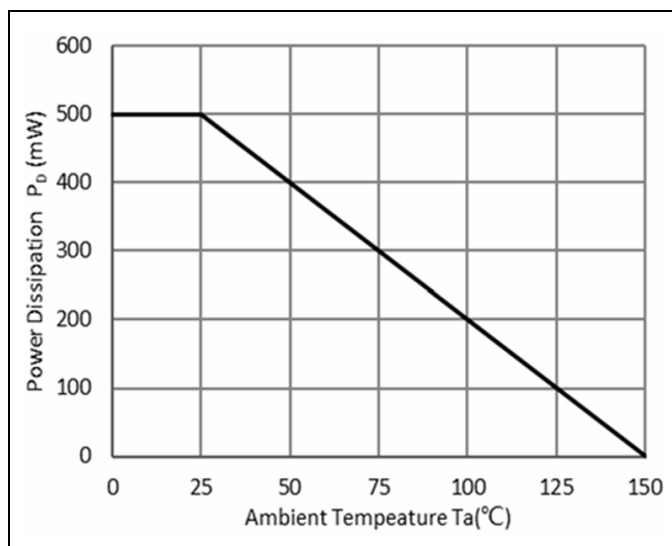


Figure 4. P_D - T_a Curve



Dimensions (SOD-123)

Symbol	Dimension (mm)			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.55	3.85	0.140	0.152
B	2.55	2.85	0.100	0.112
C	1.40	1.80	0.055	0.071
D	0.95	1.35	0.037	0.053
E	0.51	0.71	0.020	0.028
G	0.15	0.45	0.006	0.018
H	0.08	0.25	0.003	0.010
J	0.00	0.15	0.000	0.006
θ	0	8°	0	8°

Packing

Tape	Symbol	Dimension(mm)
	W	8.00±0.20
	P0	4.00±0.10
	P1	4.00±0.10
	P2	2.00±0.10
	R	Φ1.50±0.10
	R0	Φ1.00±0.25
	E	1.75±0.10
	F	3.50±0.05
	A0	1.75±0.10
	B0	3.94±0.10
	B1	2.59±0.20
	T	0.20±0.02
	T1	1.52±0.10
Reel	D	Φ178±1.0
	D2	Φ13.5±0.30
	W1	9.3±1.5
	Quantity: 3000PCS	

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