

Surface Mount Zener Diode

BZT55C9V1

Features

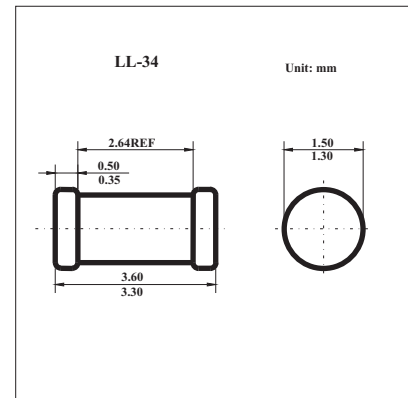
500mW Power Dissipation

Low reverse current level

Very high stability

Low noise

Ideal for Surface Mounted Application

Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Power Dissipation (Note 1)	P_D	500	mW
Forward Voltage @ $I_F = 200\text{mA}$	V_F	1.5	V
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	300	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	$^\circ\text{C}$

Notes: 1. Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics $T_a = 25^\circ\text{C}$

Type	Zener Voltage Range (Note 2)				Maximum Zener Impedance			Maximum Reverse Current	
	$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$	
	Nom (V)	Min (V)	Max (V)	mA	Ω	Ω	mA	μA	V
BZT55C9V1	9.1	8.5	9.6	5	10	50	1	0.1	6.8

Notes: 2. Tested with pulses, $T_p = 100\text{ms}$.

BZT55C9V1

■ Typical Characteristics

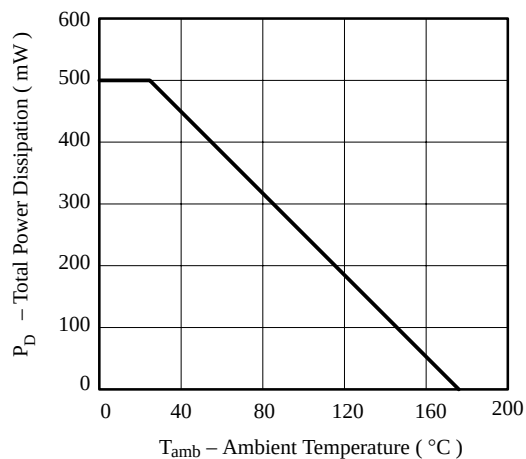


Figure 1. Total Power Dissipation vs. Ambient Temperature

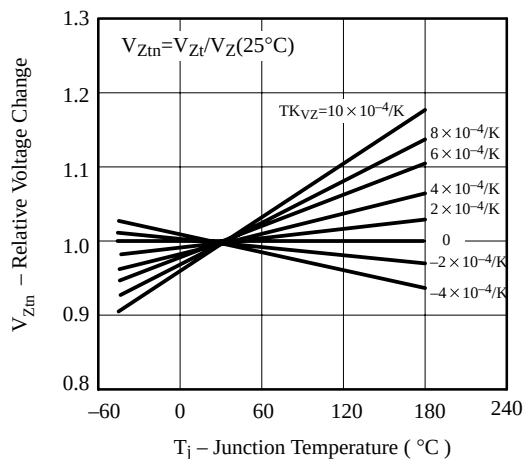


Figure 2. Typical Change of Working Voltage vs. Junction Temperature

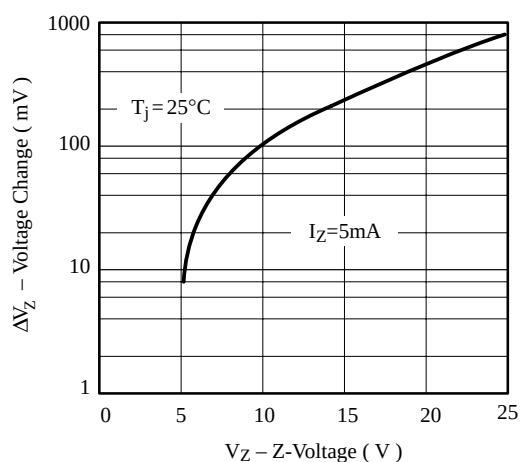
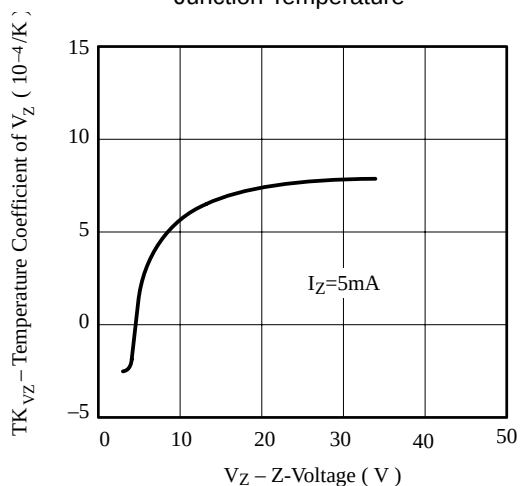
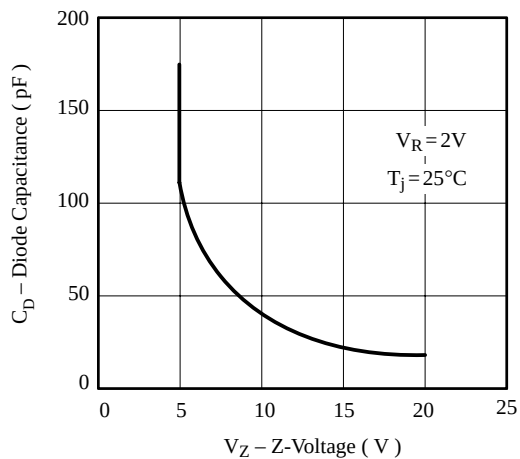
Figure 3. Typical Change of Working Voltage under Operating Conditions at $T_{amb}=25^{\circ}\text{C}$ Figure 4. Temperature Coefficient of V_Z vs. Z-Voltage

Figure 5. Diode Capacitance vs. Z-Voltage

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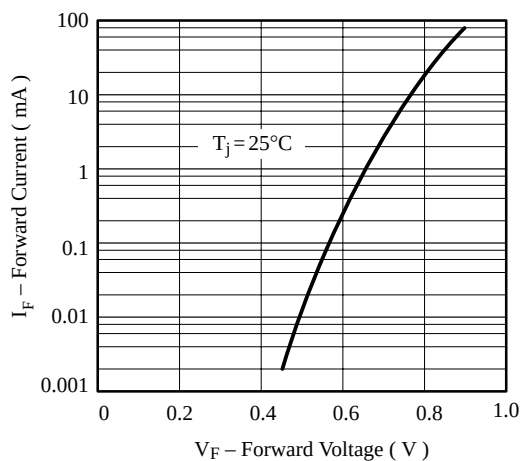


Figure 6. Forward Current vs. Forward Voltage

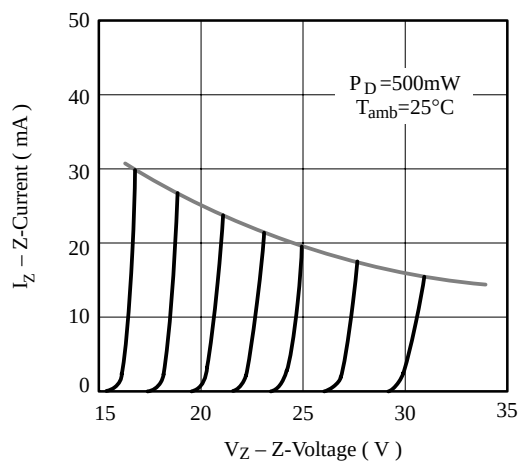


Figure 7. Z-Current vs. Z-Voltage

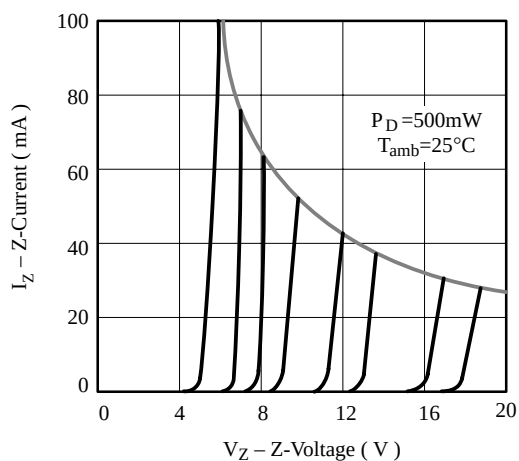


Figure 8. Z-Current vs. Z-Voltage

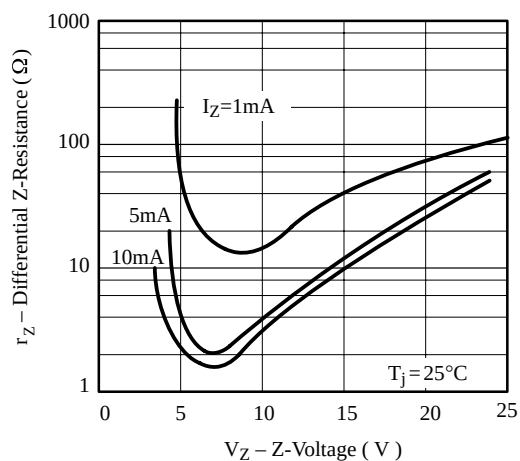


Figure 9. Differential Z-Resistance vs. Z-Voltage

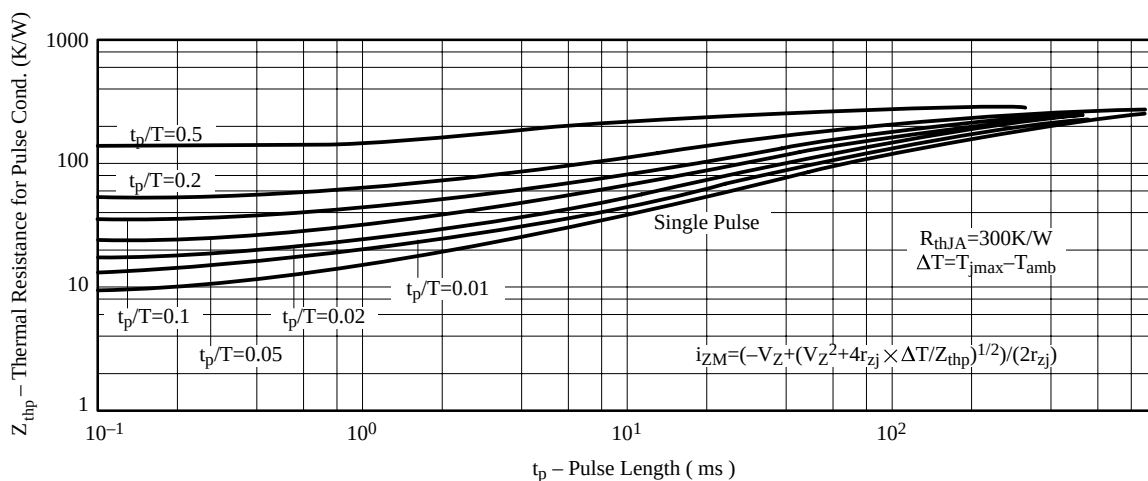


Figure 10. Thermal Response