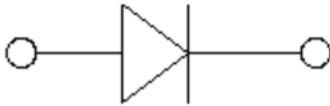


Zener Diodes



Features

- Moisture sensitivity level 1
- Zener voltage 13V

Application

- Linear voltage regulator
- DC regulator
- Small-signal surge protection

Mechanical data

- **Package:** SOD-123
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Forward voltage @ $I_F=10\text{mA}$	V_F	V	0.9
Power dissipation	P_D	mW	500
Maximum regulator current	I_{ZM}	mA	P_D / V_Z
Junction temperature	T_J	$^{\circ}\text{C}$	-55 to +150
Storage temperature	T_{STG}	$^{\circ}\text{C}$	-55 to +150



BZT52A13

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

Type number	Device marking	V _z @ I _{zT} (V)			Z _{zT} (Ω)		Z _{zK} (Ω)		I _R (μA) @V _R		Typical temperature coefficient @ I _{zTC} mV/°C		Test Current I _{zTC}
		min.	typ.	max.	I _{zT} (mA)	max.	I _{zK} (mA)	max.	max	V _R (V)	Min	Max	mA
BZT52A13	GC	12.87	13	13.13	5	25	1.0	170	0.1	10.0	7.0	11.0	5

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	250
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	200

Note:

(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm*9mm copper pad areas

■ Characteristics

Fig 1: P_D - T_a Curve

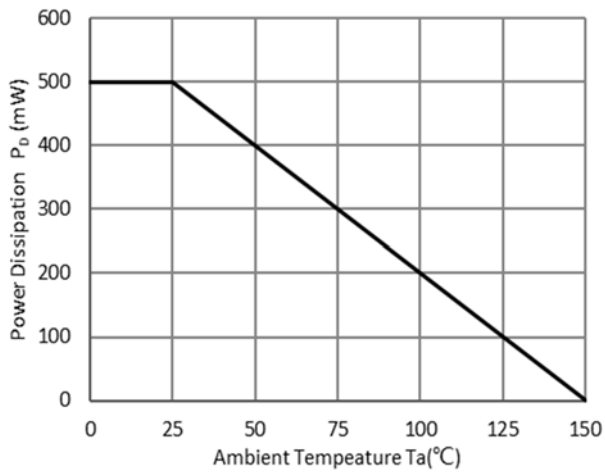
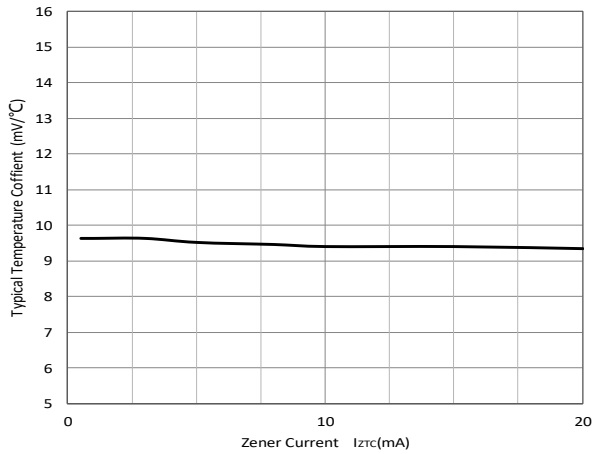


Fig 2: Zener Breakdown Characteristics



Fig 3: Typical Temperature Coefficient



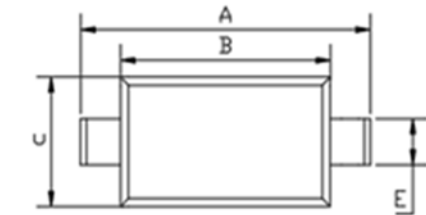


BZT52A13

■ Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BZT52A13	F2	Approximate 0.011	3000	30000	120000	7" reel
BZT52A13	F3	Approximate 0.011	10000	/	210000	13" reel

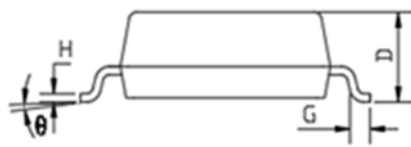
■ Outline Dimensions



TOP VIEW



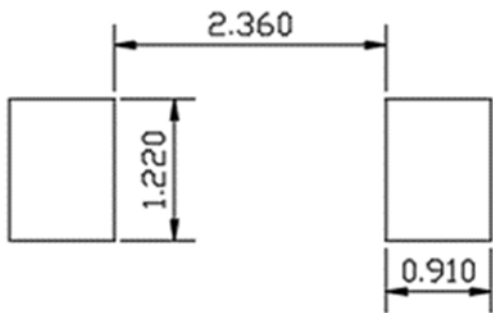
SIDE VIEW



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.140	0.152	3.550	3.850
B	0.100	0.112	2.550	2.850
C	0.055	0.071	1.400	1.800
D	0.037	0.053	0.950	1.350
E	0.020	0.028	0.510	0.710
G	0.006	0.018	0.150	0.450
H	0.003	0.010	0.080	0.250
J	0.000	0.006	0.000	0.150
θ	0	8°	0	8°

■ Suggested Pad Layout



UNIT: mm



BZT52A13

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