

Features

- 300mW Power Dissipation on FR-4 PCB
- Very Tight Tolerance on V_z
- Ideally Suited for Automated Assembly Processes
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **The DIODES™ DDZX5V6AQ is suitable for automotive applications requiring specific change control; this part is AEC-Q101 qualified, PPAP capable, and manufactured in IATF 16949 certified facilities.**

<https://www.diodes.com/quality/product-definitions/>

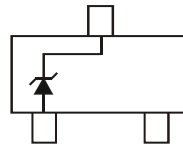
Mechanical Data

- Package: SOT23
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Annealed over Alloy 42 Leadframe. Solderable per MIL-STD-202, Method 208 ③
- Polarity: See Diagram
- Weight: 0.008 grams (Approximate)

SOT23



Top View



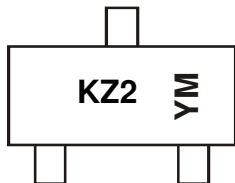
Device Schematic

Ordering Information (Note 4)

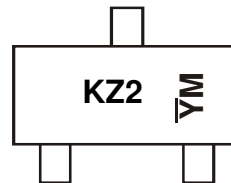
Part Number	Package	Packing	
		Qty.	Carrier
DDZX5V6AQ-7	SOT23	3,000	Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



KZ2 = Product Type Marking Code
 YM = Date Code Marking for Shanghai Assembly / Test site
 Y = Year (ex: J = 2022)
 M = Month (ex: 9 = September)



KZ2 = Product Type Marking Code
 YM = Date Code Marking for Chengdu Assembly / Test site
 Y = Year (ex: J = 2022)
 M = Month (ex: 9 = September)

Date Code Key

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Code	H	I	J	K	L	M	N	O	P	R	S	T

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

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Forward Voltage @ I _F = 10mA	V _F	0.9	V

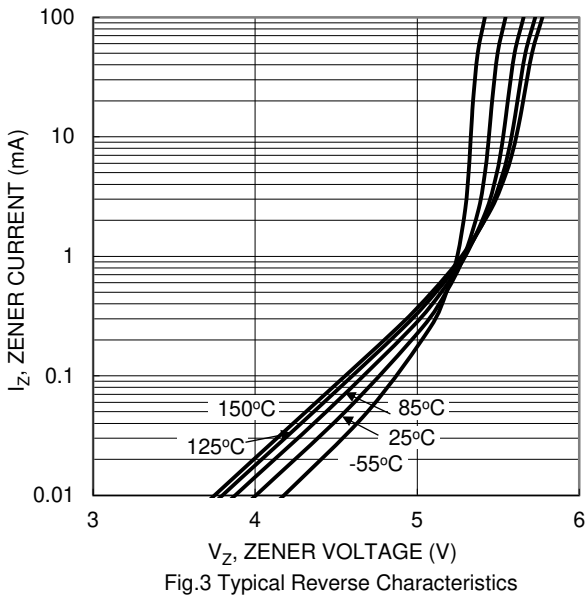
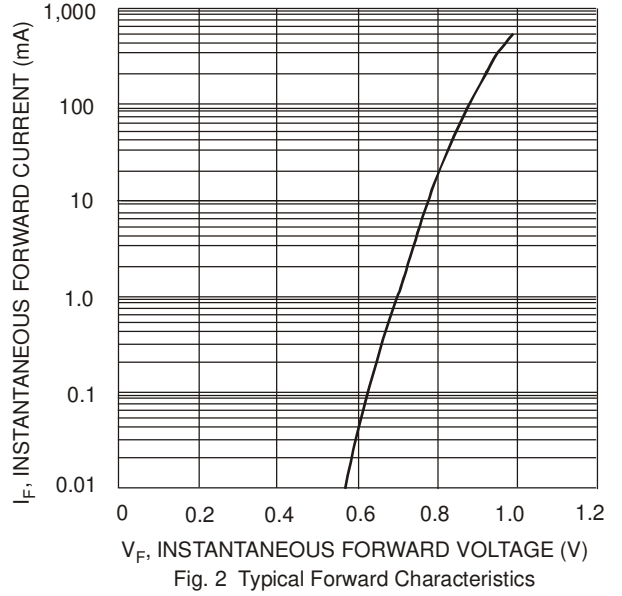
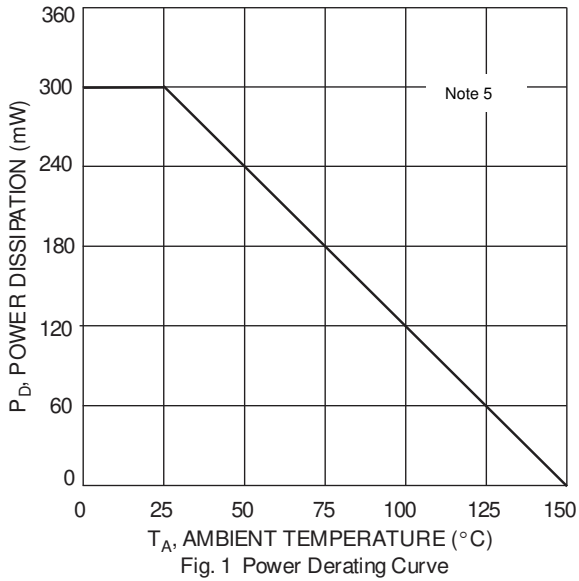
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	300	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	R _{θJA}	417	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Part Number	Marking Code	Zener Voltage Range (Note 6)			Maximum Zener Impedance f = 1kHz				Maximum Reverse Current (Note 7)	
		V _Z @ I _{ZT}		I _{ZT}	I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R	@ V _R
		Min (V)	Max (V)	mA	mA	Ω	mA	μA	V	
DDZX5V6AQ-7	KZ2	5.28	5.55	20	20	80	460	1	7.0	2.0
		5.15	5.45	5						

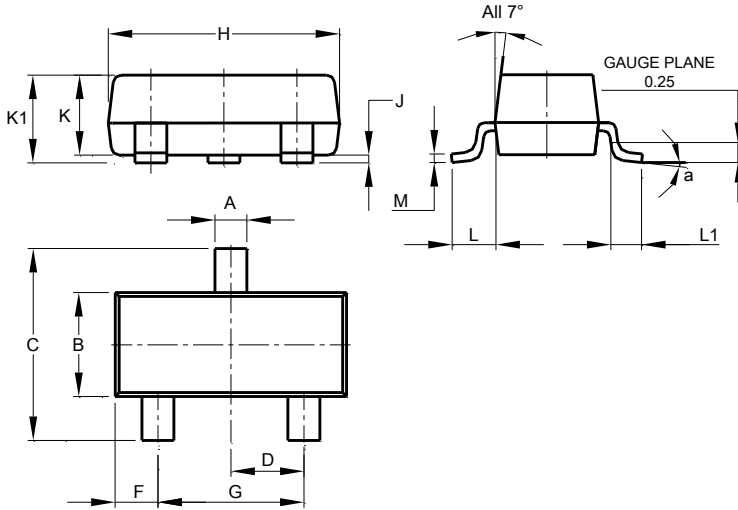
- Notes:
5. Device mounted on FR-4 PCB with recommended pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
 6. The zener voltage is measured <40ms after power is supplied.
 7. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23

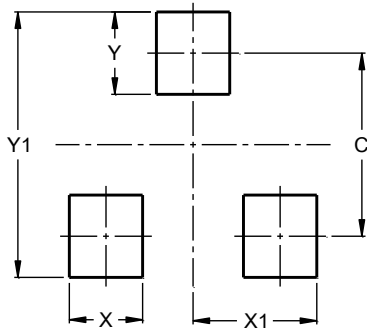


SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

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