

# AZ23C5V6W, AZ23C6V8W, AZ23C10W, AZ23C18W

## 200mW DUAL SURFACE MOUNT ZENER DIODE

### Features

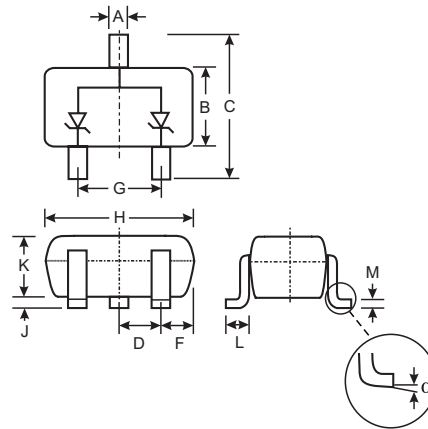
- Nominal Zener Voltages: 5.6V, 6.8V, 10V, 18V
- Ultra-Small Surface Mount Package
- Ideal For Transient Suppression
- **Lead Free/RoHS Compliant (Note 4)**
- **"Green" Device (Note 5 and 6)**

### ESD Sensitivity Rating

- AEC-Q101, HBM - 8kV, MM - 400V (AZ23C5V6W - AZ23C18W)
- IEC 61000-4-2, Air - Exceeds 25kV, Contact - 8kV (AZ23C5V6W, AZ23C6V8W)
- IEC 61000-4-2, Air - Exceeds 15kV, Contact - 8kV (AZ23C10W, AZ23C18W)

### Mechanical Data

- Case: SOT-323
- Case Material: Molded Plastic, "Green" Molding Compound, Note 6. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking: See Below & Page 3
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)



SOT-323		
Dim	Min	Max
A	0.25	0.40
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
E	0.30	0.40
G	1.20	1.40
H	1.80	2.20
J	0.0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.18
α	0°	8°
<b>All Dimensions in mm</b>		

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ I <sub>F</sub> = 10mA	V <sub>F</sub>	0.9	V
Power Dissipation (Note 1)	P <sub>d</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150	°C

Type Number	Marking Code	Zener Voltage Range (Note 2)			Maximum Zener Impedance (Note 3)				Maximum Reverse Current (Note 2)		Temperature Coefficient of Zener Voltage @ I <sub>ZT</sub> = 5mA	
		V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		T <sub>c</sub> (mV/°C)	
		Nom (V)	Min (V)	Max (V)	Ω	mA	Ω	mA	μA	V	Min	Max
AZ23C5V6W	KD9	5.6	5.32	5.88	40	5.0	400	1.0	1.0	2.0	-2.0	2.5
AZ23C6V8W	KDB	6.8	6.47	7.14	15	5.0	80	1.0	2.0	4.0	1.2	4.5
AZ23C10W	KDF	10	9.4	10.6	15	5.0	70	1.0	0.2	7.0	4.5	8.0
AZ23C18W	KDL	18	16.8	19.1	50	5.0	170	1.0	0.1	12.6	12.4	16.0

- Notes:
1. Mounted on FR4 PC Board with recommended pad layout at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration pulse test used so as not to induce significant self-heating.
  3. f = 1KHz.
  4. No purposefully added lead.
  5. Diodes Inc.'s "Green" Policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  6. Product manufactured with date code 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

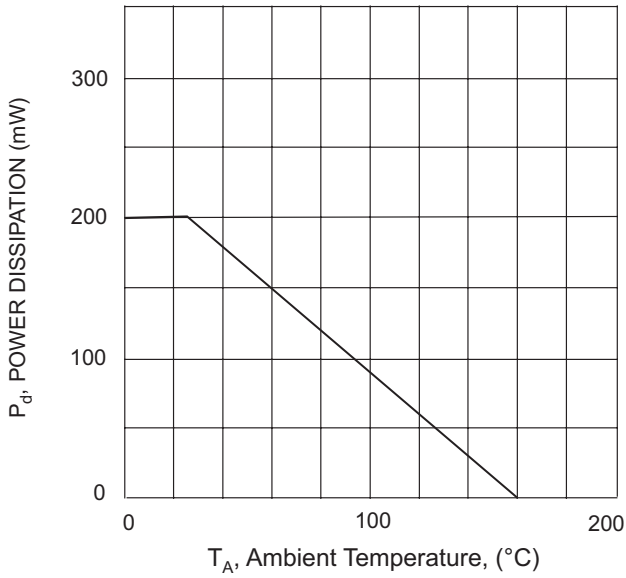


Fig. 1 Power Derating Curve

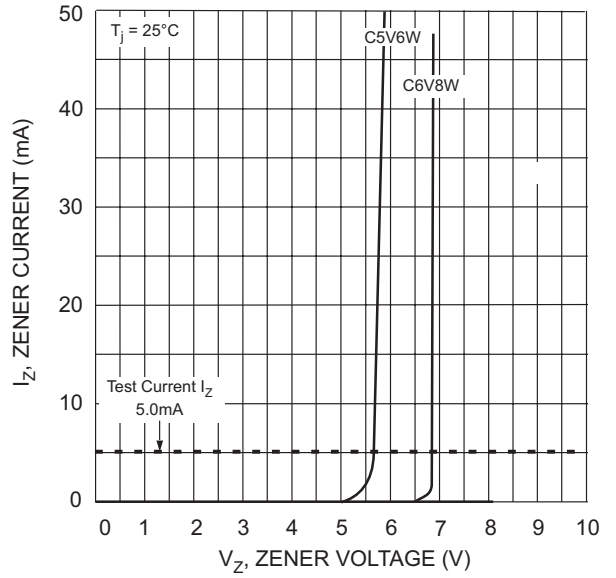


Fig. 2 Zener Breakdown Characteristics

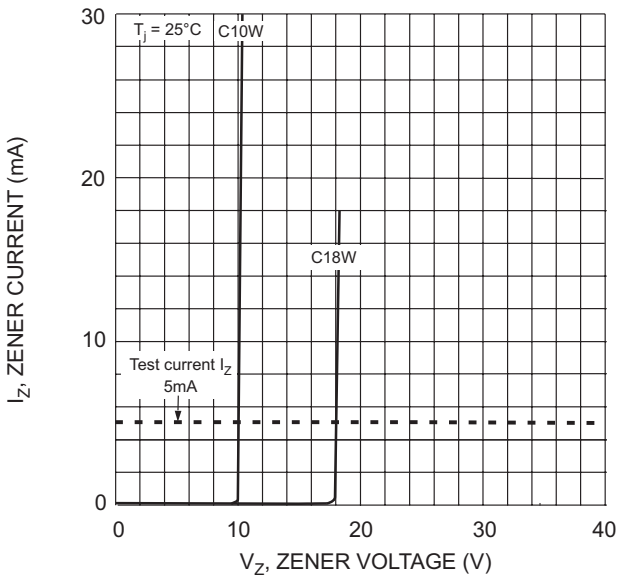


Fig. 3 Zener Breakdown Characteristics

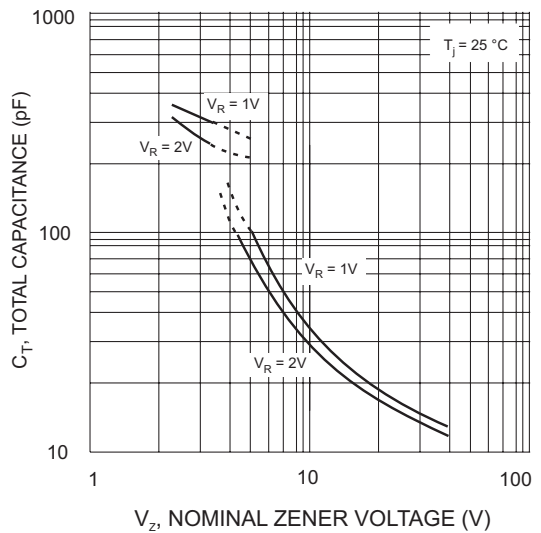


Fig. 4 Total Capacitance vs. Nominal Zener Voltage

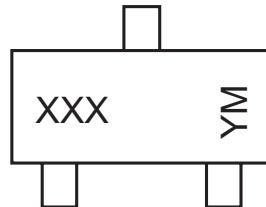
## Ordering Information (Note 6 & 7)

Device	Packaging	Shipping
(Type Number)-7-F	SOT-323	3000/Tape & Reel

\* Add "-7-F" to the appropriate type number in Table 1 from Page 1 example: 6.8V Zener = AZ23C6V8W-7-F.

- Notes: 6. Product manufactured with date code 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.  
 7. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



XXX = Product Type Marking Code (See Table)  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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