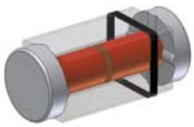
TAIWAN SEMICONDUCTOR

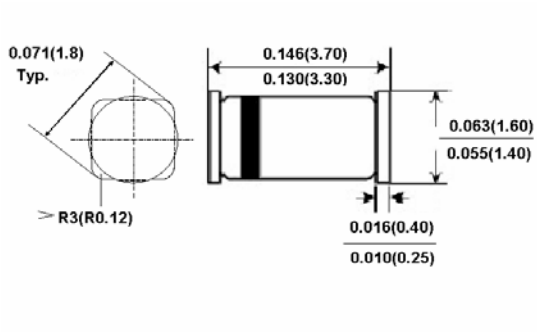
RoHS COMPLIANCE

BZT55B SERIES

0.5 Watts Hermetically Sealed Glass Zener Voltage Regulators



QUADRO MINI MELF



Dimensions in inches and (millimeters)

Features

- ✧ Zener voltage range 2.0 to 75 volts
- ✧ Mini-MELF package
- ✧ Surface device type mounting
- ✧ Hermetically sealed glass
- ✧ Compression Bonded Construction
- ✧ All external surfaces are corrosion resistant and terminals are readily solderable
- ✧ RoHS compliant
- ✧ Matte Tin(Sn) lead finish
- ✧ Blue color band indicates negative polarity

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Type Number	Symbol	Value	Units
Power Dissipation	Ptot	500	mW
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 200	°C

Notes: These ratings are limiting values above which the serviceability of the diode may be impaired

RATINGS AND CHARACTERISTIC CURVES(BZT55B SERIES)

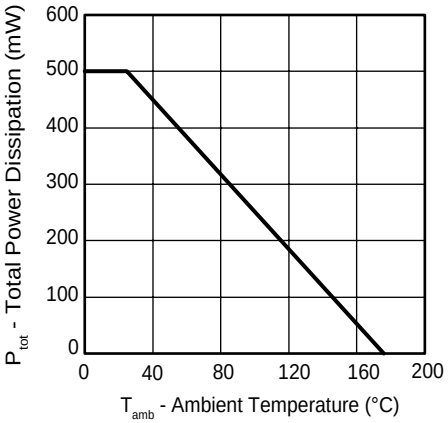


Figure 1. Total Power Dissipation vs. Ambient Temperature

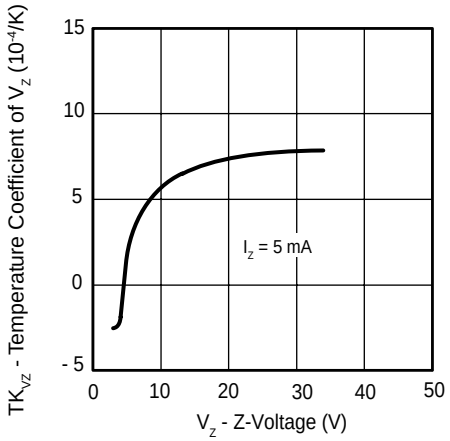


Figure 4. Temperature Coefficient of Vz vs. Z-Voltage

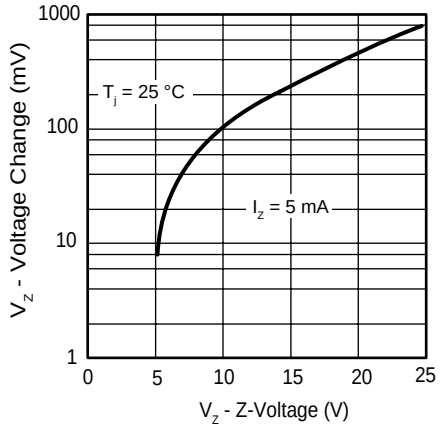


Figure 2. Typical Change of Working Voltage under Operating Conditions at T_{amb}=25°C

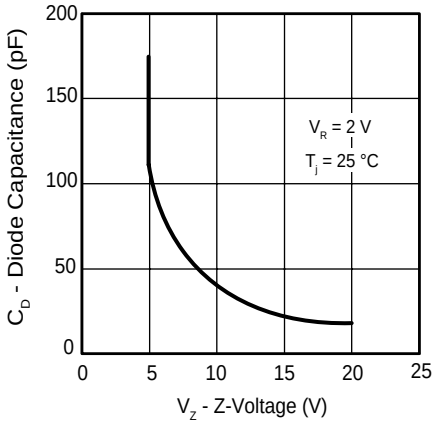


Figure 5. Diode Capacitance vs. Z-Voltage

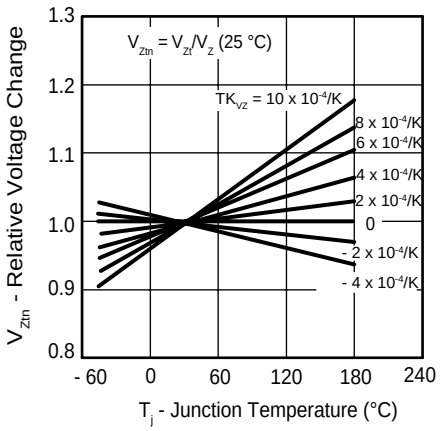


Figure 3. Typical Change of Working Voltage vs. Junction Temperature

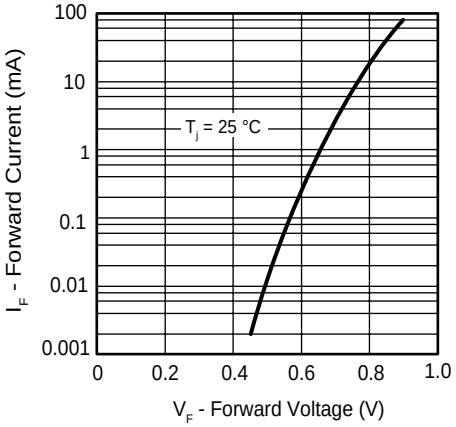


Figure 6. Forward Current vs. Forward Voltage

RATINGS AND CHARACTERISTIC CURVES(BZT55B SERIES)

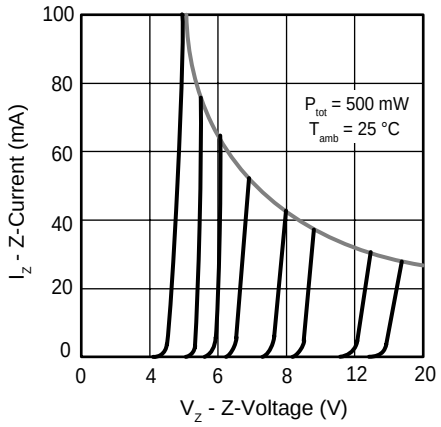


Figure 7. Z-Current vs. Z-Voltage

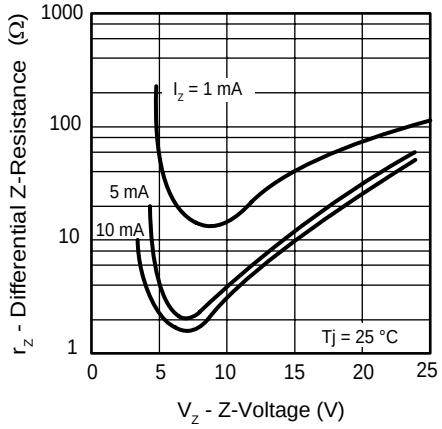


Figure 9. Differential Z-Resistance vs. Z-Voltage

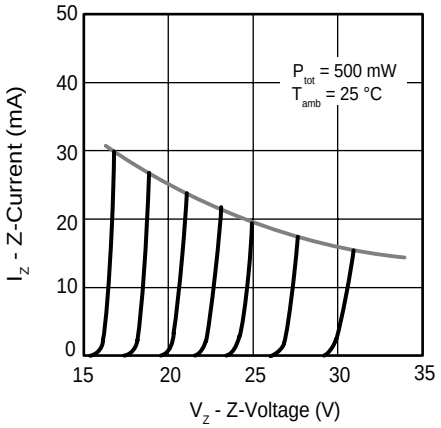


Figure 8. Z-Current vs. Z-Voltage

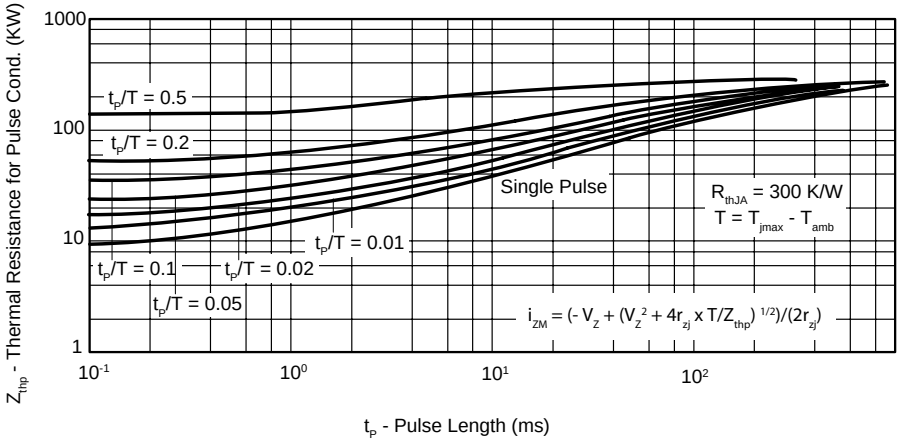


Figure 10. Thermal Response

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

Type Number	V_Z @ I_{ZT} (Volts)		I_{ZT}	Z_{ZT} @ I_{ZT}	I_{ZK}	Z_{ZK} @ I_{ZK}	IR @ VR	VR
	V_Z Min (V)	V_Z Max (V)	mA	Ohms Max	mA	Ohms	uA Max	V
BZT55B2V0	1.96	2.04	5	100	1.0	600	50	1.0
BZT55B2V2	2.16	2.24	5	100	1.0	600	50	1.0
BZT55B2V4	2.35	2.45	5	85	1.0	600	50	1.0
BZT55B2V7	2.65	2.75	5	85	1.0	600	10	1.0
BZT55B3V0	2.94	3.06	5	85	1.0	600	4	1.0
BZT55B3V3	3.23	3.37	5	85	1.0	600	2	1.0
BZT55B3V6	3.53	3.67	5	85	1.0	600	2	1.0
BZT55B3V9	3.82	3.98	5	85	1.0	600	2	1.0
BZT55B4V3	4.21	4.39	5	75	1.0	600	1	1.0
BZT55B4V7	4.61	4.79	5	60	1.0	600	0.5	1.0
BZT55B5V1	5.00	5.2	5	35	1.0	550	0.1	1.0
BZT55B5V6	5.49	5.71	5	25	1.0	450	0.1	1.0
BZT55B6V2	6.08	6.32	5	10	1.0	200	0.1	2.0
BZT55B6V8	6.66	6.94	5	8	1.0	150	0.1	3.0
BZT55B7V5	7.35	7.65	5	7	1.0	50	0.1	5.0
BZT55B8V2	8.04	8.36	5	7	1.0	50	0.1	6.2
BZT55B9V1	8.92	9.28	5	10	1.0	50	0.1	6.8
BZT55B10	9.80	10.2	5	15	1.0	70	0.1	7.5
BZT55B11	10.40	11.22	5	20	1.0	70	0.1	8.2
BZT55B12	11.40	12.24	5	20	1.0	90	0.1	9.1
BZT55B13	12.74	13.26	5	26	1.0	110	0.1	10
BZT55B15	14.70	15.30	5	30	1.0	110	0.1	11
BZT55B16	15.68	16.32	5	40	1.0	170	0.1	12
BZT55B18	17.64	18.36	5	50	1.0	170	0.1	13
BZT55B20	19.60	20.40	5	55	1.0	220	0.1	15
BZT55B22	21.56	22.44	5	55	1.0	220	0.1	16
BZT55B24	23.52	24.48	5	80	1.0	220	0.1	18
BZT55B27	26.46	27.54	2	80	1.0	220	0.1	20
BZT55B30	29.40	30.60	2	80	1.0	220	0.1	22
BZT55B33	32.34	33.66	2	80	1.0	220	0.1	24
BZT55B36	35.28	36.72	2	80	1.0	220	0.1	27
BZT55B39	38.22	39.78	2	90	0.5	500	0.1	28
BZT55B43	42.14	43.86	2	90	0.5	600	0.1	32
BZT55B47	46.06	47.94	2	110	0.5	700	0.1	35
BZT55B51	49.98	52.02	2	125	0.5	700	0.1	38
BZT55B56	54.88	57.12	2	135	0.5	1000	0.1	42
BZT55B62	60.76	63.24	2.5	150	0.5	1000	0.1	47
BZT55B68	66.64	69.36	2.5	160	0.5	1000	0.1	51
BZT55B75	73.50	76.50	2.5	170	0.5	1000	0.1	56
VF Forward Voltage = 1.0v Maximum @ IF=100mA for all types.								

Notes: 1. The type numbers listed have zener voltage min/max limits as shown.
2. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.