Zener Diode Array, Dual
SOT-23 350mW AEC-Q101

BZX84C-CAA Series

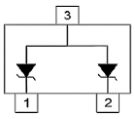
MERITEK

FEATURES



- Wide Zener Voltage Range: 2.4V to 51V protections
- Dual Zeners in common anode configuration
- Provides reliable overvoltage protection and voltage regulation.
- Compact SOT-23 Package enables space-saving PCB Layout
- AEC-Q101 Qualified for automotive-grade reliability

APPLICATIONS



RoHS

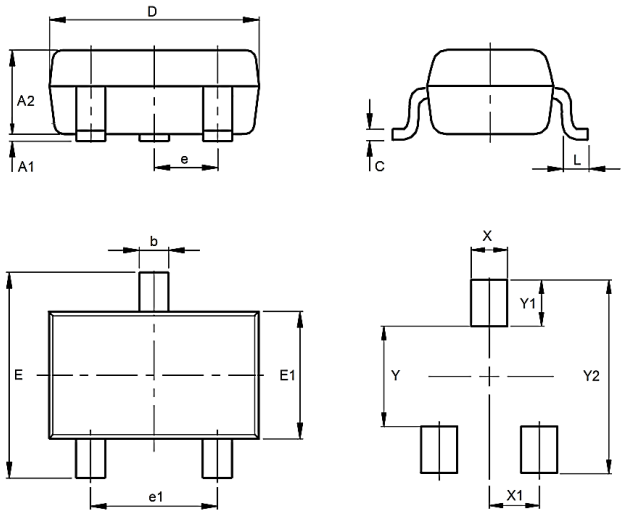
- Automotive Electronics: ECU protection, body control modules, infotainment, sensors
- AI and Power Systems: Servers, AI infrastructure, and embedded electronics
- Networking & Telecom: Routers, switches, modules, and power management circuits.
- Industrial Automation: PLCs, motor drives, industrial controls, instrumentation

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Power Dissipation at T_A =25°C	P_D	350	mW
Forward Voltage at I_F=10mA	V_F	0.9	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	°C/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	°C

DIMENSIONS

Item	Min (mm)	Max (mm)
A1	--	0.10
A2	0.89	1.40
b	0.30	0.50
C	0.08	0.20
D	2.70	3.10
e	0.89	1.02
e1	1.78	2.04
E	2.10	2.80
E1	1.20	1.60
L	0.15	--
X	0.80	
X1	0.95	
Y	1.00	
Y1	1.00	
Y2	3.00	



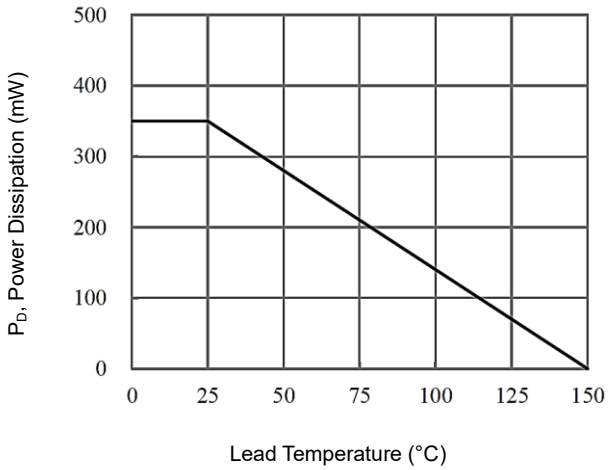
ELECTRICAL CHARACTERISTICS

Part Number	Zener Voltage Range				Zener Impedance		Reverse Leakage Current	
	V_Z at I_{ZT}			I_{ZT}	Z_{ZT} at I_{ZT}	I_{ZT}	I_R Max.	V_R
	Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	(mA)	(μA)	(V)
BZX84C2V4CAA	2.2	2.4	2.6	5	100	5	50.00	1.0
BZX84C2V7CAA	2.5	2.7	2.9	5	100	5	20.00	1.0
BZX84C3V0CAA	2.8	3.0	3.2	5	95	5	10.00	1.0
BZX84C3V3CAA	3.1	3.3	3.5	5	95	5	5.00	1.0
BZX84C3V6CAA	3.4	3.6	3.8	5	90	5	5.00	1.0
BZX84C3V9CAA	3.7	3.9	4.1	5	90	5	3.00	1.0
BZX84C4V3CAA	4.0	4.3	4.6	5	90	5	3.00	1.0
BZX84C4V7CAA	4.4	4.7	5.0	5	80	5	3.00	2.0
BZX84C5V1CAA	4.8	5.1	5.4	5	60	5	2.00	2.0
BZX84C5V6CAA	5.2	5.6	6.0	5	40	5	1.00	2.0
BZX84C6V2CAA	5.8	6.2	6.6	5	10	5	3.00	4.0
BZX84C6V8CAA	6.4	6.8	7.2	5	15	5	2.00	4.0
BZX84C7V5CAA	7.0	7.5	7.9	5	15	5	1.00	5.0
BZX84C8V2CAA	7.7	8.2	8.7	5	15	5	0.70	5.0
BZX84C9V1CAA	8.5	9.1	9.6	5	15	5	0.50	6.0
BZX84C10CAA	9.4	10.0	10.6	5	20	5	0.20	7.0
BZX84C11CAA	10.4	11.0	11.6	5	20	5	0.10	8.0
BZX84C12CAA	11.4	12.0	12.7	5	25	5	0.10	8.0
BZX84C13CAA	12.4	13.0	14.1	5	30	5	0.10	8.0
BZX84C15CAA	14.3	15.0	15.8	5	30	5	0.05	10.5
BZX84C16CAA	15.3	16.0	17.1	5	40	5	0.05	11.2
BZX84C18CAA	16.8	18.0	19.1	5	45	5	0.05	12.6
BZX84C20CAA	18.8	20.0	21.2	5	55	5	0.05	14.0
BZX84C22CAA	20.8	22.0	23.3	5	55	5	0.05	15.4
BZX84C24CAA	22.8	24.0	25.6	5	70	5	0.05	16.8
BZX84C27CAA	25.1	27.0	28.9	2	80	2	0.05	18.9
BZX84C30CAA	28.0	30.0	32.0	2	80	2	0.05	21.0
BZX84C33CAA	31.0	33.0	35.0	2	80	2	0.05	23.1
BZX84C36CAA	34.0	36.0	38.0	2	90	2	0.05	25.2
BZX84C39CAA	37.0	39.0	41.0	2	130	2	0.05	27.3
BZX84C43CAA	40.0	43.0	46.0	2	150	2	0.05	30.1
BZX84C47CAA	44.0	47.0	50.0	2	170	2	0.05	32.9
BZX84C51CAA	48.0	51.0	54.0	2	180	2	0.05	35.7

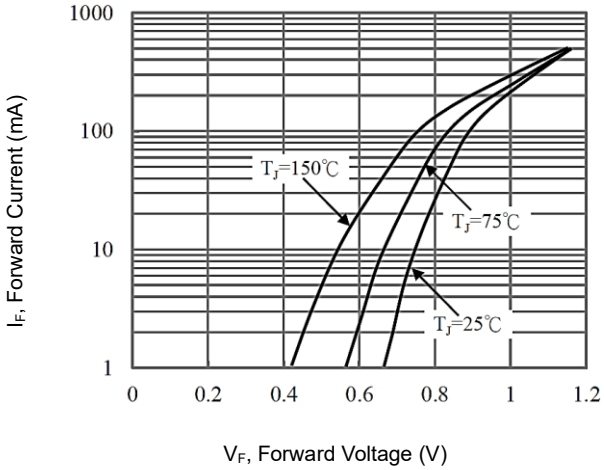
Notes:
1. T_A =25°C, unless otherwise noted.
2. Device mounted on a FR-4 PCB, 2oz copper, with minimum recommended pad layout.
3. V_{ZT} is tested with pulses tp=20ms.

CHARACTERISTIC CURVES

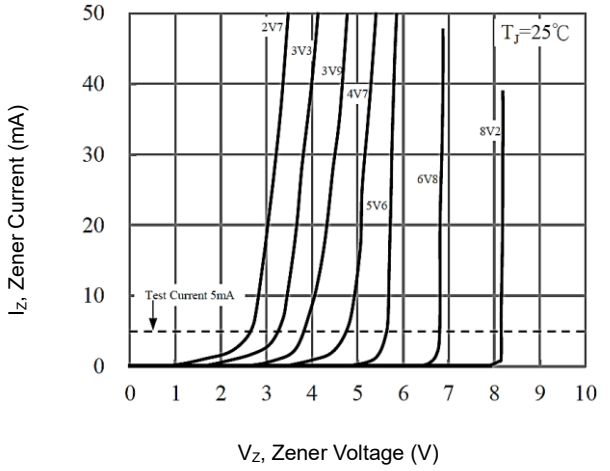
Power Derating Curve



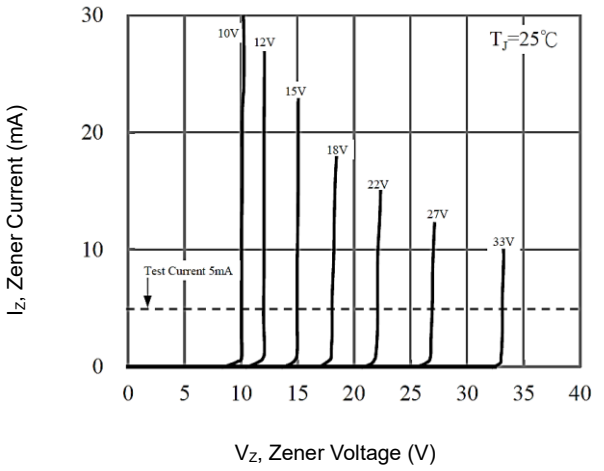
Typical Forward Voltage



Typical Zener Breakdown Characteristics



Typical Zener Breakdown Characteristics



*Specifications subject to change without notice.