



350mW SURFACE MOUNT ZENER DIODE

Features

- Planar Die Construction
- 350mW Power Dissipation
- Zener Voltages from 43V 51V
- Ideally Suited for Automated Assembly Processes
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 3 and 6)

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)







Device Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

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

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_{D}	300	mW
Power Dissipation (Note 2)	P_{D}	350	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{ heta JA}$	417	°C/W
Thermal Resistance, Junction to Ambient Air (Note 2)	$R_{ heta JA}$	357	°C/W
Operating and Storage Temperature Range	T _{J,} T _{STG}	-65 to +150	°C

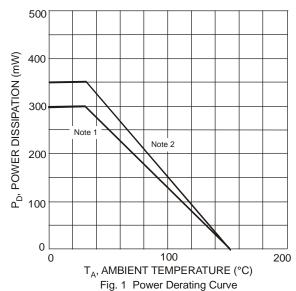
Electrical Characteristics @TA = 25°C unless otherwise specified

Type Number	Type Code	Zener Voltage Range (Note 5)			Maximum Zener Impedance (Note 4)			Maximum Reverse Current (Note 5)		Typical Temperature Coefficient @ IzT mV/°C		
		Vz @ I _{ZT}		I _{ZT}	Z _{ZT} @ I _{ZT}	Zzk @ Izk		I _R	V_{R}	Min	Max	
		Nom (V)	Min (V)	Max (V)	(mA)	(Ω)	(Ω)	(mA)	(μΑ)	(V)	IVIIII IV	IVIAX
BZX84C43	Y15/KYF	43	40.0	46.0	2.0	150	375	0.5	0.1	30.1	10.0	12.0
BZX84C47	Y16/KYG	47	44.0	50.0	2.0	170	375	0.5	0.1	32.9	10.0	12.0
BZX84C51	Y17/KYH	51	48.0	54.0	2.0	180	400	0.5	0.1	35.7	10.0	12.0

Notes:

- Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- Valid provided the terminals are kept at ambient temperature.
 No purposefully added lead. Halogen and Antimony Free.
- 4. f = 1KHz.
- Short duration pulse test used to minimize self-heating effect.
- Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.





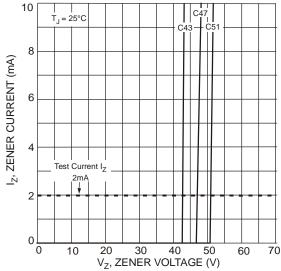


Fig. 2 Typical Zener Breakdown Characteristics

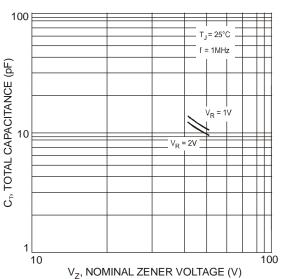


Fig. 3 Typical Total Capacitance vs. Nominal Zener Voltage

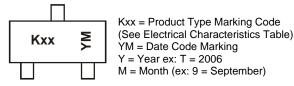
Ordering Information (Note 7)

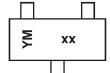
Part Number	Case	Packaging
(Type Number)-7-F*	SOT-23	3000/Tape & Reel

^{*}Add "-7" to the appropriate type number in Electrical Characteristics Table on Page 2. Example: 43V Zener = BZX84C43-7-F.

Notes: 7. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information





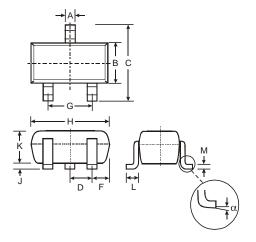
xx = Product Type Marking Code (See Electrical Characteristics Table) YM = Date Code Marking Y = Year ex: T = 2006 M = Month (ex: 9 = September)

Date Code Key

Year	2006	2007	20	08	2009	2010	2011	2012	2 20	13	2014	2015
Code	Т	U	\	/	W	Χ	Υ	Z		Ą	В	С
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

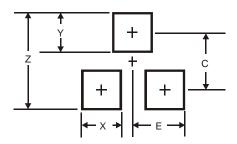


Package Outline Dimensions



SOT-23						
Dim	Min	Max				
Α	0.37	0.51				
В	1.20	1.40				
С	2.30	2.50				
D	0.89	1.03				
F	0.45	0.60				
G	1.78	2.05				
Н	2.80	3.00				
J	0.013	0.10				
K	0.903	1.10				
L	0.45	0.61				
М	0.085	0.180				
α	0°	8°				

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
Х	0.8
Y	0.9
С	2.0
E	1.35

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