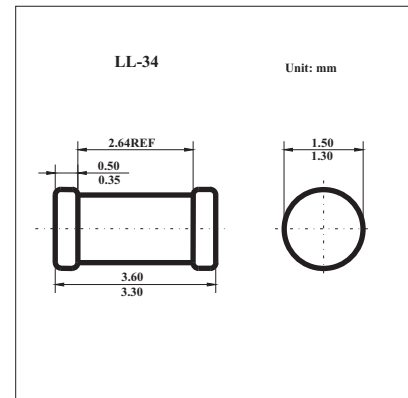


## Surface Mount Zener Diode

## BZT55C39

## ■ 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		
	$V_Z @ I_{ZT}$			$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R @ V_R$		
	Nom (V)	Min (V)	Max (V)	$\text{mA}$	$\Omega$	$\Omega$	$\text{mA}$	$\mu\text{A}$	V
BZT55C39	39	37	41	2.5	90	500	0.5	0.1	30

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

### BZT55C39

■ Typical Characteristics

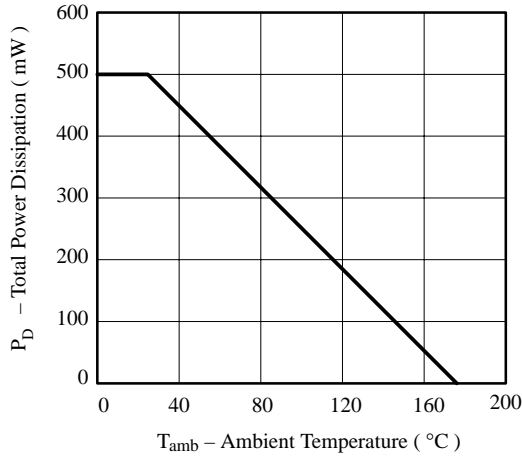


Figure 1. Total Power Dissipation vs. Ambient Temperature

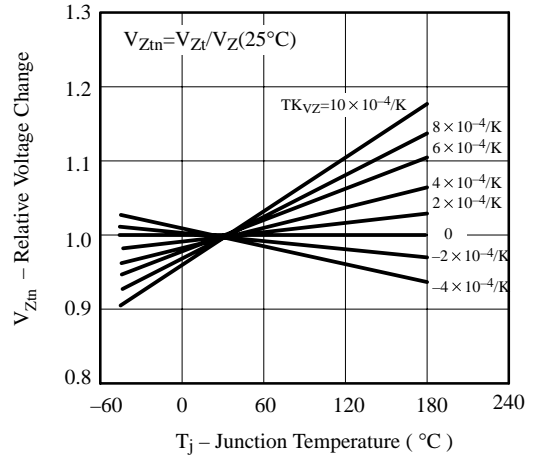


Figure 2. Typical Change of Working Voltage vs. Junction Temperature

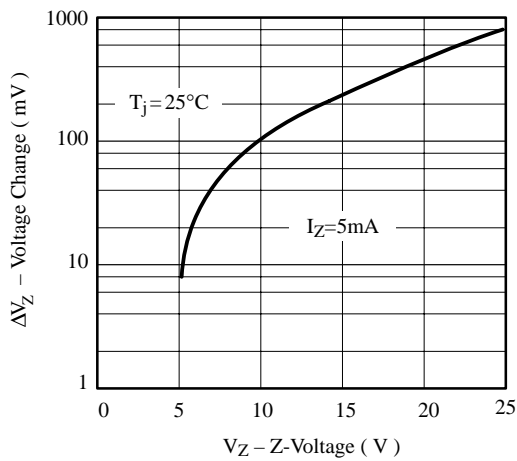


Figure 3. Typical Change of Working Voltage under Operating Conditions at  $T_{amb}=25^{\circ}C$

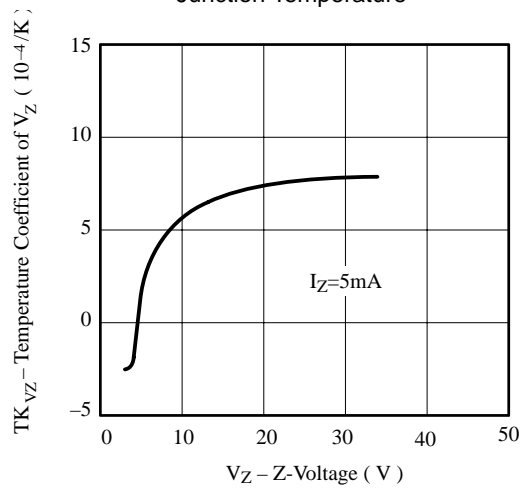


Figure 4. Temperature Coefficient of  $V_Z$  vs. Z-Voltage

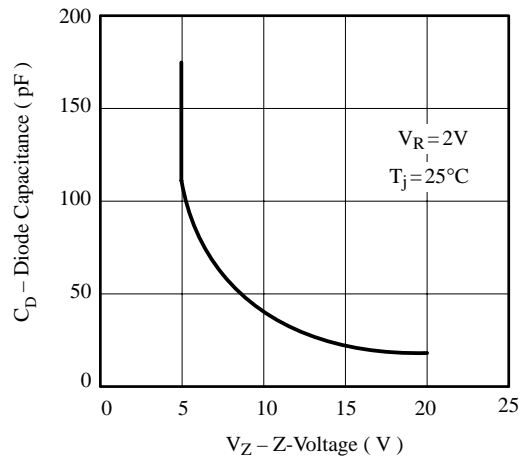


Figure 5. Diode Capacitance vs. Z-Voltage

### BZT55C39

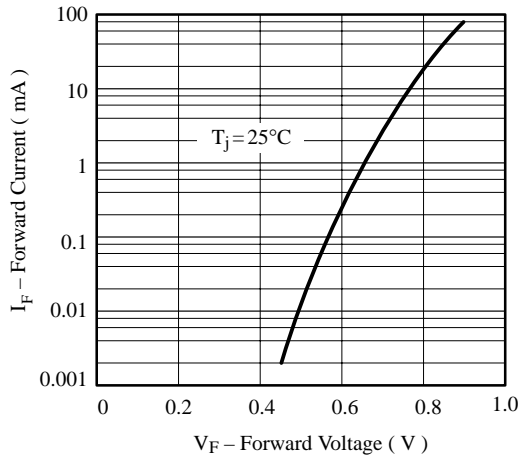


Figure 6. Forward Current vs. Forward Voltage

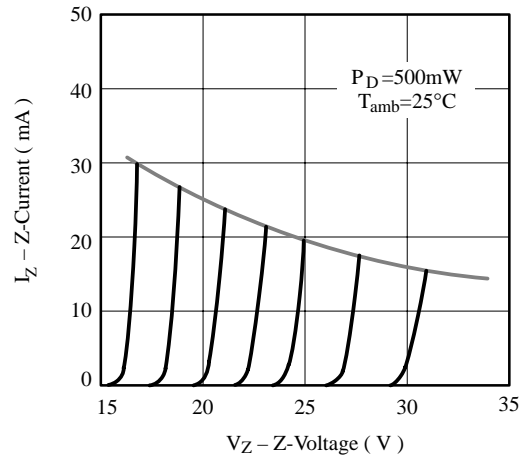


Figure 7. Z-Current vs. Z-Voltage

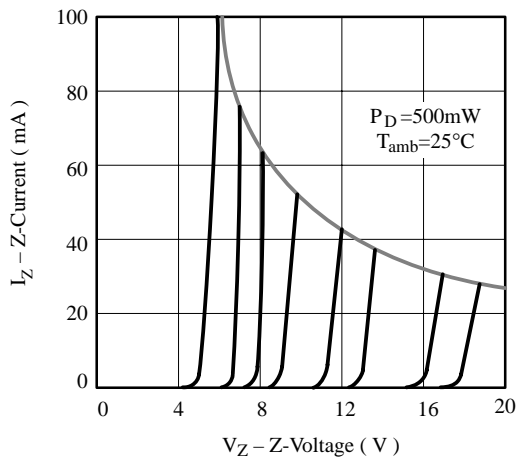


Figure 8. Z-Current vs. Z-Voltage

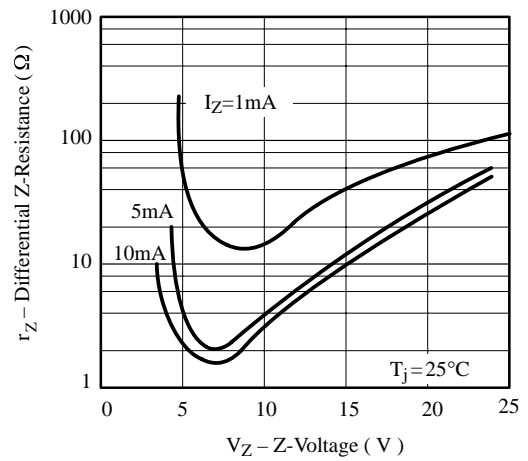


Figure 9. Differential Z-Resistance vs. Z-Voltage

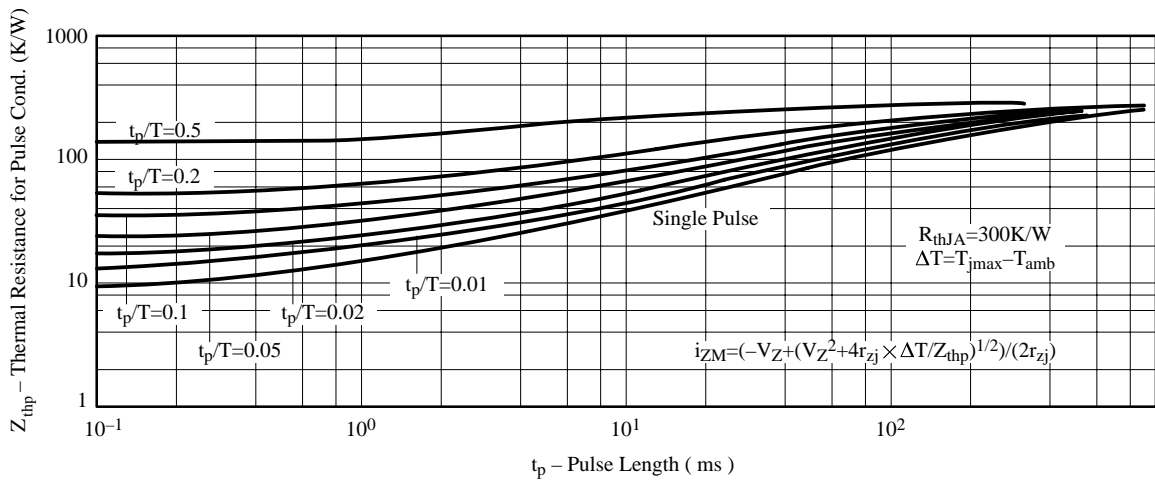


Figure 10. Thermal Response