

Zener Voltage Regulator

Description

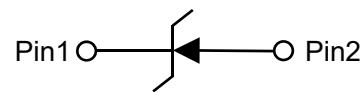
The PZ3D15HK is packaged in a SOD-323 surface mount package that has a power dissipation of 200mW. They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium.



SOD-323(Top View)

Feature

- Planar die construction
- 200mW power dissipation on ceramic PBC
- General purpose, medium current
- Ideally suited for automated assembly processes
- Available in lead free version



Circuit Diagram

Applications

- Cellular phones
- Hand held portables
- High density PC boards

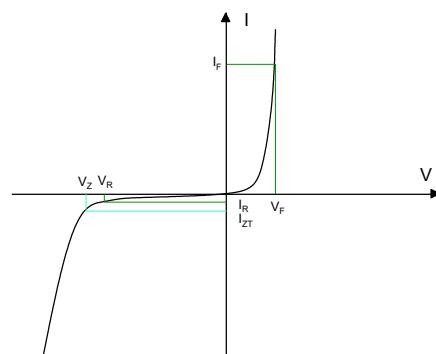


Marking (Top View)

Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260°C
- Pure tin plating: 7 ~ 17 um
- Pin flatness: \leq 3mil

Electronics Parameter



Zener Voltage Regulator

PZ3D15HK

Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Forward Voltage ²⁾ @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation ¹⁾	P_D	200	mW
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Zener Voltage ²⁾	V_Z	$I_{ZT} = 5\text{mA}$	13.8	15	15.6	V
Maximum Zener Impedance ³⁾	Z_{ZT}	$I_{ZT} = 5\text{mA}$	-	-	30	Ω
Maximum Zener Impedance ³⁾	Z_{ZK}	$I_{ZK} = 1\text{mA}$	-	-	200	Ω
Reverse Leakage Current ²⁾	I_R	$V_R = 10.5\text{V}$	-	-	0.1	μA
Typical Temperature Coefficient	-	$I_{ZTC} = 5\text{mA}$	9.2	-	13	mV/°C

Notes:

1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
2. Short duration test pulse used to minimize self-heating effect.
3. f = 1kHz.

Typical Characteristics

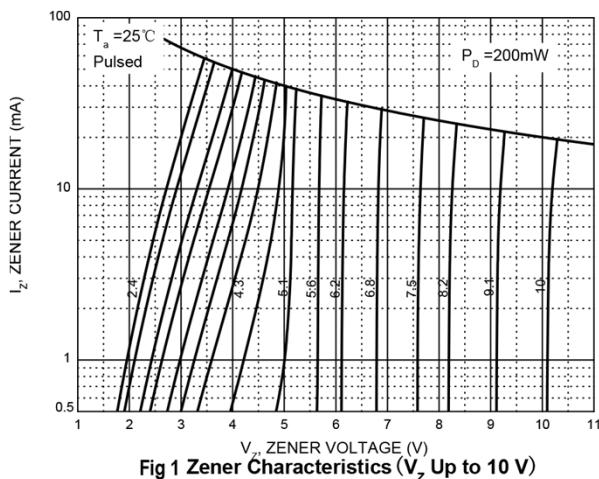


Fig 1 Zener Characteristics (V_Z Up to 10 V)

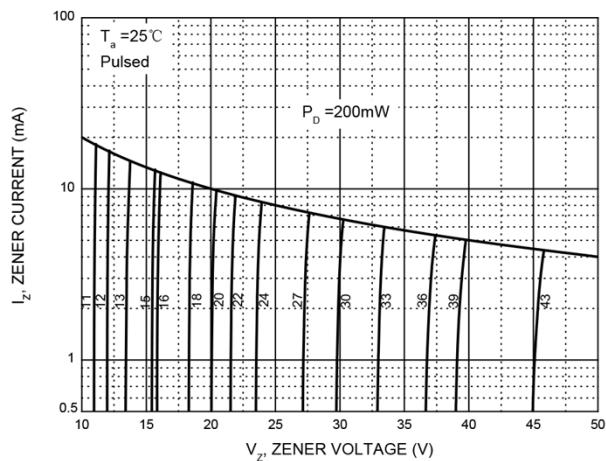


Fig 2 Zener Characteristics (11 V to 43 V)

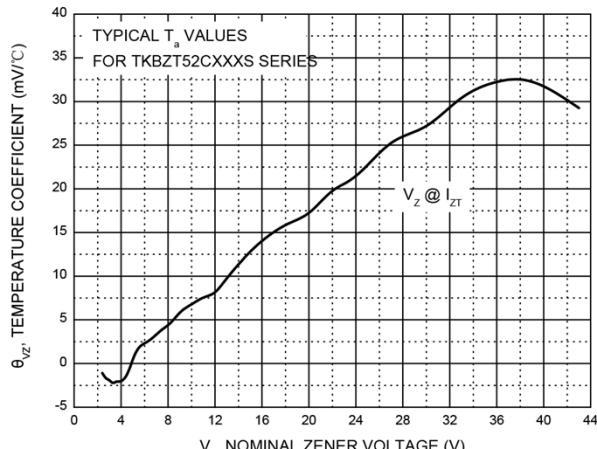


Fig 3 Temperature Coefficients

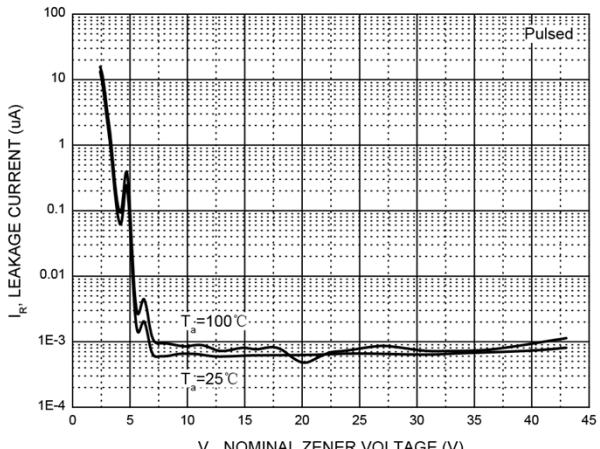


Fig 4 Typical Leakage Current

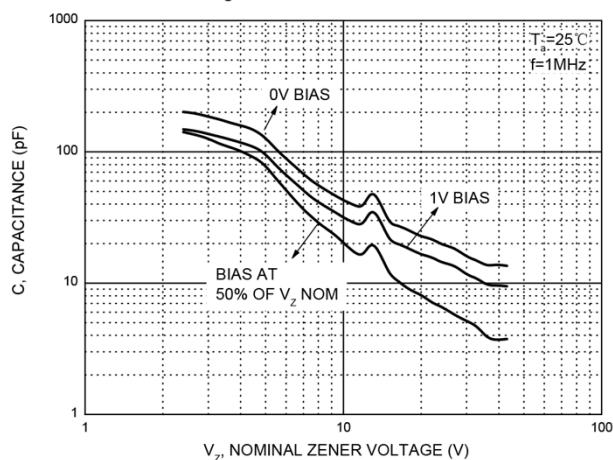


Fig 5 Typical Capacitance

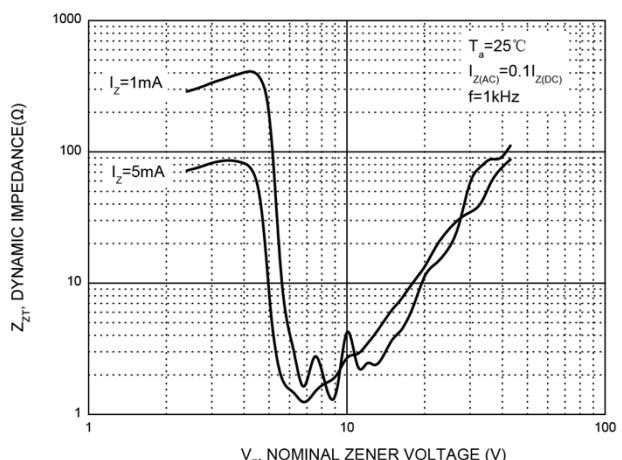


Fig 6 Effect of Zener Voltage on Zener Impedance

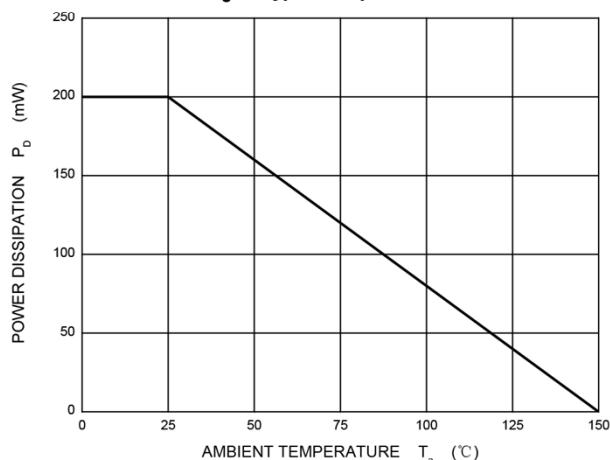
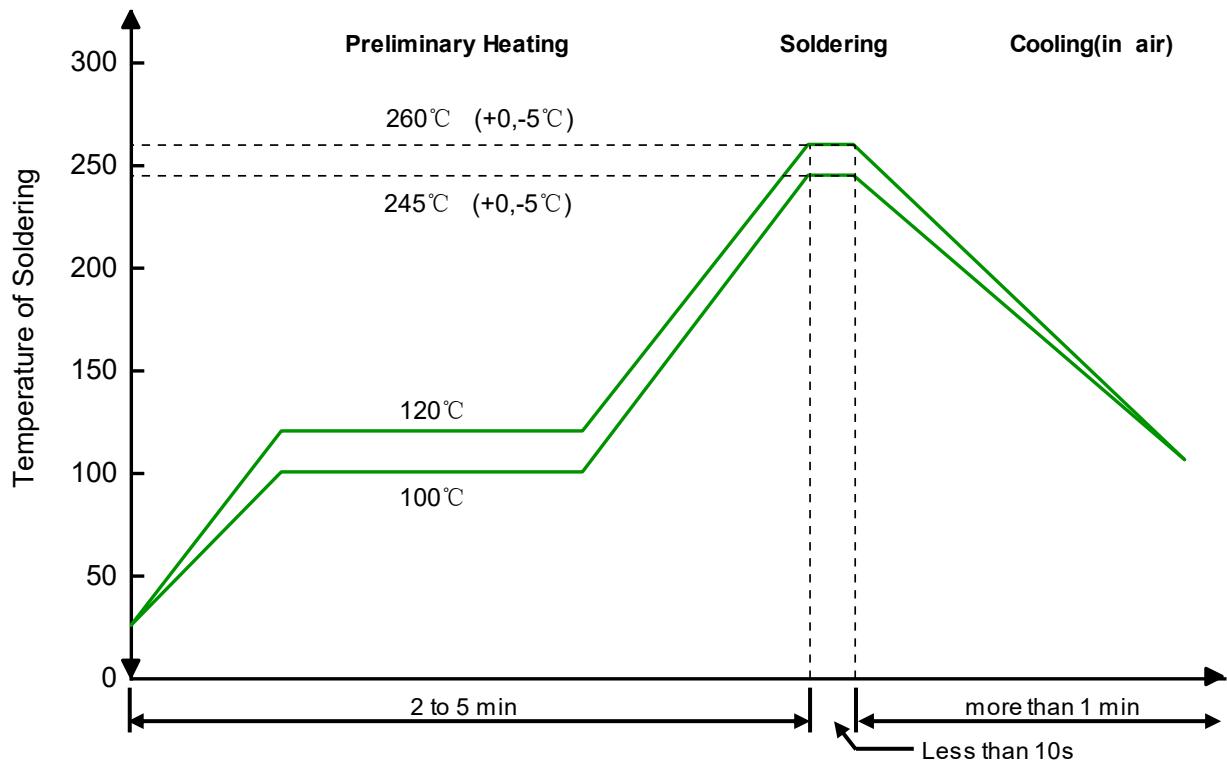
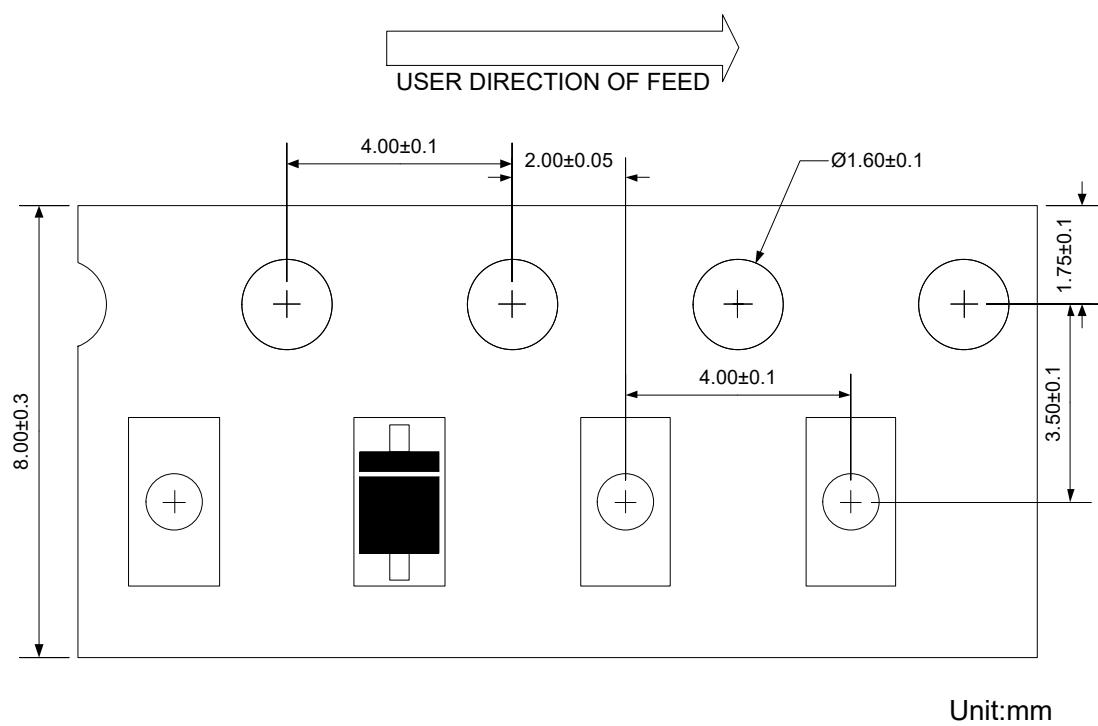


Fig 7 Power Derating Curve

Solder Reflow Recommendation



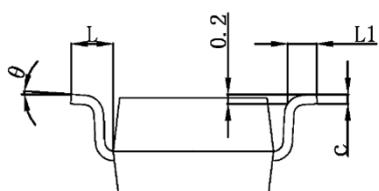
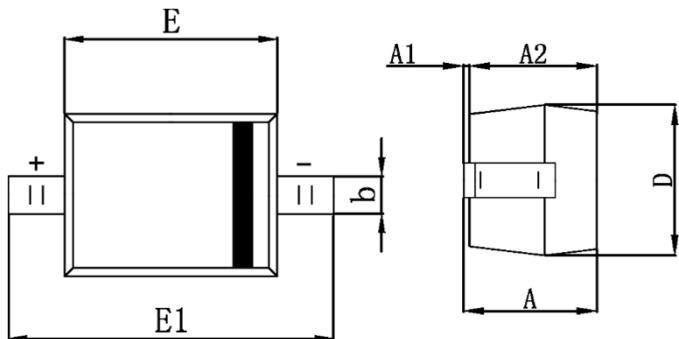
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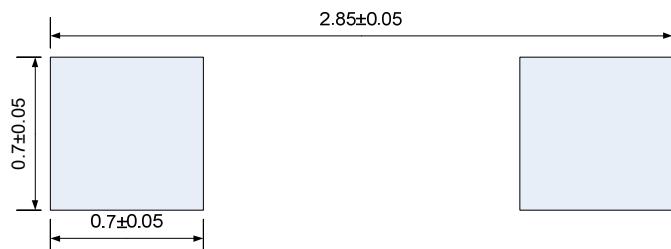
Zener Voltage Regulator

PZ3D15HK

Product dimension (SOD-323)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	-	1.000	-	0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 Ref.		0.019 Ref.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°



Suggested PCB Layout

Unit: mm

Ordering information

Package	Reel	Shipping
SOD-323	7"	3000 / Tape & Reel

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