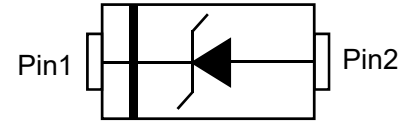


Description

The PZ5DXXXHK Series is packaged in a SOD-523 surface mount package that has a power dissipation of 150mW. They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium.



Feature

- Planar die construction
- 150mW power dissipation on ceramic PBC
- Zener Voltages from 2.4 – 43V

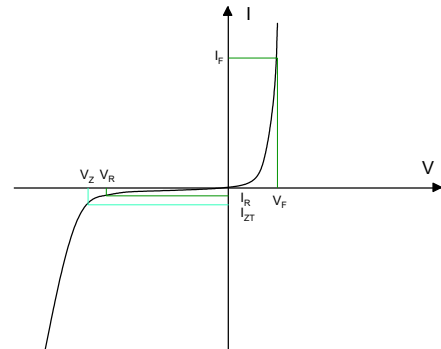
Applications

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

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:≤3mil

Electronics Parameter



Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Forward Voltage @I _F =10mA	V _F	0.9	V
Power Dissipation	P _D	150	mW
Thermal Resistance , Junction-to-Ambient	R _{θJA}	833	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 to +150	°C

Electrical characteristics (TA=25°C unless otherwise noted)

Device	Zener Voltage Range ²⁾			I _{ZT}	Maximum Zener Impedance ³⁾			Reverse Current		Typical temperature coefficient @ I _{ZT}	
	V _{Z@I_{ZT}}				Z _{ZT@I_{ZT}}	Z _{ZK@I_{ZK}}		I _R	V _R	Min	Max
	Min	Nom	Max	Ω	Ω	mA	uA	V	mV/°C		
	V	V	V	mA	Ω	Ω	mA	uA	V	mV/°C	mV/°C
PZ5D2V4HK	2.20	2.40	2.60	5	100	600	1.0	50.0	1.0	-3.5	0.0
PZ5D2V7HK	2.50	2.70	2.90	5	100	600	1.0	20.0	1.0	-3.5	0.0
PZ5D3V0HK	2.80	3.00	3.20	5	95	600	1.0	10.0	1.0	-3.5	0.0
PZ5D3V3HK	3.10	3.30	3.50	5	95	600	1.0	5.0	1.0	-3.5	0.0
PZ5D3V6HK	3.40	3.60	3.80	5	90	600	1.0	5.0	1.0	-3.5	0.0
PZ5D3V9HK	3.70	3.90	4.10	5	90	600	1.0	3.0	1.0	-3.5	0.0
PZ5D4V3HK	4.00	4.30	4.60	5	90	600	1.0	3.0	1.0	-3.5	0.0
PZ5D4V7HK	4.40	4.70	5.00	5	80	500	1.0	3.0	2.0	-3.5	0.2
PZ5D5V1HK	4.80	5.10	5.40	5	60	480	1.0	2.0	2.0	-2.7	1.2
PZ5D5V6HK	5.20	5.60	6.00	5	40	400	1.0	1.0	2.0	-2.0	2.5
PZ5D6V2HK	5.80	6.20	6.60	5	10	150	1.0	3.0	4.0	0.4	3.7
PZ5D6V8HK	6.40	6.80	7.20	5	15	80	1.0	2.0	4.0	1.2	4.5
PZ5D7V5HK	7.00	7.50	7.90	5	15	80	1.0	1.0	5.0	2.5	5.3
PZ5D8V2HK	7.70	8.20	8.70	5	15	80	1.0	0.7	5.0	3.2	6.2
PZ5D9V1HK	8.50	9.10	9.60	5	15	100	1.0	0.5	6.0	3.8	7.0
PZ5D10HK	9.40	10.00	10.60	5	20	150	1.0	0.2	7.0	4.5	8.0
PZ5D11HK	10.40	11.00	11.60	5	20	150	1.0	0.1	8.0	5.4	9.0
PZ5D12HK	11.40	12.00	12.70	5	25	150	1.0	0.1	8.0	6.0	10.0
PZ5D13HK	12.40	13.00	14.10	5	30	170	1.0	0.1	8.0	7.0	11.0
PZ5D15HK	13.80	15.00	15.60	5	30	200	1.0	0.1	10.5	9.2	13.0
PZ5D16HK	15.30	16.00	17.10	5	40	200	1.0	0.1	11.2	10.4	14.0
PZ5D18HK	16.80	18.00	19.10	5	45	225	1.0	0.1	12.6	12.4	16.0
PZ5D20HK	18.80	20.00	21.20	5	55	225	1.0	0.1	14.0	14.4	18.0
PZ5D22HK	20.80	22.00	23.30	5	55	250	1.0	0.1	15.4	16.4	20.0
PZ5D24HK	22.80	24.00	25.60	5	70	250	1.0	0.1	16.8	18.4	22.0
PZ5D27HK	25.10	27.00	28.90	2	80	300	0.5	0.1	18.9	21.4	25.3
PZ5D30HK	28.00	30.00	32.00	2	80	300	0.5	0.1	21.0	24.4	29.4
PZ5D33HK	31.00	33.00	35.00	2	80	325	0.5	0.1	23.1	27.1	33.4
PZ5D36HK	34.00	36.00	38.00	2	90	350	0.5	0.1	25.2	30.4	37.4
PZ5D39HK	37.00	39.00	41.00	2	130	350	0.5	0.1	27.3	33.4	41.2
PZ5D43HK	40.00	43.00	46.00	2	100	700	1.0	0.1	32.0	10.0	12.0

Notes:

1. Valid provided that device terminals are kept at ambient temperature.
2. Tested with pulses, period=5ms,pulse width =300μs.
3. f=1kHz.

Typical Characteristics

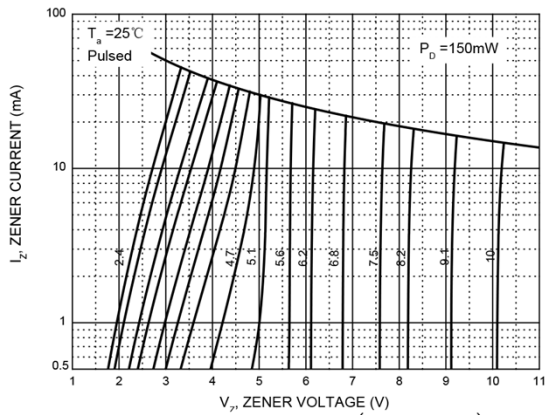


Fig 1. Zener Characteristics (V_z Up to 10 V)

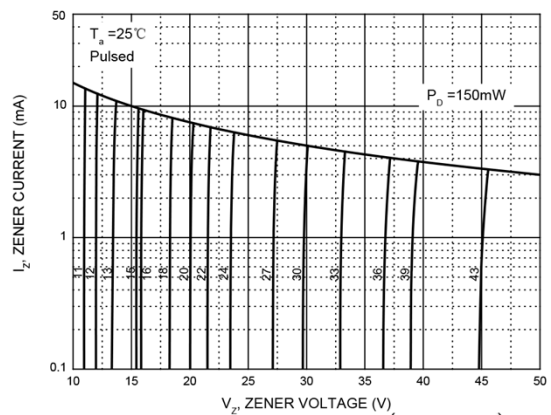


Fig 2. Zener Characteristics (11 V to 43 V)

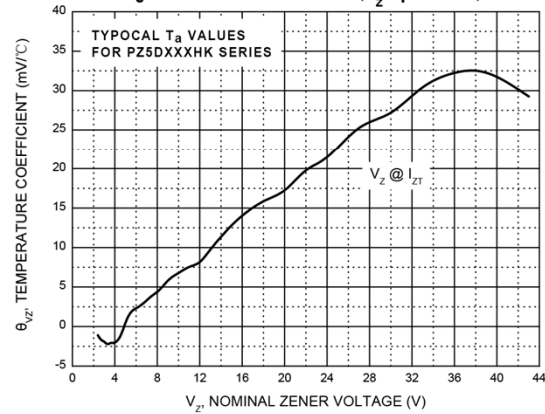


Fig 3. Temperature Coefficients

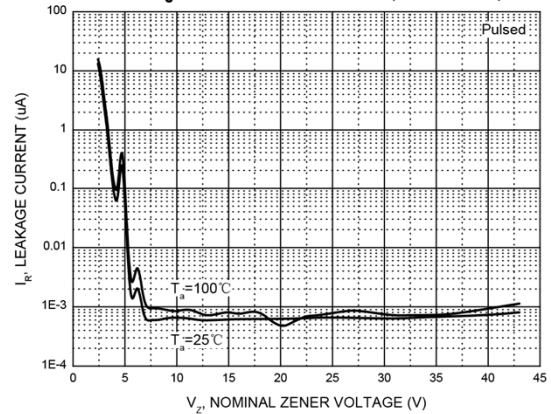


Fig 4. Typical Leakage Current

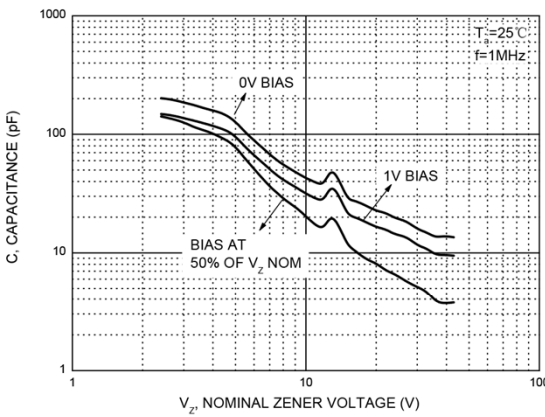


Fig 5. Typical Capacitance

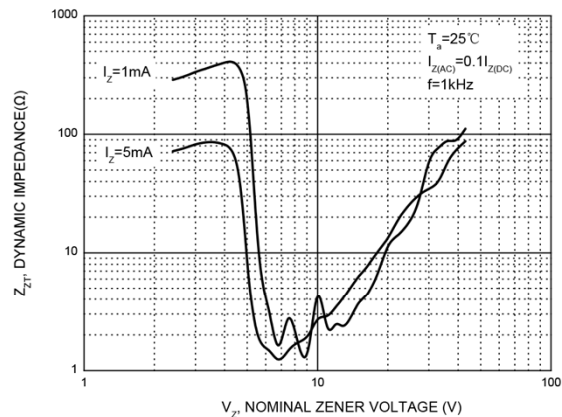


Fig 6. Effect of Zener Voltage on Zener Impedance

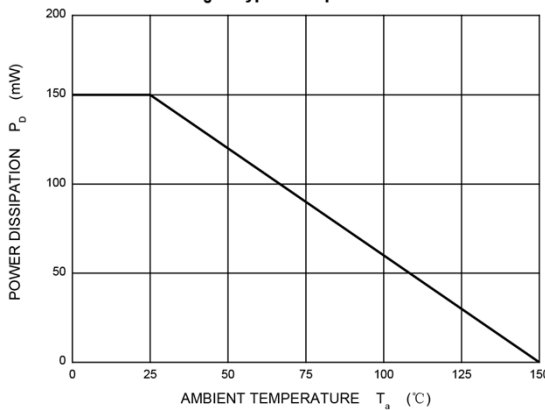
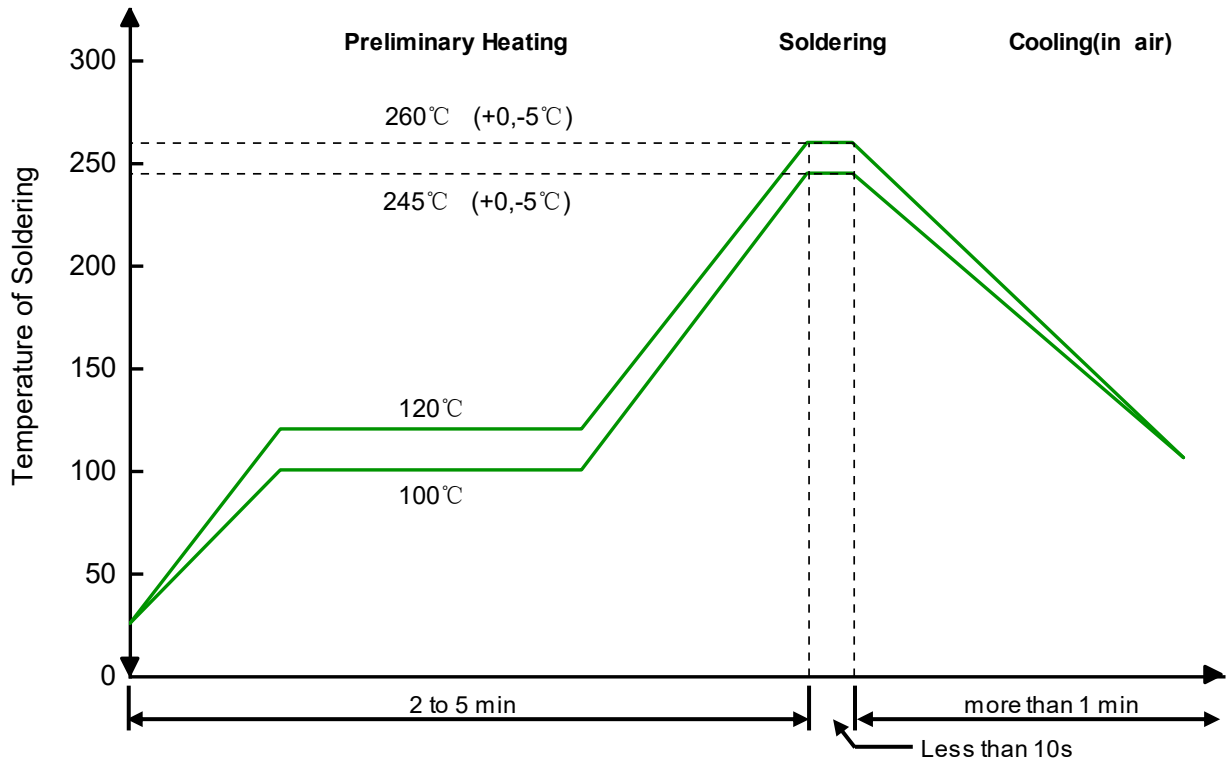


Fig 7. Power Derating Curve

Solder Reflow Recommendation



Remark: Pb free for 260°C; Pb for 245°C.

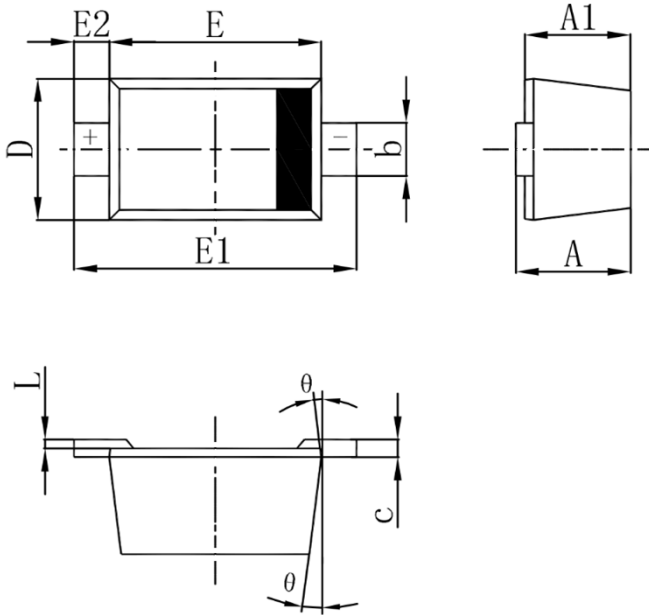
Ordering information

Device	Package	Reel	Shipping
PZ5DXXXHK Series	SOD-523	7"	3000 / Tape & Reel

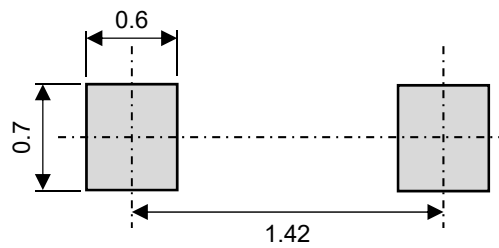
Zener Voltage Regulator

PZ5DXXXHK Series

Product dimension (SOD-523)




Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	0.51	0.77	0.020	0.031
A1	0.50	0.70	0.020	0.028
b	0.25	0.35	0.010	0.014
c	0.08	0.15	0.003	0.006
D	0.75	0.85	0.030	0.033
E	1.10	1.30	0.043	0.051
E1	1.50	1.70	0.059	0.067
E2	0.20 Ref.		0.008 Ref.	
L	0.01	0.07	0.001	0.003
θ	7°		7°	



Suggested PCB Layout

Unit:mm


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