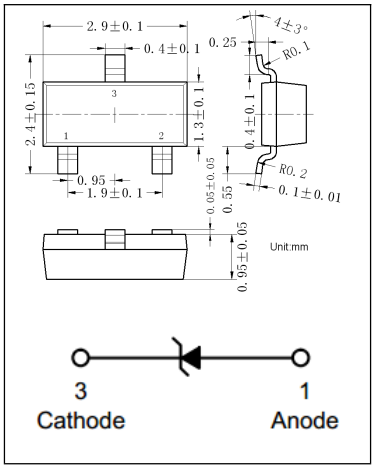
SOT-23 Plastic-Encapsulate Zener Voltage Regulators

LJ5232BLT1G Zener Voltage Regulators

225 mW SOT-23 Surface Mount



Features

- 225 mW Rating on FR -4 or FR -5 Board
- Zener Voltage Range -2.4V to 91V
- Small Package Size for High Density Applications
- ESD Rating of Class 3 (>8 KV) per Human Body Model
- We declare that the material of product compliance with RoHS requirements.
- S-Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

Marking: 8G

Description

This series of Zener diodes is offered in the convenient, surface mount plastic SOT–23 package. These devices are designed to provide voltage regulation with minimum space requirement. They are well suited for applications such as cellular phones, hand held portables, and high density PC boards

Absolute Maximum Ratings (Operating temperature range applies unless otherwise specified)

Symbol	Parameter	Value	Unit
P_D	Total Power Dissipation on FR–5 Board,(Note 1)@ TA = 25°C	225	mW
	Derated above 25°C	1.8	mW/°C
$R_{\theta JA}$	Thermal Resistance Junction-Ambient	556	°C/W
P_D	Total Power Dissipation on Alumina Substrate,(Note 2)@ TA = 25°C	300	mW
	Derated above 25°C	2.4	mW/°C
$R_{\theta JA}$	Thermal Resistance Junction-Ambient	417	°C/W
T_J	Junction and Storage	-65 to +150	°C
T_{STG}	Storage Temperature Range	-65 to +150	°C

1. FR–5 = 1.0 X 0.75 X 0.62 in.
2. Alumina = 0.4 X 0.3 X 0.024 in., 99.5% alumina

Electrical Characteristics at Specified Virtual Junction Temperature

(Pinout: 1-Anode, 2-NC, 3-Cathode) (VF = 0.9 V Max @ IF = 10 mA for all types.)

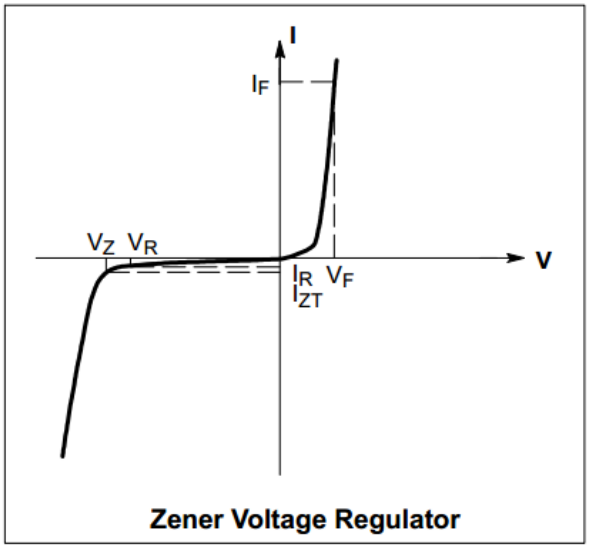
Symbol	Parameter	Test conditions		Min	Typ	Max	Unit
V_z	Zener Voltage(Note 3)	I_{ZT} = 20mA	25°C	5.32	5.6	5.88	V
Z_{ZT}	Zener Impedance	I_{ZT} = 20mA	25°C			11	Ω
Z_{ZK}		I_{ZK} = 0.25mA	25°C			1600	Ω
I_R	Leakage Current	V_R = 3V	25°C			5	μA

3. Zener voltage is measured with a pulse test current IZ at an ambient temperature of 25°C

ELECTRICAL CHARACTERISTICS

(Pinout: 1-Anode, 2-No Connection, 3-Cathode) (T_A = 25°C unless otherwise noted, V_F = 0.95 V Max. @ I_F = 10 mA)

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F



Zener Voltage Regulator

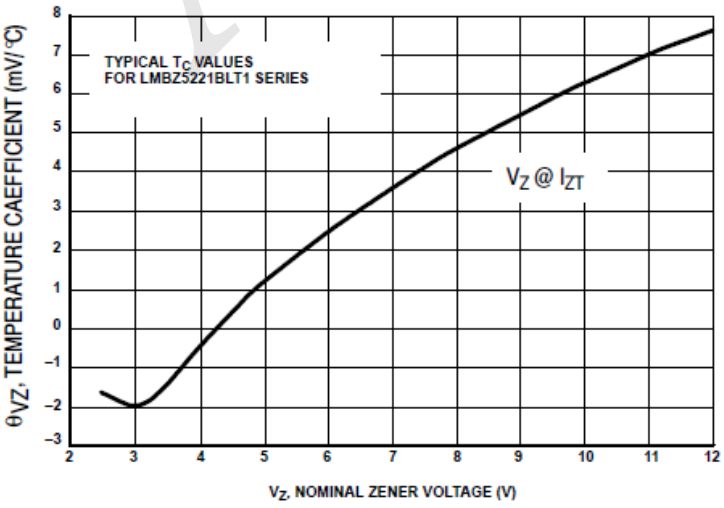


Figure 1. Temperature Coefficients (Temperature Range −55°C to +150°C)

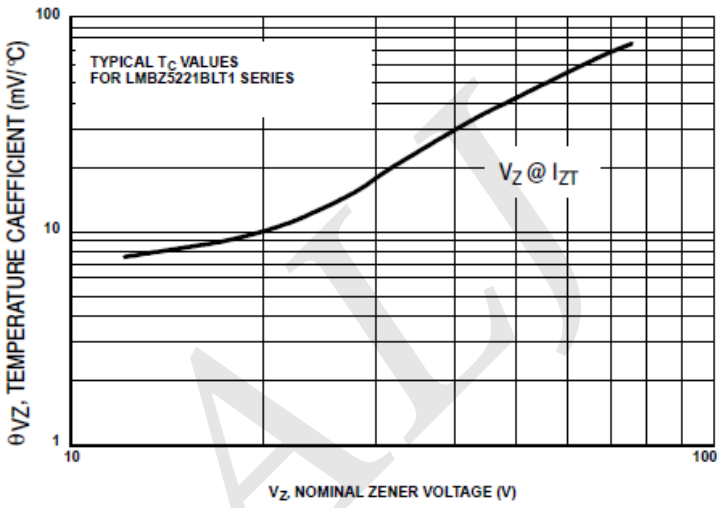


Figure 2. Temperature Coefficients (Temperature Range −55°C to +150°C)

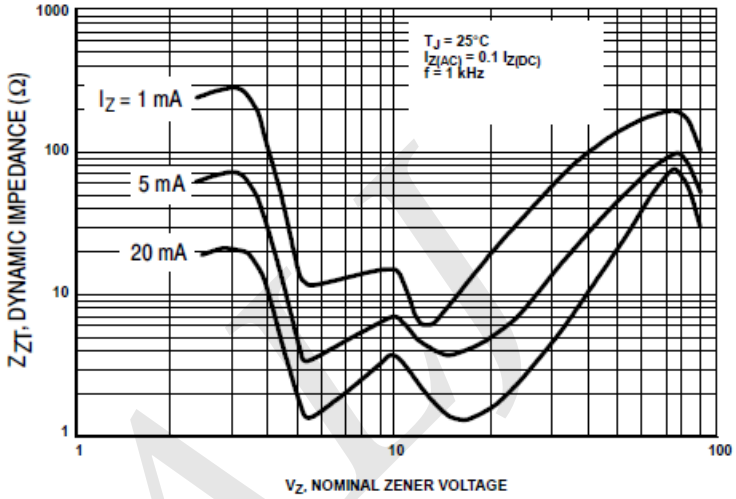


Figure 3. Effect of Zener Voltage on Zener Impedance

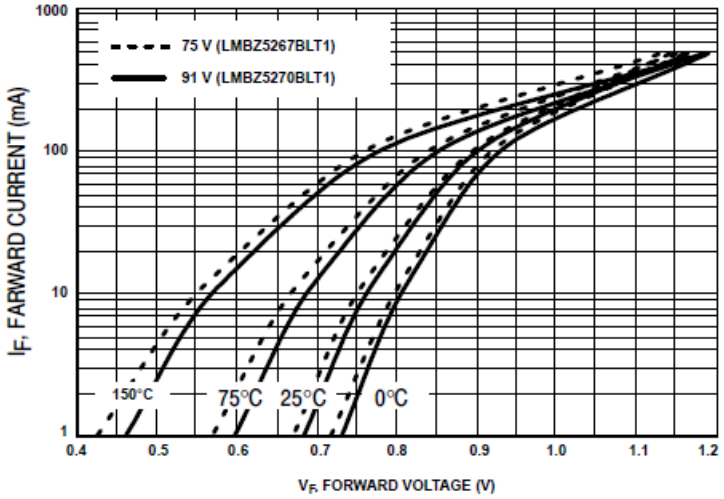


Figure 4. Typical Forward Voltage

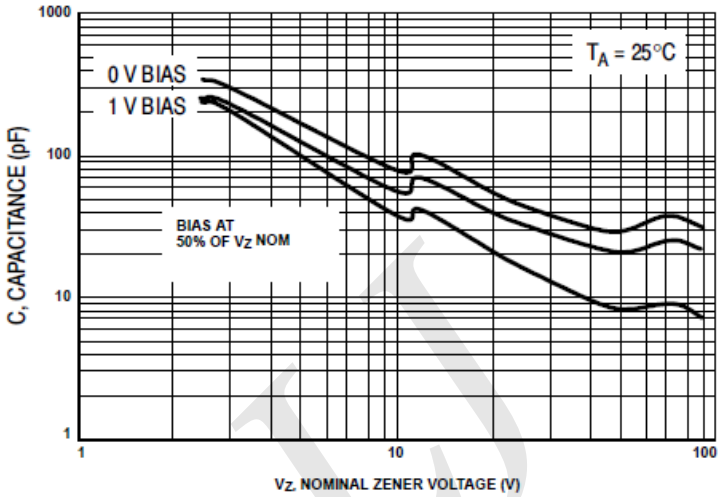


Figure 5. Typical Capacitance

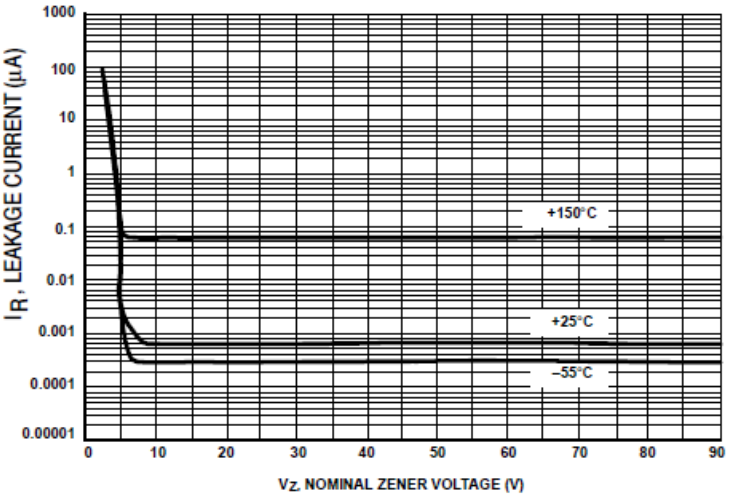


Figure 6. Typical Leakage Current

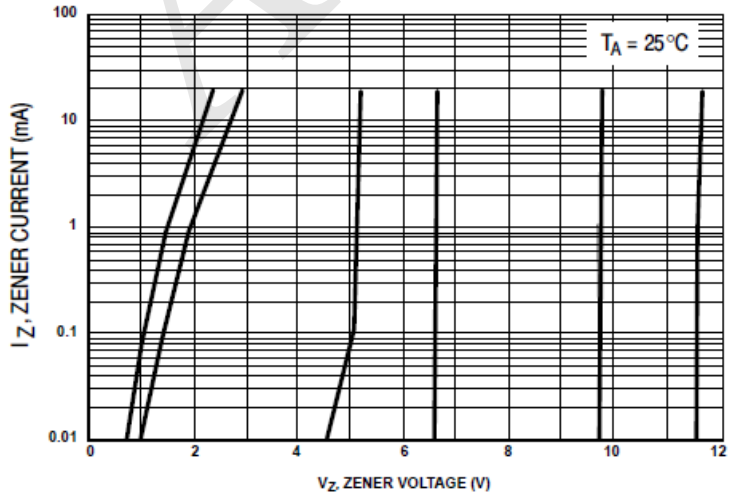


Figure 7. Zener Voltage versus Zener Current (V_Z Up to 12 V)

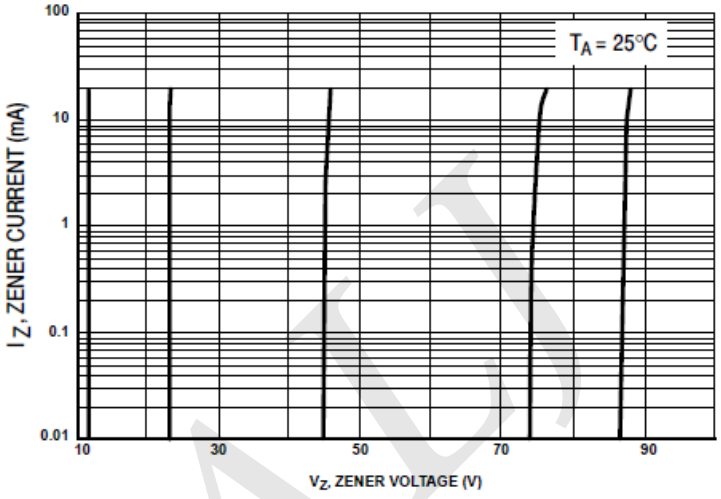


Figure 8. Zener Voltage versus Zener Current (12 V to 91 V)