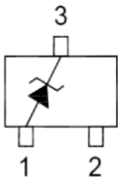
Silicon Zener Diode

multicomp PRO

RoHS Compliant

Features

- Planar die construction
- 350 mW power dissipation
- Zener voltages from 3.3V
- Ideally suited for automated assembly processes
- Epoxy meets UL 94 V-0 flammability rating
- Moisture sensitivity level 1
- Weight: 0.008 grams (approx.)



Max. Ratings and Electrical Characteristics

Single phase, half wave, 60Hz, resistive or inductive load.
For a capacitive load, derate the current by 20%

Parameter	Symbol	Rating	Units
Maximum Forward Voltage @ If = 10mA	Vf	0.9	V
Power Dissipation (Note A)	$P_{(AV)}$	350	mW
Operation and Storage Temperature	Tj, Tstg	-55 to +150	°C
Peak Forward Surge Current (Note B)	Ifsm	2	A
Thermal Resistance (Note C)	R_{thja}	357	°C/W

Notes: A. Mounted on 5 mm2 (0.013mm thick) land areas.
B. Measured on 8.3ms, single half sinewave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
C. Valid provided the terminals are kept at ambient temperature.

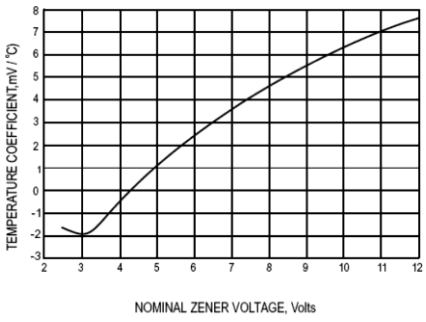
Electrical Characteristics (Ta = 25°C unless otherwise noted)

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max. Reverse Leakage Current		Marking
	Vz(V) @ Izt			Zzt @ Izt		Zzk @ Izk		Ir @ Vr		
	Nom.	Min.	Max.	Ω	mA	Ω	mA	µA	V	
BZX84C3V3+	3.3	3.1	3.5	95	5	600	1	5	1	Z14

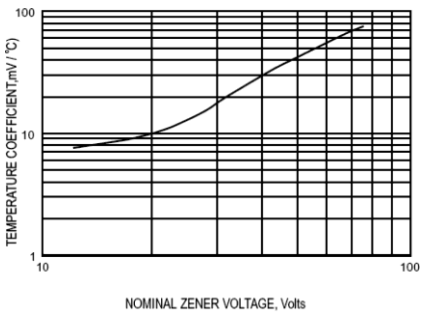
Notes:

1. Standard Zener voltage tolerance is ±5% with a 'C' suffix.
2. Zener Voltage (Vz) Measurement. This device guarantees the Zener voltage when measured at 90 seconds while maintaining the lead temperature (TL) at 30°C from the diode body.
3. Zener Impedance (Zz) Derivation. The Zener impedance is derived from the 60-cycle AC voltage, which results when an AC current having an rms value equal to 10% of the DC Zener current (Izt or Izk) is superimposed on Izt or Izk.
4. Surge Current (Ir) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, Izt, per JEDEC registration.

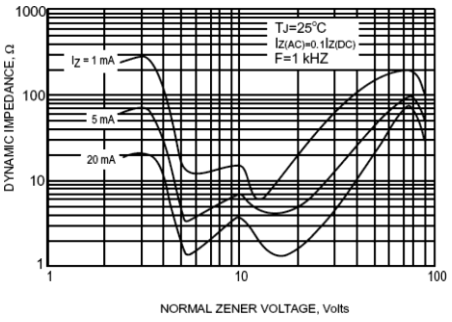
Rating and Characteristic Curves



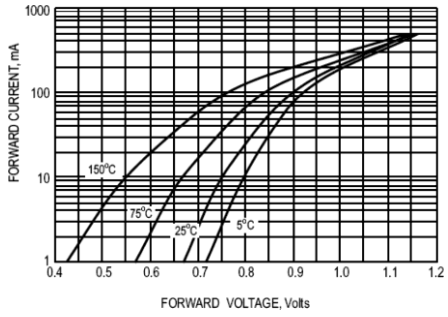
TYPICAL REVERSE CURRENT



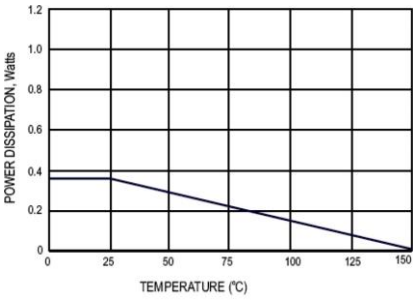
TEMPERATURE COEFFICIENTS



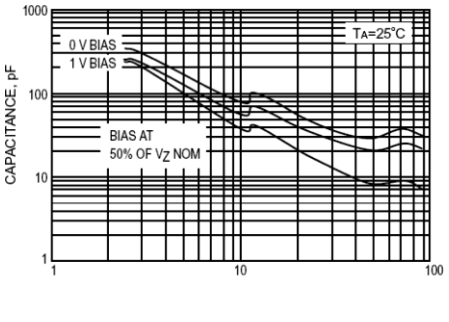
EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE



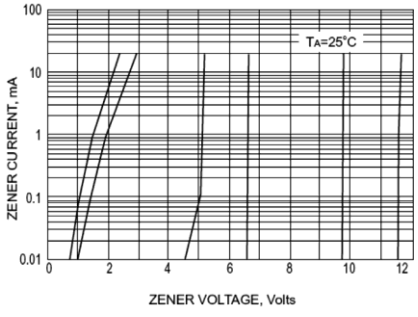
TYPICAL FORWARD VOLTAGE



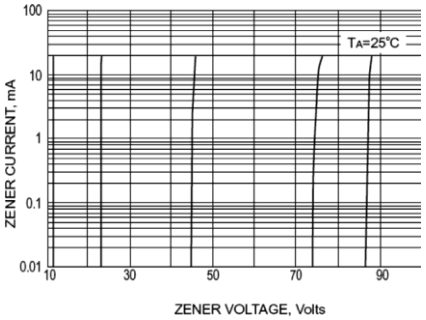
STEADY STATE POWER DERATING



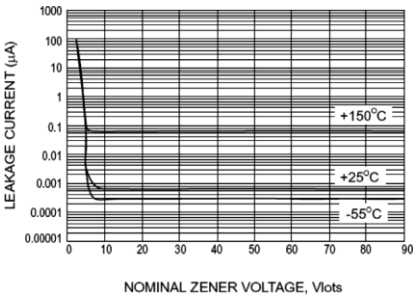
TYPICAL CAPACITANCE



ZENER VOLTAGE V.S. ZENER CURRENT



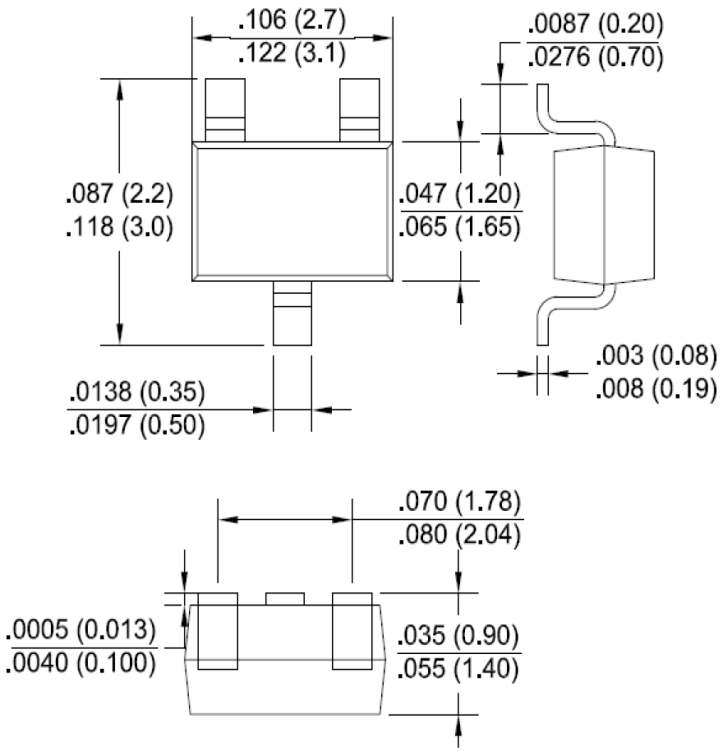
ZENER VOLTAGE V.S. ZENER CURRENT



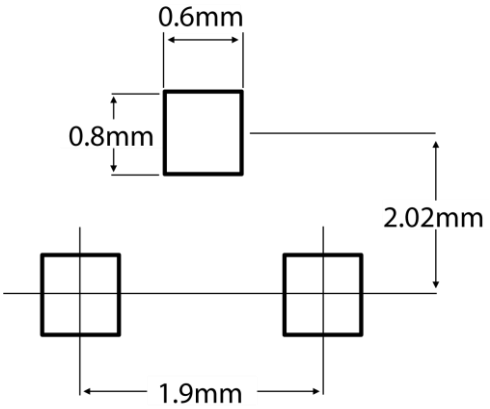
TYPICAL LEAKGE CURRENT

Silicon Zener Diode

Dimension:



Suggested Soldering Pad Layout:



General tolerance ±0.05mm

Dimensions: Millimetres

Part Number Table

Description	Part Number
Single Zener Diode, 350mW, 3.3V, SOT-23	BZX84C3V3+