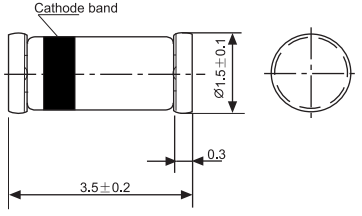
LL55C Series

Zener diode

Voltage Range
2.4 to 188 Volts

Glass Case
Mini Melf/SOD 80
JEDEC DO -213AA



Features
1.Small surface mounting type
2.High reliability

Applications
Voltage stabilization

Construction
Silicon epitaxial planar

Absoluto Maximum Ratings
Tj=25^{0}C

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	R_{thJA}≤300K/W		P_D	500	mW
Z-current			I_Z	P_D/V_Z	mA
Junction temperature			Tj	175	^{0}C
Storage temperature range			T_{stg}	-65~+175	^{0}C

Maximum Thermal Resistance

Tj=25^{0}C

Parameter	Test Condltions	Symbol	Value	Unit
Junction ambient	on PC board 50mm x 50mm x1.6mm	R_{thJA}	500	K/W

Electrcal Characteristics

Tj=25^{0}C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=200mA		V_F			1.5	V

LL55C2V4 THRU LL55C188V

RATING AND CHARACTERTIC CURVES

500mW ZENER DIODES/LL-34 MINI MELF SOD-80

OPRERATING AND STORAGE TEMPERATURE -55℃to+200℃

TYPE		Nominal Zener		Test Current I_{ZT}	Maximum Zener Impedance		I_{ZK}	Maximum Reverse Leakage Current		Maximun Surge Current	Maximum Regulation Current I_{ZM}
					Z_{ZT}@ I_{ZT}	Z_{ZT}@ I_{ZK}		I_R	@ V_R		
		Min	Max	mA	Ohms	Ohms	mA	μA	Volts	mA	mA
BZV55C2V4	LL55C2V4	2.28	2.56	5.0	85	600	1.0	50	1.0	－0.085	155
BZV55C2V7	LL55C2V7	2.50	2.90	5.0	85	600	1.0	10	1.0	－0.080	135
BZV55C3V0	LL55C3V0	2.80	3.20	5.0	85	600	1.0	4.0	1.0	－0.075	125
BZV55C3V3	LL55C3V3	3.10	3.50	5.0	85	600	1.0	2.0	1.0	－0.070	115
BZV55C3V6	LL55C3V6	3.40	3.80	5.0	85	600	1.0	2.0	1.0	－0.065	105
BZV55C3V9	LL55C3V9	3.70	4.10	5.0	85	600	1.0	2.0	1.0	－0.060	95
BZV55C4V3	LL55C4V3	4.00	4.60	5.0	75	600	1.0	1.0	1.0	±0.055	90
BZV55C4V7	LL55C4V7	4.40	5.00	5.0	60	600	1.0	0.5	1.0	±0.030	85
BZV55C5V1	LL55C5V1	4.80	5.40	5.0	35	550	1.0	0.1	1.0	±0.030	80
BZV55C5V6	LL55C5V6	5.20	6.00	5.0	25	450	1.0	0.1	1.0	＋0.038	70
BZV55C6V2	LL55C6V2	5.80	6.60	5.0	10	200	1.0	0.1	2.0	＋0.045	64
BZV55C6V8	LL55C6V8	6.40	7.20	5.0	8	150	1.0	0.1	3.0	＋0.050	58
BZV55C7V5	LL55C7V5	7.00	7.90	5.0	7	50	1.0	0.1	5.0	＋0.058	53
BZV55C8V2	LL55C8V2	7.70	8.70	5.0	7	50	1.0	0.1	6.2	＋0.062	74
BZV55C9V1	LL55C9V1	8.50	9.60	5.0	10	50	1.0	0.1	6.8	＋0.068	43
BZV55C10V	LL55C10V	9.40	10.6	5.0	15	70	1.0	0.1	7.5	＋0.075	40
BZV55C11V	LL55C11V	10.4	11.6	5.0	20	70	1.0	0.1	8.2	＋0.076	36
BZV55C12V	LL55C12V	11.4	12.7	5.0	20	90	1.0	0.1	9.1	＋0.077	32
BZV55C13V	LL55C13V	12.4	14.1	5.0	26	110	1.0	0.1	10	＋0.079	29
BZV55C15V	LL55C15V	13.8	15.6	5.0	30	110	1.0	0.1	11	＋0.082	27
BZV55C16V	LL55C16V	15.3	17.1	5.0	40	170	1.0	0.1	12	＋0.083	24
BZV55C18V	LL55C18V	16.8	19.1	5.0	50	170	1.0	0.1	13	＋0.085	21
BZV55C20V	LL55C20V	18.8	21.2	5.0	55	220	1.0	0.1	15	＋0.086	20
BZV55C22V	LL55C22V	20.8	23.3	5.0	55	220	1.0	0.1	16	＋0.087	18
BZV55C24V	LL55C24V	22.8	25.6	5.0	80	220	1.0	0.1	18	＋0.088	16
BZV55C27V	LL55C27V	25.1	28.9	5.0	80	220	1.0	0.1	20	＋0.090	14
BZV55C30V	LL55C30V	28.0	32.0	5.0	80	220	1.0	0.1	22	＋0.091	13
BZV55C33V	LL55C33V	31.0	35.0	5.0	80	220	1.0	0.1	24	＋0.092	12
BZV55C36V	LL55C36V	34.0	38.0	5.0	80	220	1.0	0.1	27	＋0.093	11
BZV55C39V	LL55C39V	37.0	41.0	2.5	90	500	0.5	0.1	30	＋0.094	10
BZV55C43V	LL55C43V	40.0	46.0	2.5	90	600	0.5	0.1	33	＋0.095	9.2
BZV55C47V	LL55C47V	44.0	50.0	2.5	110	700	0.5	0.1	36	＋0.095	8.5
BZV55C51V	LL55C51V	48.0	54.0	2.5	125	700	0.5	0.1	39	＋0.096	7.8
BZV55C56V	LL55C56V	52.0	60.0	2.5	135	1000	0.5	0.1	43	＋0.096	7.0
BZV55C62V	LL55C62V	58.0	66.0	2.5	150	1000	0.5	0.1	47	＋0.096	6.4
BZV55C68V	LL55C68V	64.0	72.0	2.5	200	1000	0.5	0.1	51	＋0.096	5.9
BZV55C75V	LL55C75V	70.0	80.0	2.5	250	1500	0.5	0.1	56	＋0.096	5.3
BZV55C82V	LL55C82V	77.0	87.0	2.5	300	2000	0.5	0.1	62	＋0.096	4.8
BZV55C91V	LL55C91V	85.0	96.0	1.0	450	5000	0.1	0.1	68	＋0.096	4.4
BZV55C100V	LL55C100V	94.0	106	1.0	450	5000	0.1	0.1	75	＋0.096	4.0
BZV55C110V	LL55C110V	104	116	1.0	600	5000	0.1	0.1	82	＋0.096	3.6
BZV55C120V	LL55C120V	114	127	1.0	800	5000	0.1	0.1	91	＋0.096	3.3
BZV55C130V	LL55C130V	124	141	1.0	1000	5000	0.1	0.1	100	＋0.096	3.0
BZV55C150V	LL55C150V	138	156	1.0	1200	5000	0.1	0.1	110	＋0.096	2.6
BZV55C160V	LL55C160V	153	171	1.0	1500	5000	0.1	0.1	120	＋0.096	2.5
BZV55C180V	LL55C180V	168	191	1.0	1800	5000	0.1	0.1	130	＋0.096	2.2
BZV55C188V	LL55C188V	188	212	1.0	2000	5000	0.1	0.1	150	＋0.096	2.0

1)Tighter tolerances available request:

LL55A...±1% of V_{Znom}

LL55B...±2% of V_{Znom}

LL55F...±3% of V_{Znom}

2)at T_j=150^{0}C

Characteristics (Tj=25^{0}C unless otherwise specified)

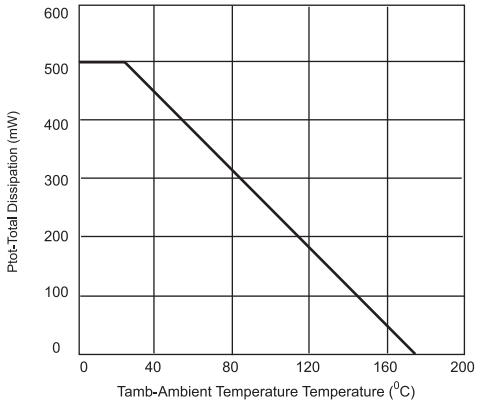


Figure 1.Total Power Dissipation vs. Ambient Temperature

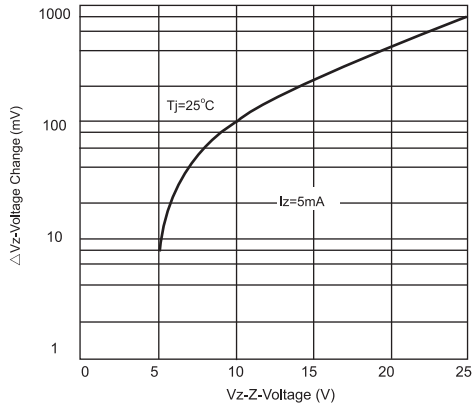


Figure 2. Typical Change of Working Voltage under Operating Conditions at Tamb=25-C

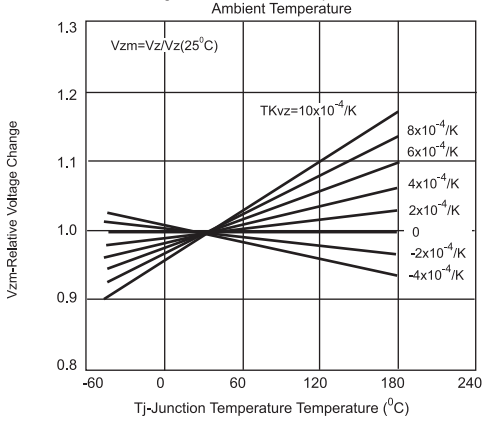


Figure 3.Typical of Working Voltage vs. Junction Temperature

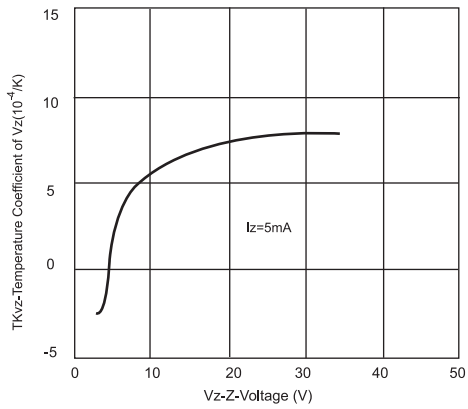


Figure 4. Temperature Conefficient of Vz vs. Z-Volltage

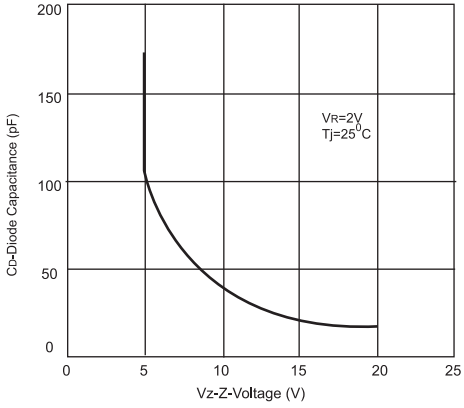


Figure 5.Diode Capacitance vs.Z-Voltage

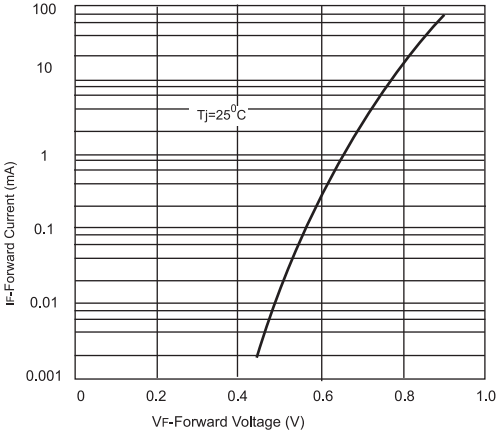


Figure 6. Forward Current vs.Forward Voltage

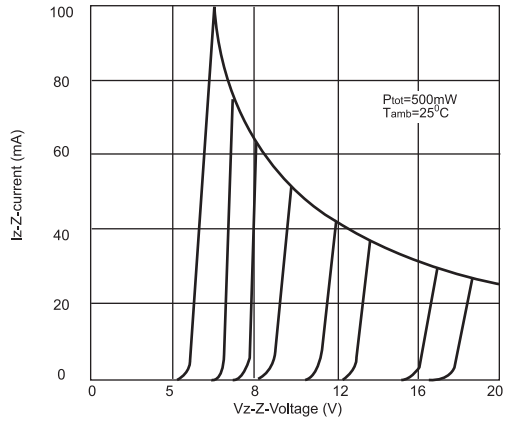


Figure 7. Z-Current vs. Z-Voltage

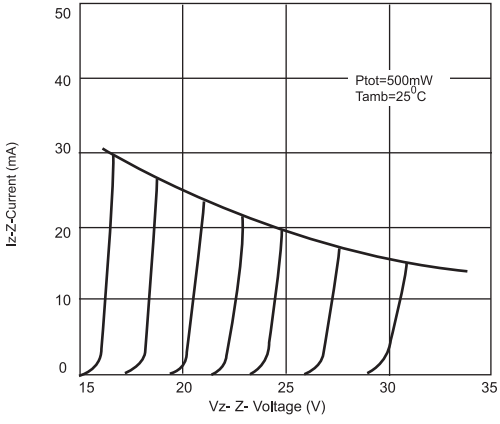


Figure 8. Z-Current vs.Z-Voltage

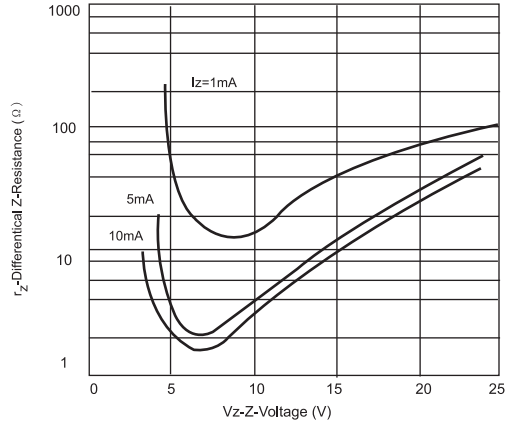


Figure 9. Differential Z-Resistance vs. Z-Volltage

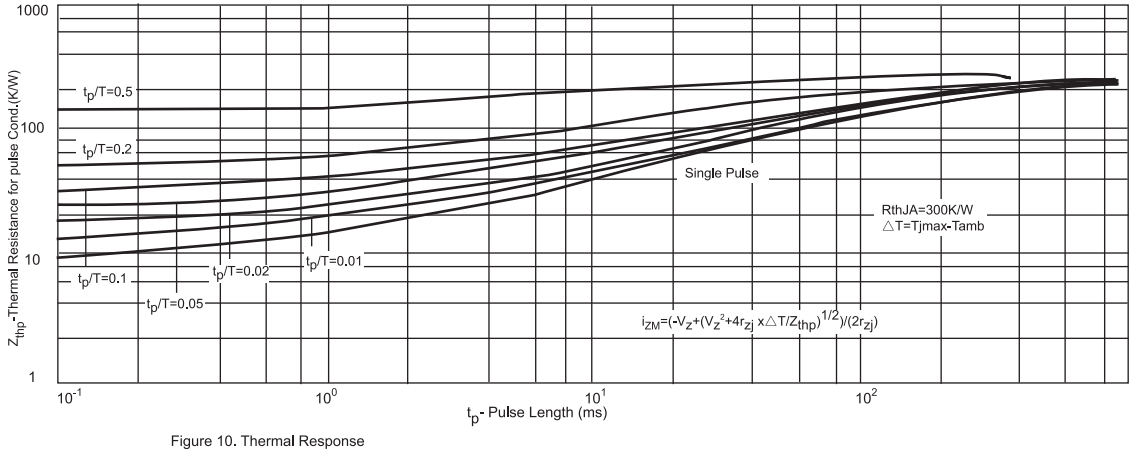


Figure 10. Thermal Response