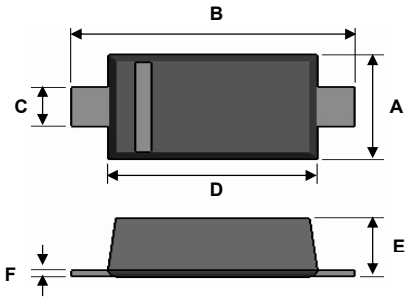
TAIWAN SEMICONDUCTOR

BZT52C2V0K~BZT52C75K
200mW,Surface Mount Zener Diode

Small Signal Diode



SOD-523F



Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.70	0.90	0.028	0.035
B	1.50	1.70	0.059	0.067
C	0.25	0.40	0.010	0.016
D	1.10	1.30	0.043	0.051
E	0.60	0.70	0.024	0.028
F	0.10	0.14	0.004	0.006

Features

- ✧Wide zener voltage range selection : 2.0V to 75V
- ✧Surface device type mounting
- ✧Moisture sensitivity level 1
- ✧Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧Pb free version,RoHS compliant
- ✧Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

Mechanical Data

- ✧Case :SOD-523F small outline plastic package
- ✧Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧High temperature soldering guaranteed:260°C/10s
- ✧Polarity : Indicated by cathode band
- ✧Weight :1.68±0.5 mg

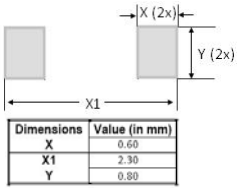
Ordering Information

Part No.	Package code	Package	Packing
BZT52C2V0K~75K	RK	SOD-523F	3K / 7" Reel
BZT52C2V0K~75K	RKG	SOD-523F	3K / 7" Reel

Pin Configutation



Suggested PAD Layout



Dimensions	Value (in mm)
X	0.60
X1	2.30
Y	0.80

Maximum Ratings and Electrical Characteristics

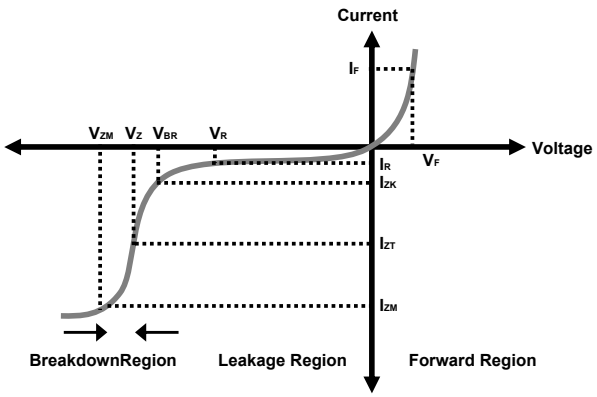
Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P_D	200	mW
Forward Voltage I_F=10mA	V_F	1	V
Thermal Resistance (Junction to Ambient) (Note 1)	RθJA	625	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to + 150	°C

Notes:1. Valid provided that electrodes are kept at ambient temperature

Zener I vs. V Characteristics



V_{BR} : Voltage at I_{ZK}
I_{ZK} : Test current for voltage V_{BR}
Z_{ZK} : Dynamic impedance at I_{ZK}
I_{ZT} : Test current for voltage V_Z
V_Z : Voltage at current I_{ZT}
Z_{ZT} : Dynamic impedance at I_{ZT}
I_{ZM} : Maximum steady state current
V_{ZM} : Voltage at I_{ZM}

TAIWAN SEMICONDUCTOR

BZT52C2V0K~BZT52C75K
200mW,Surface Mount Zener Diode

Small Signal Diode

Electrical Characteristics

Ta = 25°C unless otherwise noted

V_F Forward Voltage = 0.9V Maximum @ I_F = 10 mA for all part numbers

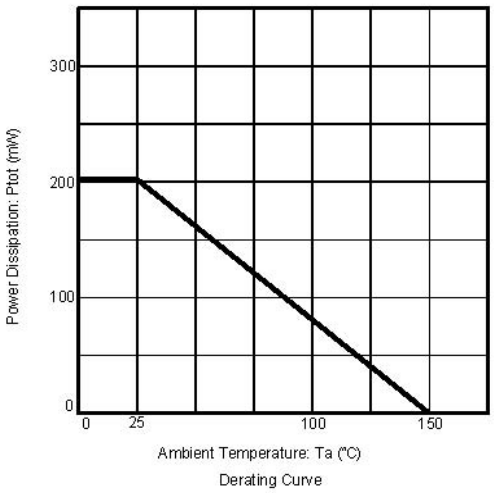
Part Number	Device Marking	V_Z @ I_{ZT} (Volt)			I_{ZT}(mA)	Z_{ZT} @ I_{ZT}(Ω) Max	I_{ZK}(mA)	Z_{ZK} @ I_{ZK}(Ω) Max	I_R @ V_R(μA) Max	V_R(V)
		Min	Nom	Max						
BZT52C2V0K	RD	1.8	2.0	2.15	5	100	-	-	120	0.5
BZT52C2V2K	RE	2.08	2.2	2.33	5	100	-	-	120	0.7
BZT52C2V4K	Z7	2.2	2.4	2.6	5	100	1	1000	120	1
BZT52C2V7K	A8	2.5	2.7	2.9	5	100	1	1000	120	1
BZT52C3V0K	B8	2.8	3	3.2	5	100	1	1000	50	1
BZT52C3V3K	C8	3.1	3.3	3.5	5	95	1	1000	20	1
BZT52C3V6K	D8	3.4	3.6	3.8	5	90	1	1000	10	1
BZT52C3V9K	E8	3.7	3.9	4.1	5	90	1	1000	5	1
BZT52C4V3K	F8	4	4.3	4.6	5	90	1	1000	5	1
BZT52C4V7K	G8	4.4	4.7	5	5	80	1	800	2	1
BZT52C5V1K	H8	4.8	5.1	5.4	5	60	1	500	2	1.5
BZT52C5V6K	I8	5.2	5.6	6	5	40	1	200	1	2.5
BZT52C6V2K	J8	5.8	6.2	6.6	5	10	1	100	1	3
BZT52C6V8K	K8	6.4	6.8	7.2	5	15	1	160	0.5	3.5
BZT52C7V5K	L8	7	7.5	7.9	5	15	1	160	0.5	4
BZT52C8V2K	M8	7.7	8.2	8.7	5	15	1	160	0.5	5
BZT52C9V1K	N8	8.5	9.1	9.6	5	15	1	160	0.5	6
BZT52C10K	O8	9.4	10	10.6	5	20	1	160	0.1	7
BZT52C11K	P8	10.4	11	11.6	5	20	1	160	0.1	8
BZT52C12K	Q8	11.4	12	12.7	5	25	1	80	0.1	9
BZT52C13K	R8	12.4	13	14.1	5	30	1	80	0.1	10
BZT52C15K	S8	14.3	15	15.8	5	30	1	80	0.1	11
BZT52C16K	T8	15.3	16	17.1	2	40	1	80	0.1	12
BZT52C18K	U8	16.8	18	19.1	2	45	1	80	0.1	13
BZT52C20K	V8	18.8	20	21.2	2	55	1	100	0.1	15
BZT52C22K	W8	20.8	22	23.3	2	55	1	100	0.1	17
BZT52C24K	X8	22.8	24	25.6	2	70	1	120	0.1	19
BZT52C27K	Y8	25.1	27	28.9	2	80	1	300	0.1	21
BZT52C30K	Z8	28	30	32	2	80	1	300	0.1	23
BZT52C33K	A9	31	33	35	2	80	1	300	0.1	25
BZT52C36K	B9	34	36	38	2	90	1	500	0.1	27
BZT52C39K	C9	**37**	39	41	2	130	1	500	2	30
BZT52C43K	D9	40	43	46	1	150	1	500	2	33
BZT52C47K	E9	44	47	50	1	170	1	500	2	36
BZT52C51K	F9	48	51	54	1	180	1	500	1	39
BZT52C56K	G9	52	56	60	1	200	1	500	1	43
BZT52C62K	H9	58	62	66	1	215	1	500	0.2	47
BZT52C68K	I9	64	68	72	1	240	1	500	0.2	52
BZT52C75K	J9	70	75	79	1	255	1	500	0.2	57

Notes:

1. The Zener Voltage (**V_Z**) is tested under pulse condition of 20ms
2. The device numbers listed have a standard tolerance on the nominal zener voltage of ±2%.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances,
4. 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

Small Signal Diode

Rating and Sharacteristic Curves



Derating Curve