

# Zener Diode

RoHS  
Compliant



## Features

- Planar die construction
- 200mW Power dissipation on ceramic PCB
- General purpose medium current
- Ideally suited for automated assembly processes
- Epoxy meets UL 94 V-0 flammability rating
- Moisture sensitivity Level 1
- Reverse voltage: 2.4V to 3.9V
- Power dissipation: 0.2 Watts

## Max. Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Parameter	Symbol	Rating	Units
Power dissipation	$P_D$	200	mW
Maximum Forward Voltage ( $I_F = 10\text{mA DC}$ )	$V_F$	0.9	V
Thermal Resistance Junction to Ambient (Note1)	$R_{thJA}$	625	°C/W
Junction Temperature	$T_J$	-65 to +150	°C
Storage Temperature Range	$T_{STG}$	-65 to +150	°C

**Note:** 1. Device mounted on ceramic PCB: 7.6mm × 9.4mm × 0.87mm

Part Number	Zener Voltage VZ (1) Volts			Max. Zener Impedance (2) ZZT (Ω)		Max. Zener Impedance (2) ZZK (Ω)		Reverse Current $I_R$ (Max) @ $V_R$		Typical Temperature Coefficient @ IZTC		Marking
	Min.	Nom	Max.	IZT(mA)	Max.	IZK(mA)	Max.	μA	V	mV/°C		
BZT52C10S	9.4	10	10.6	5	20	1	150	0.2	7	4.5	8	WF
BZT52C12S	11.4	12	12.7	5	25	1	150	0.1	8	6	10	WH
BZT52C24S	22.8	24	25.6	5	70	1	250	0.1	16.8	18.4	22	WO
BZT52C3V9S	3.7	3.9	4.1	5	90	1	600	3	1	-3.5	0	W5
BZT52C7V5	7	7.5	7.9	5	15	1	80	1	5	2.5	5.3	WC

(1) Device mounted on ceramic PCB: 7.6mm × 9.4mm × 0.87mm with pad areas 25mm<sup>2</sup>

(2) f = 1KHz

## Rating and Characteristic Curves

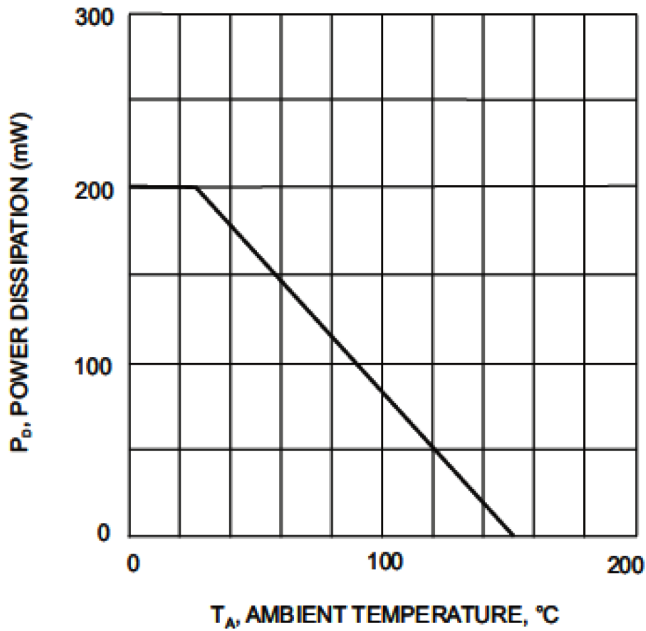


Fig. 1. Power Derating Curve

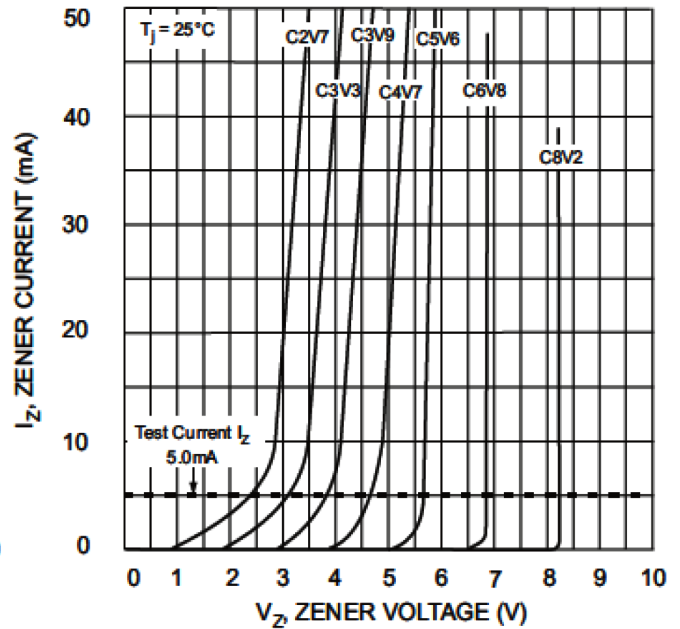


Fig. 2. Zener Breakdown Characteristics

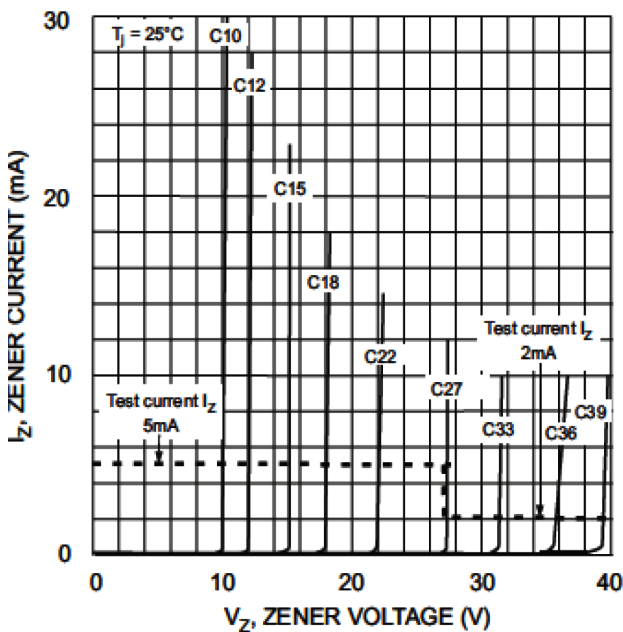


Fig. 3. Zener Breakdown Characteristics

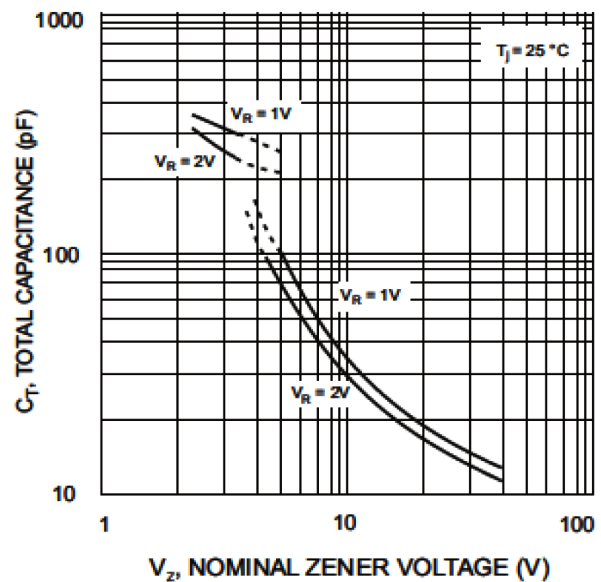
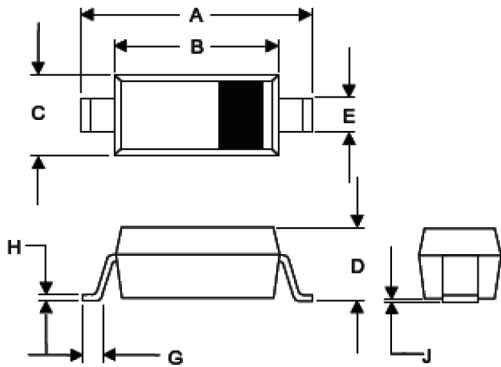


Fig. 4. Total Capacitance vs Nominal Zener Voltage

# Zener Diode

## Dimension:



SOT-323		
Dim.	Min.	Max.
A	2.3	2.7
B	1.6	1.8
C	1.15	1.35
D	0.8	1.15
E	0.25	0.4
G	0.1	0.45
H	0.1	0.25
J	-	0.15

Dimensions : Millimetres

## Part Number Table

Description	Part Number
Zener Diode	BZT52C10S
	BZT52C12S
	BZT52C24S
	BZT52C3V9S
	BZT52C7V5

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