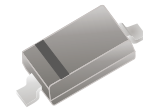


ABZT52B2V4-HF Thru. ABZT52B75-HF

RoHS Device
Halogen Free

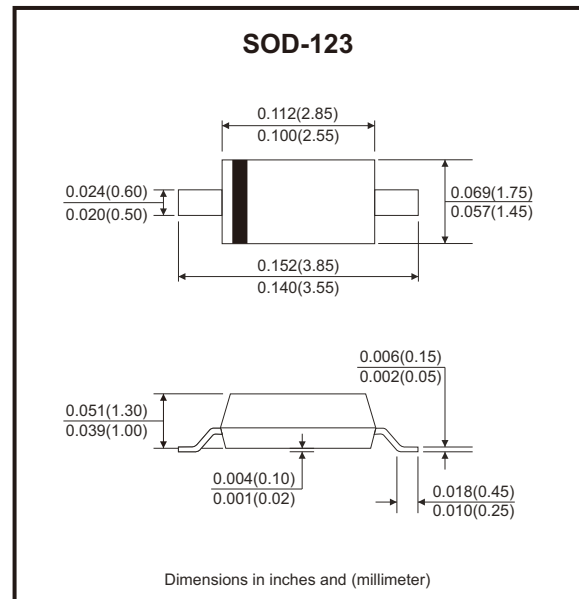


Features

- Planar die construction.
- General purpose, medium current.
- Ideally suited for automated assembly processes.
- Tight voltage tolerance: $\pm 2\%$.
- AEC-Q101 Qualified

Mechanical data

- Case: SOD-123, molded plastic.
- Polarity: Indicated by cathode band.
- Mounting position: Any.



Circuit Diagram



Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Forward voltage @ I _F =10mA	V _F	0.9	V
Power dissipation	P _D	500	mW
Thermal resistance, junction to ambient air	R _{θJA}	305	°C/W
Thermal resistance, junction to case	R _{θJC}	180	°C/W
Junction temperature	T _J	150	°C
Storage temperature range	T _{STG}	-65 to +150	°C

Note: 1. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
2. Short duration test pulse used to minimize self-heating effect.
3. f = 1 KHz

Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number	Zener Voltage				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature Coefficient @ IZTC mV/°C		Test current IZTC	Marking Code
	VZT @ IZT			IZT	ZzT@IZT	ZzK@IzK	IzK	I _R @ V _R					
	Min(V)	Nom(V)	Max(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	Min.	Max.	(mA)	
ABZT52B2V4-HF	2.35	2.4	2.45	5.0	85	600	1.0	45	1.0	-3.5	0	5	W1 •
ABZT52B2V7-HF	2.65	2.7	2.75	5.0	83	500	1.0	18	1.0	-3.5	0	5	W2 •
ABZT52B3V0-HF	2.94	3.0	3.06	5.0	95	500	1.0	9	1.0	-3.5	0	5	W3 •
ABZT52B3V3-HF	3.23	3.3	3.37	5.0	95	500	1.0	4.5	1.0	-3.5	0	5	W4 •
ABZT52B3V6-HF	3.53	3.6	3.67	5.0	95	500	1.0	4.5	1.0	-3.5	0	5	W5 •
ABZT52B3V9-HF	3.82	3.9	3.98	5.0	95	500	1.0	2.7	1.0	-3.5	0	5	W6 •
ABZT52B4V3-HF	4.21	4.3	4.39	5.0	95	500	1.0	2.7	1.0	-3.5	0	5	W7 •
ABZT52B4V7-HF	4.61	4.7	4.79	5.0	78	500	1.0	2.7	2.0	-3.5	0	5	W8 •
ABZT52B5V1-HF	5.00	5.1	5.20	5.0	60	480	1.0	1.8	2.0	-2.7	1.2	5	W9 •
ABZT52B5V6-HF	5.49	5.6	5.71	5.0	40	400	1.0	0.9	2.0	-2	2.5	5	WA •
ABZT52B6V2-HF	6.08	6.2	6.32	5.0	10	200	1.0	2.7	4.0	0.4	3.7	5	WB •
ABZT52B6V8-HF	6.66	6.8	6.94	5.0	8	150	1.0	1.8	4.0	1.2	4.5	5	WC •
ABZT52B7V5-HF	7.35	7.5	7.65	5.0	7	50	1.0	0.9	5.0	2.5	5.3	5	WD •
ABZT52B8V2-HF	8.04	8.2	8.36	5.0	7	50	1.0	0.63	5.0	3.2	6.2	5	WE •
ABZT52B9V1-HF	8.92	9.1	9.28	5.0	10	50	1.0	0.45	6.0	3.8	7.0	5	WF •
ABZT52B10-HF	9.80	10	10.20	5.0	15	70	1.0	0.18	7.0	4.5	8.0	5	WG•
ABZT52B11-HF	10.78	11	11.22	5.0	20	70	1.0	0.09	8.0	5.4	9.0	5	WH•
ABZT52B12-HF	11.76	12	12.24	5.0	20	90	1.0	0.09	8.0	6.0	10.0	5	WI •
ABZT52B13-HF	12.74	13	13.26	5.0	25	110	1.0	0.09	8.0	7.0	11.0	5	WJ •
ABZT52B15-HF	14.70	15	15.30	5.0	30	110	1.0	0.045	10.5	9.2	13.0	5	WK •
ABZT52B16-HF	15.68	16	16.32	5.0	40	170	1.0	0.045	11.2	10.4	14.0	5	WL •
ABZT52B18-HF	17.64	18	18.36	5.0	50	170	1.0	0.045	12.6	12.4	16.0	5	WM•
ABZT52B20-HF	19.60	20	20.40	5.0	50	220	1.0	0.045	14.0	14.4	18.0	5	WN •
ABZT52B22-HF	21.56	22	22.44	5.0	55	220	1.0	0.045	15.4	16.4	20.0	5	WO•
ABZT52B24-HF	23.52	24	24.48	5.0	80	220	1.0	0.045	16.8	18.4	22.0	5	WP •
ABZT52B27-HF	26.46	27	27.54	2.0	80	250	1.0	0.045	18.9	21.4	25.3	2	WQ•
ABZT52B30-HF	29.40	30	30.60	2.0	80	250	1.0	0.045	21.0	24.4	29.4	2	WR•
ABZT52B33-HF	32.34	33	33.66	2.0	80	250	1.0	0.045	23.0	27.4	33.4	2	WS •

Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number	Zener Voltage				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature Coefficient @ I _{ZTC} mV/°C		Test current I _{ZTC}	Marking Code
	V _{ZT} @ I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R @ V _R					
	Min(V)	Nom(V)	Max(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	Min.	Max.	(mA)	
ABZT52B36-HF	35.28	36	36.72	2.0	90	250	1.0	0.045	25.2	30.4	37.4	2	WT •
ABZT52B39-HF	38.22	39	39.78	2.0	90	300	1.0	0.045	27.3	33.4	41.2	2	WU •
ABZT52B43-HF	42.14	43	43.86	2.0	100	700	1.0	0.045	30.1	10.0	12.0	5	WV •
ABZT52B47-HF	46.06	47	47.94	2.0	100	750	1.0	0.045	33.0	10.0	12.0	5	WW•
ABZT52B51-HF	49.98	51	52.02	2.0	100	750	1.0	0.045	35.7	10.0	12.0	5	X1 •
ABZT52B56-HF	54.88	56	57.12	2.0	200	400	0.5	0.045	39.2	10.0	12.0	5	X2 •
ABZT52B62-HF	60.76	62	63.24	2.0	215	423	0.5	0.045	43.4	10.0	12.0	5	X3 •
ABZT52B68-HF	66.64	68	69.36	2.0	240	447	0.5	0.045	47.6	10.0	12.0	5	X4 •
ABZT52B75-HF	73.50	75	76.50	2.0	255	470	0.5	0.045	52.5	10.0	12.0	5	X5 •

Typical Rating and Characteristic Curves (ABZT52B2V4-HF Thru. ABZT52B75-HF)

Fig.1 - Power Dissipation vs Ambient Temperature

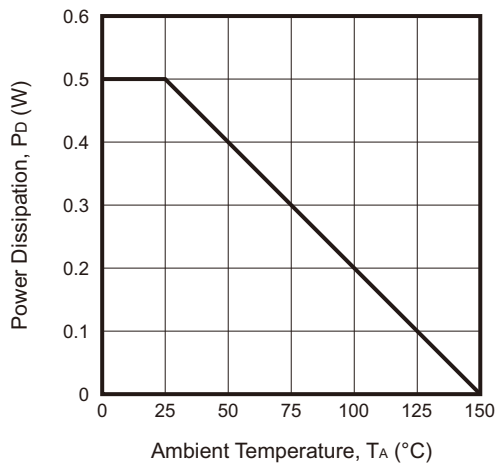
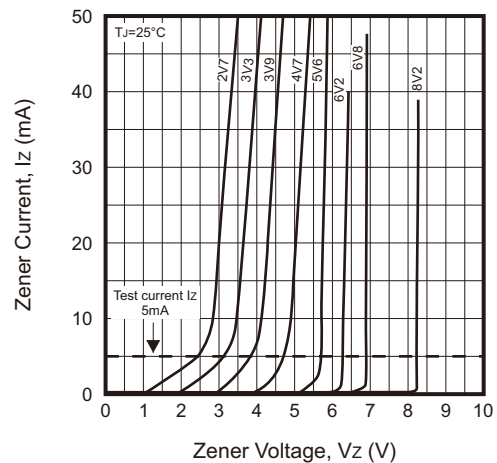


Fig.2 - Zener Breakdown Characteristics



Typical Rating and Characteristic Curves (ABZT52B2V4-HF Thru. ABZT52B75-HF)

Fig.3 - Zener Breakdown Characteristics

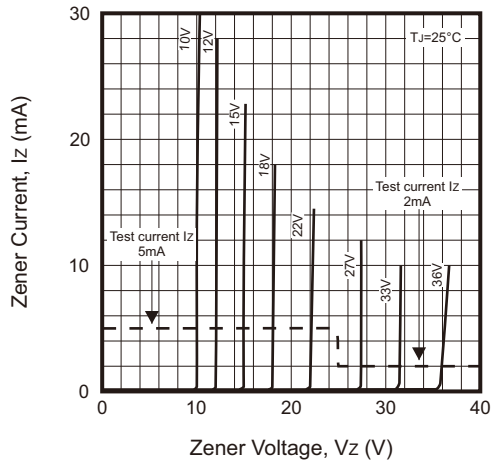


Fig.4 - Zener Breakdown Characteristics

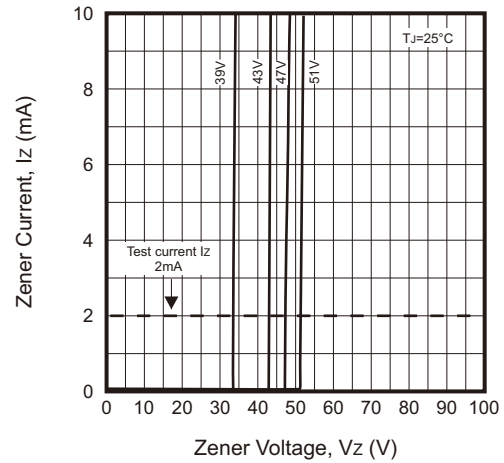


Fig.5 - Junction Capacitance vs Nominal Zener Voltage

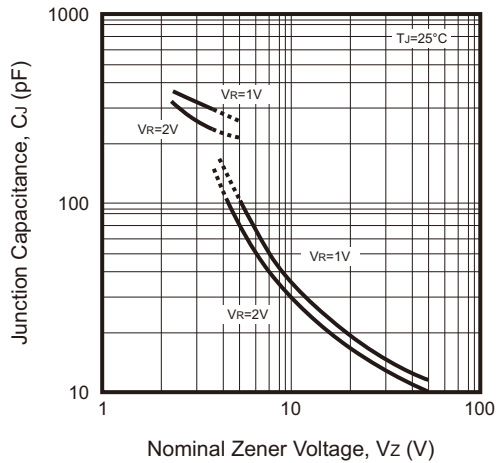


Fig.6 - Typical Temperature Coefficient of Zener Voltage

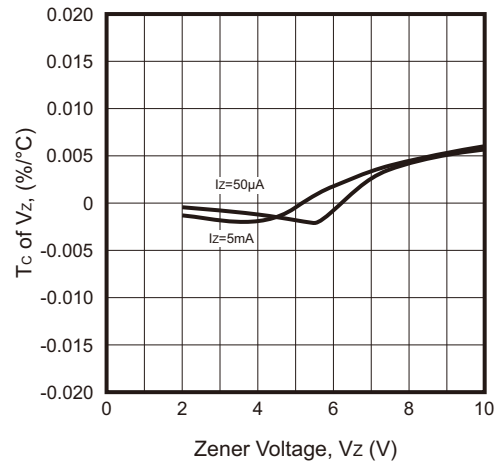
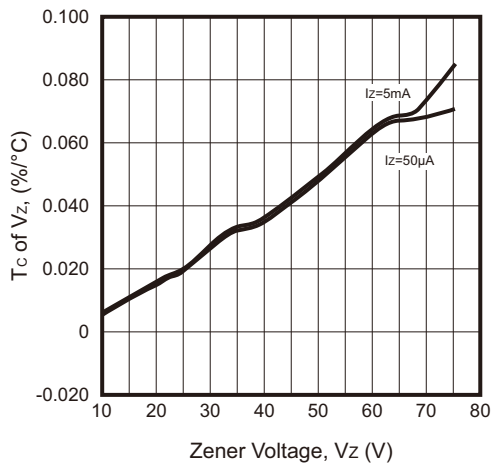
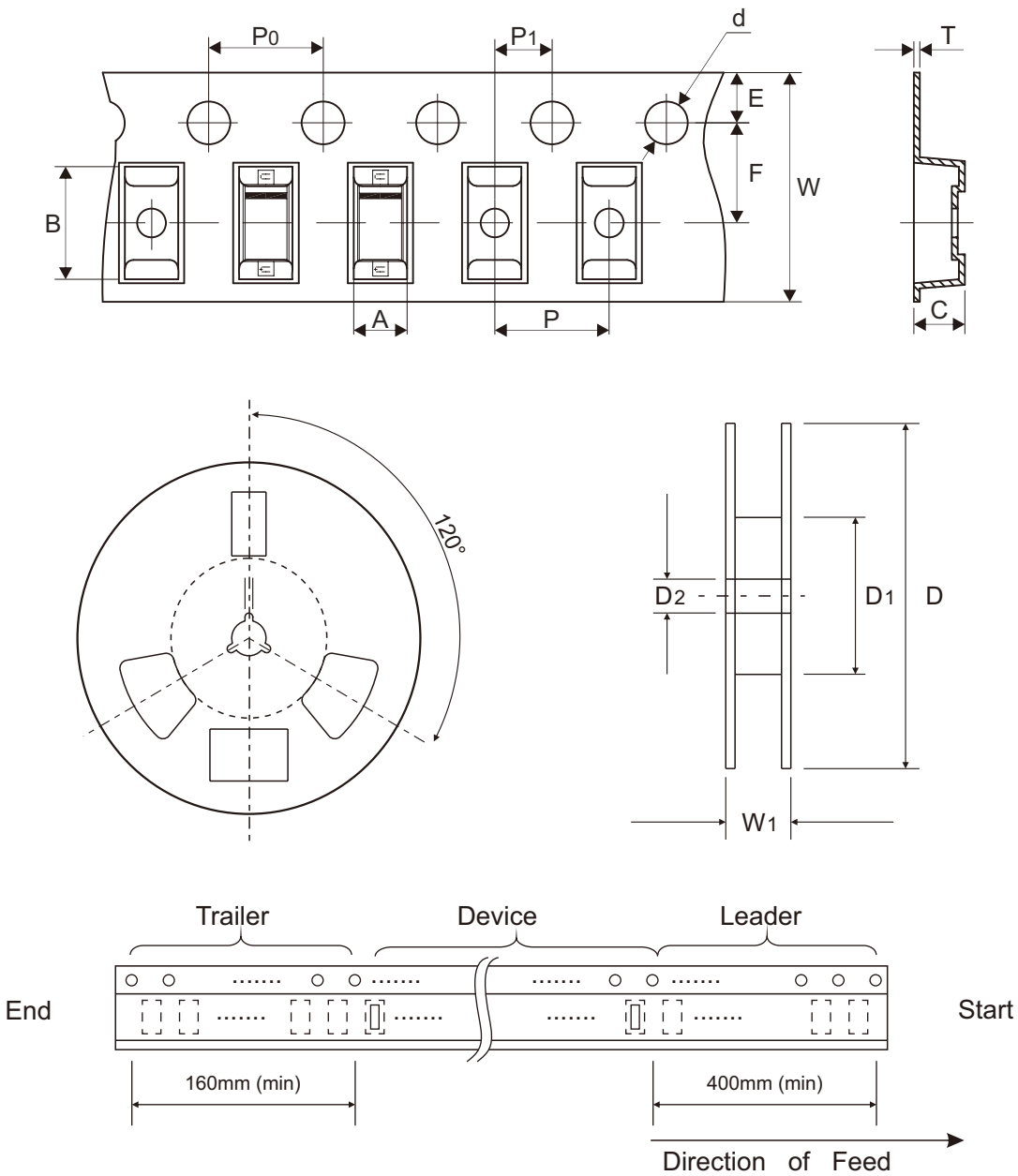


Fig.7 - Typical Temperature Coefficient of Zener Voltage



Reel Taping Specification



SOD-123	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.85 ± 0.10	3.94 ± 0.10	1.57 ± 0.10	1.55 ± 0.05	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.073 ± 0.004	0.155 ± 0.004	0.062 ± 0.004	0.061 ± 0.002	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

SOD-123	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.203 ± 0.013	8.00 + 0.30 - 0.10	12.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 + 0.012 - 0.004	0.492 ± 0.039

Marking Code

Part Number	Marking Code
ABZT52B2V4-HF Thru. ABZT52B75-HF	See Page 2~3

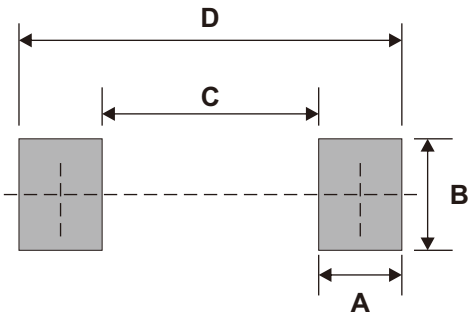


XX = Product type marking code

█ = Cathode band

Suggested P.C.B. PAD Layout

SIZE	SOD-123	
	(mm)	(inch)
A	0.91	0.036
B	1.22	0.048
C	2.36	0.093
D	4.19	0.165



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-123	3,000	7