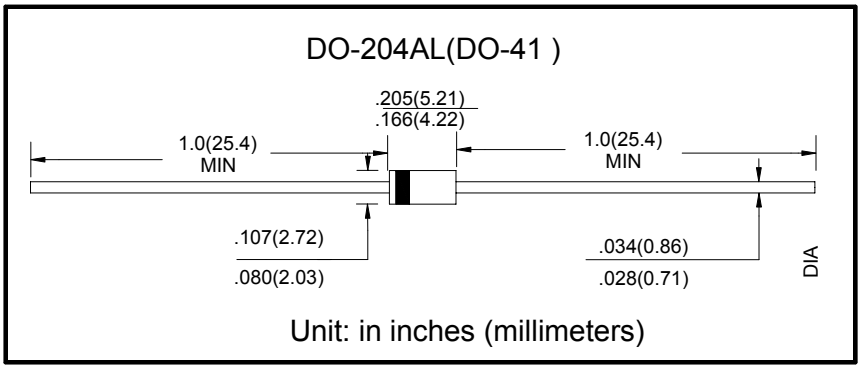
Zener Diodes

■特征 Features

- P_{tot} 500mW
- V_z 2.4V-75V

■外形尺寸和印记 Outline Dimensions and Mark



■用途 Applications

- 稳定电压用 Stabilizing Voltage

■极限值（绝对最大额定值）
Limiting Values (Absolute Maximum Rating)

参数名称 Item	符号 Symbol	单位 Unit	条件 Conditions	最大值 Max
损耗功率 Power dissipation	P_{tot}	mW	L=4mm,T_L=25℃	500
齐纳电流 Zener current	I_Z	mA	P_{tot} /V_Z	见表格 See Table
最大结温 Maximum junction temperature	T_j	℃		175
存储温度范围 Storage temperature range	T_{stg}	℃		-65 to +175

■电特性 （T_a=25℃ 除非另有规定）
Electrical Characteristics（T_a=25℃ Unless otherwise specified）

参数名称 Item	符号 Symbol	单位 Unit	条件 Conditions	最大值 Max
典型热阻(1) Thermal resistance	$R_{\theta JA}$	℃/W	结到环境，L=4毫米，T_L=常温 junction to ambient air, L=4mm,T_L=constant	300
正向电压 Forward voltage	V_F	V	I_F=200mA	1.5

BZX55 SERIES

■电性参数 (T_A=25℃ 除非另有规定)

Electrical Characteristics (T_A=25℃ unless otherwise noted)

BZX55C..

产品型号 Part Number	齐纳电压范围 Zener voltage range		动态电阻 Dynamic resistance		测试电流 Test current	温度系数 Temperature Coefficient		测试电流 Test current	反向漏电流 Reverse leakage current		
	V_Z at I_{ZT}		R_{ZJT} at I_{ZT} f = 1 KH_Z	R_{ZJK} at I_{ZK} f = 1 KH_Z	I_{ZT}	TK_{VZ}		I_{ZK}	I_R at T_{amb}=25℃	I_R at T_{amb}=150℃	at V_R
	V		Ω		mA	%/K		mA	μA		V
	Min.	Max.				Min.	Max.				
BZX55C2V4	2.28	2.56	< 85	< 600	5	- 0.09	- 0.06	1	< 50	< 100	1
BZX55C2V7	2.5	2.9	< 85	< 600	5	- 0.09	- 0.06	1	< 10	< 50	1
BZX55C3V0	2.8	3.2	< 85	< 600	5	- 0.08	- 0.05	1	< 4	< 40	1
BZX55C3V3	3.1	3.5	< 85	< 600	5	- 0.08	- 0.05	1	< 2	< 40	1
BZX55C3V6	3.4	3.8	< 85	< 600	5	- 0.08	- 0.05	1	< 2	< 40	1
BZX55C3V9	3.7	4.1	< 85	< 600	5	- 0.08	- 0.05	1	< 2	< 40	1
BZX55C4V3	4	4.6	< 75	< 600	5	- 0.06	- 0.03	1	< 1	< 20	1
BZX55C4V7	4.4	5	< 60	< 600	5	- 0.05	0.02	1	< 0.5	< 10	1
BZX55C5V1	4.8	5.4	< 35	< 550	5	- 0.02	0.02	1	< 0.1	< 2	1
BZX55C5V6	5.2	6	< 25	< 450	5	- 0.05	0.05	1	< 0.1	< 2	1
BZX55C6V2	5.8	6.6	< 10	< 200	5	0.03	0.06	1	< 0.1	< 2	2
BZX55C6V8	6.4	7.2	< 8	< 150	5	0.03	0.07	1	< 0.1	< 2	3
BZX55C7V5	7	7.9	< 7	< 50	5	0.03	0.07	1	< 0.1	< 2	5
BZX55C8V2	7.7	8.7	< 7	< 50	5	0.03	0.08	1	< 0.1	< 2	6.2
BZX55C9V1	8.5	9.6	< 10	< 50	5	0.03	0.09	1	< 0.1	< 2	6.8
BZX55C10	9.4	10.6	< 15	< 70	5	0.03	0.1	1	< 0.1	< 2	7.5
BZX55C11	10.4	11.6	< 20	< 70	5	0.03	0.11	1	< 0.1	< 2	8.2
BZX55C12	11.4	12.7	< 20	< 90	5	0.03	0.11	1	< 0.1	< 2	9.1
BZX55C13	12.4	14.1	< 26	< 110	5	0.03	0.11	1	< 0.1	< 2	10
BZX55C15	13.8	15.6	< 30	< 110	5	0.03	0.11	1	< 0.1	< 2	11
BZX55C16	15.3	17.1	< 40	< 170	5	0.03	0.11	1	< 0.1	< 2	12
BZX55C18	16.8	19.1	< 50	< 170	5	0.03	0.11	1	< 0.1	< 2	13
BZX55C20	18.8	21.2	< 55	< 220	5	0.03	0.11	1	< 0.1	< 2	15
BZX55C22	20.8	23.3	< 55	< 220	5	0.04	0.12	1	< 0.1	< 2	16
BZX55C24	22.8	25.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	18
BZX55C27	25.1	28.9	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	20
BZX55C30	28	32	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	22
BZX55C33	31	35	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	24
BZX55C36	34	38	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	27
BZX55C39	37	41	< 90	< 500	2.5	0.04	0.12	0.5	< 0.1	< 5	30
BZX55C43	40	46	< 90	< 600	2.5	0.04	0.12	0.5	< 0.1	< 5	33
BZX55C47	44	50	< 110	< 700	2.5	0.04	0.12	0.5	< 0.1	< 5	36
BZX55C51	48	54	< 125	< 700	2.5	0.04	0.12	0.5	< 0.1	< 10	39
BZX55C56	52	60	< 135	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	43
BZX55C62	58	66	< 150	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	47
BZX55C68	64	72	< 200	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	51
BZX55C75	70	79	< 250	< 1500	2.5	0.04	0.12	0.5	< 0.1	< 10	56

■电性参数 (T_A=25℃ 除非另有规定)

Electrical Characteristics (T_A=25℃ unless otherwise noted)

BZX55B..

产品型号 Part Number	齐纳电压范围 Zener voltage range		动态电阻 Dynamic resistance		测试电流 Test current	温度系数 Temperature Coefficient		测试电流 Test current	反向漏电流 Reverse leakage current		
	V_Z at I_{ZT}		R_{ZJT} at I_{ZT} f = 1 KH_Z	R_{ZJK} at I_{ZK} f = 1 KH_Z	I_{ZT}	TK_{VZ}		I_{ZK}	I_R at T_{amb}=25℃	I_R at T_{amb}=150℃	at V_R
	V		Ω		mA	%/K		mA	μA		V
	Min.	Max.				Min.	Max.				
BZX55B2V7	2.64	2.76	< 85	< 600	5	- 0.09	- 0.06	1	< 10	< 50	1
BZX55B3V0	2.94	3.06	< 90	< 600	5	- 0.08	- 0.05	1	< 4	< 40	1
BZX55B3V3	3.24	3.36	< 90	< 600	5	- 0.08	- 0.05	1	< 2	< 40	1
BZX55B3V6	3.52	3.68	< 90	< 600	5	- 0.08	- 0.05	1	< 2	< 40	1
BZX55B3V9	3.82	3.98	< 90	< 600	5	- 0.08	- 0.05	1	< 2	< 40	1
BZX55B4V3	4.22	4.38	< 90	< 600	5	- 0.06	- 0.03	1	< 1	< 20	1
BZX55B4V7	4.6	4.8	< 80	< 600	5	- 0.05	0.02	1	< 0.5	< 10	1
BZX55B5V1	5	5.2	< 60	< 550	5	- 0.02	0.02	1	< 0.1	< 2	1
BZX55B5V6	5.48	5.72	< 40	< 450	5	- 0.05	0.05	1	< 0.1	< 2	1
BZX55B6V2	6.08	6.32	< 10	< 200	5	0.03	0.06	1	< 0.1	< 2	2
BZX55B6V8	6.66	6.94	< 8	< 150	5	0.03	0.07	1	< 0.1	< 2	3
BZX55B7V5	7.35	7.65	< 7	< 50	5	0.03	0.07	1	< 0.1	< 2	5
BZX55B8V2	8.04	8.36	< 7	< 50	5	0.03	0.08	1	< 0.1	< 2	6.2
BZX55B9V1	8.92	9.28	< 10	< 50	5	0.03	0.09	1	< 0.1	< 2	6.8
BZX55B10	9.8	10.2	< 15	< 70	5	0.03	0.1	1	< 0.1	< 2	7.5
BZX55B11	10.78	11.22	< 20	< 70	5	0.03	0.11	1	< 0.1	< 2	8.2
BZX55B12	11.76	12.24	< 20	< 90	5	0.03	0.11	1	< 0.1	< 2	9.1
BZX55B13	12.74	13.26	< 26	< 110	5	0.03	0.11	1	< 0.1	< 2	10
BZX55B15	14.7	15.3	< 30	< 110	5	0.03	0.11	1	< 0.1	< 2	11
BZX55B16	15.7	16.3	< 40	< 170	5	0.03	0.11	1	< 0.1	< 2	12
BZX55B18	17.64	18.36	< 50	< 170	5	0.03	0.11	1	< 0.1	< 2	13
BZX55B20	19.6	20.4	< 55	< 220	5	0.03	0.11	1	< 0.1	< 2	15
BZX55B22	21.55	22.45	< 55	< 220	5	0.04	0.12	1	< 0.1	< 2	16
BZX55B24	23.5	24.5	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	18
BZX55B27	26.4	27.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	20
BZX55B30	29.4	30.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	22
BZX55B33	32.4	33.6	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	24
BZX55B36	35.3	36.7	< 80	< 220	5	0.04	0.12	1	< 0.1	< 2	27
BZX55B39	38.2	39.8	< 90	< 500	2.5	0.04	0.12	0.5	< 0.1	< 5	30
BZX55B43	42.1	43.9	< 90	< 600	2.5	0.04	0.12	0.5	< 0.1	< 5	33
BZX55B47	46.1	47.9	< 110	< 700	2.5	0.04	0.12	0.5	< 0.1	< 5	36
BZX55B51	50	52	< 125	< 700	2.5	0.04	0.12	0.5	< 0.1	< 10	39
BZX55B56	54.9	57.1	< 135	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	43
BZX55B62	60.8	63.2	< 150	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	47
BZX55B68	66.6	69.4	< 200	< 1000	2.5	0.04	0.12	0.5	< 0.1	< 10	51
BZX55B75	73	76.5	< 250	< 1500	2.5	0.04	0.12	0.5	< 0.1	< 10	56

■特性曲线（典型） Characteristics(Typical)

图1：总功率损耗与环境温度关系
FIG1: Total Power Dissipation vs. Ambient Temperature

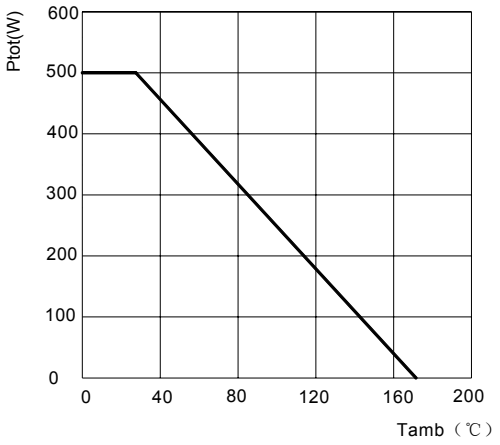


图2：热阻与引线长度关系
FIG2: Thermal Resistance vs. Lead Length

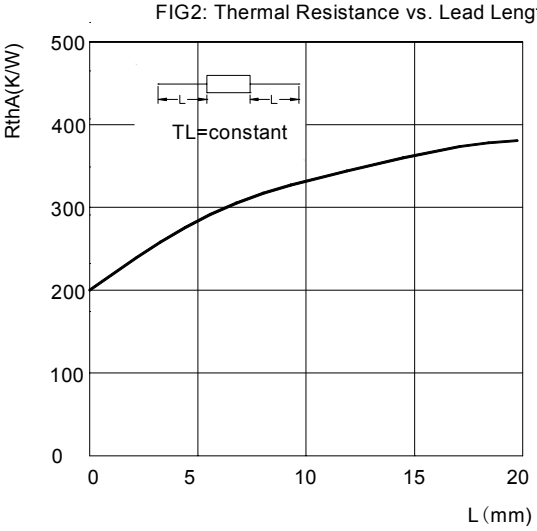


图3：工作电压在工作条件Tamb=25度下的典型变化
FIG3:Typical Change of Working Voltage under Operating Conditions at Tamb=25℃

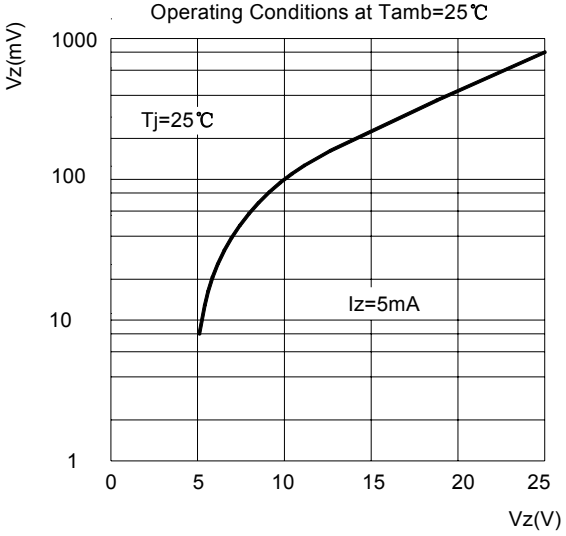


图4：工作电压的典型变化与结温的关系
FIG4: Typical Change of Working Voltage vs. Junction Temperature

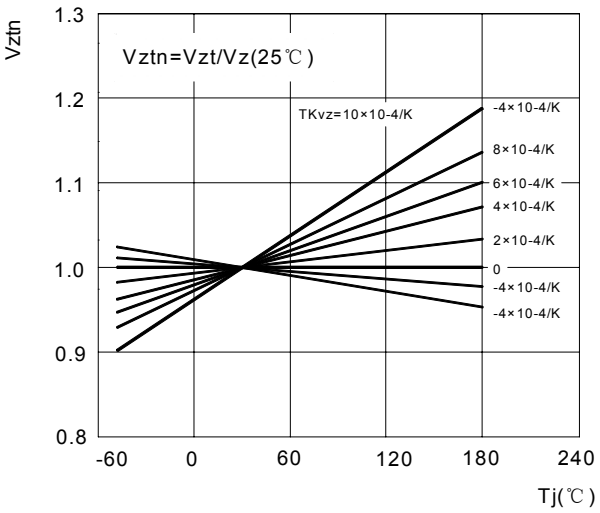


图5：温度系数与齐纳电压的关系
FIG5: Temperature Coefficient of Vz vs. Z-voltage

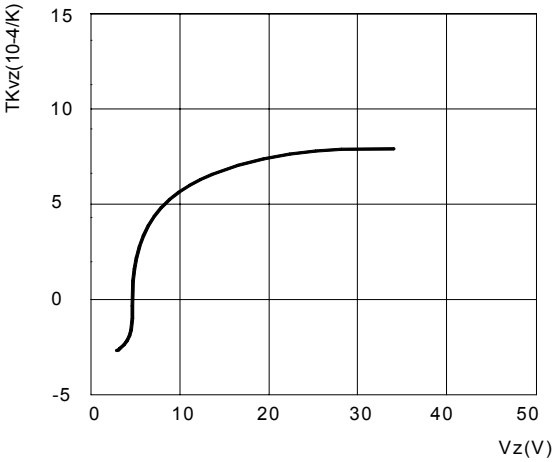
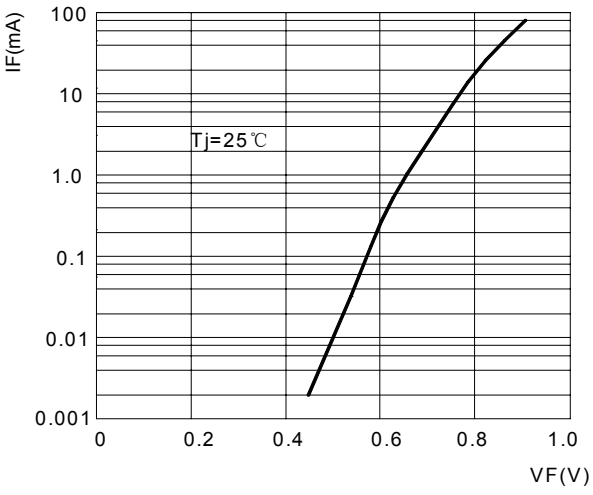


图6：正向电流与正向电压的关系
FIG6: Forward Current vs. Forward Voltage



■特性曲线（典型） Characteristics(Typical)

图7：齐纳电流与齐纳电压的关系
FIG7: Z-Current vs. Z-Voltage

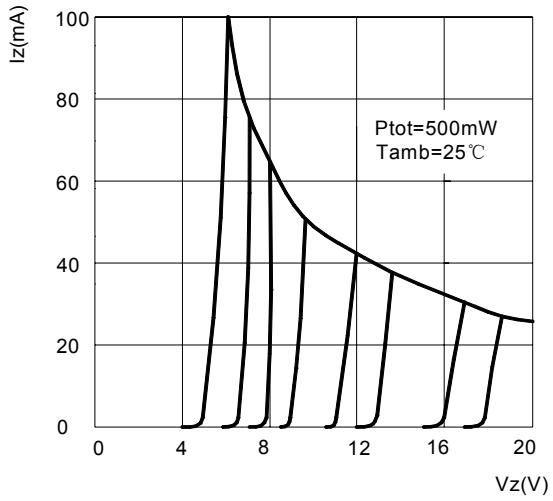


图8：齐纳电流与齐纳电压的关系
FIG8: Z-Current vs. Z-Voltage

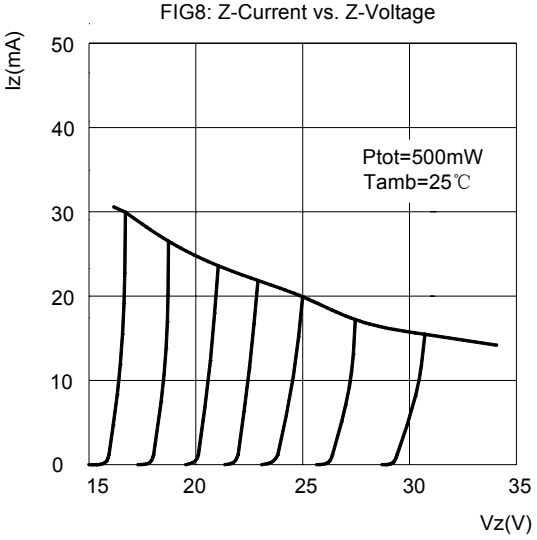


图9：不同齐纳阻抗与齐纳电压的关系
FIG9:Differential Z-Resistance vs. Z-Voltage