BZX84C2V4TS - BZX84C39TS

TRIPLE SURFACE MOUNT ZENER DIODE ARRAY

Please click here to visit our online spice models database.

Features

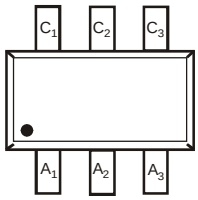
- Zener Voltages from 2.4 - 39V
- Three Isolated Diode Elements in a Single Ultra-Small Surface Mount Package
- **Lead Free/RoHS Compliant (Note 2)**
- **"Green" Device (Note 3 and 4)**

Mechanical Data

- Case: SOT-363
- 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).
- Orientation: See Diagram
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)



Top View



Package Pin Out Configuration

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 1)	P_D	200	mW
Thermal Resistance, Junction to Ambient Air	(Note 1)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-65 to +150	°C

Notes:
1. Mounted on FR4 PC Board with recommended pad layout which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. No purposefully added lead.
3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
4. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

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Electrical Characteristics @T_A = 25°C unless otherwise specified

Type Number	Marking Code	Zener Voltage Range (Note 5)				Maximum Zener Impedance (Note 6)			Maximum Reverse Current (Note 5)		Temperature Coefficient of Zener Voltage @ I_{ZT} = 5mA	
		$V_{Z\ @\ IZT}$			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R	V_R	mV_I°C	
		Nom (V)	Min (V)	Max (V)	mA	Ω		mA	uA	@ V	Min	Max
BZX84C2V4TS	KRB	2.4	2.2	2.6	5	100	600	0.5	50	1.0	-3.5	0
BZX84C2V7TS	KRC	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZX84C3V0TS	KRD	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZX84C3V3TS	KRE	3.3	3.1	3.5	5	95	600	1.0	5.0	1.0	-3.5	0
BZX84C3V6TS	KRF	3.6	3.4	3.8	5	90	600	1.0	5.0	1.0	-3.5	0
BZX84C3V9TS	KRG	3.9	3.7	4.1	5	90	600	1.0	3.0	1.0	-3.5	0
BZX84C4V3TS	KRH	4.3	4.0	4.6	5	90	600	1.0	3.0	1.0	-3.5	0
BZX84C4V7TS	KR1	4.7	4.4	5.0	5	80	500	1.0	3.0	2.0	-3.5	0.2
BZX84C5V1TS	KR2	5.1	4.8	5.4	5	60	480	1.0	2.0	2.0	-2.7	1.2
BZX84C5V6TS	KR3	5.6	5.2	6.0	5	40	400	1.0	1.0	2.0	-2.0	2.5
BZX84C6V2TS	KR4	6.2	5.8	6.6	5	10	150	1.0	3.0	4.0	0.4	3.7
BZX84C6V8TS	KR5	6.8	6.4	7.2	5	15	80	1.0	2.0	4.0	1.2	4.5
BZX84C7V5TS	KR6	7.5	7.0	7.9	5	15	80	1.0	1.0	5.0	2.5	5.3
BZX84C8V2TS	KR7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX84C9V1TS	KR8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX84C10TS	KR9	10.0	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX84C11TS	KP1	11.0	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX84C12TS	KP2	12.0	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX84C13TS	KP3	13.0	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX84C15TS	KP4	15.0	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX84C16TS	KP5	16.0	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX84C18TS	KP6	18.0	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX84C20TS	KP7	20.0	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX84C22TS	KP8	22.0	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX84C24TS	KP9	24.0	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX84C27TS	KPA	27.0	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX84C30TS	KPB	30.0	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX84C33TS	KPC	33.0	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX84C36TS	KPD	36.0	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX84C39TS	KPE	39.0	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2

Notes: 5. Short duration pulse test used to minimize self-heating effect.
6. f = 1KHz.

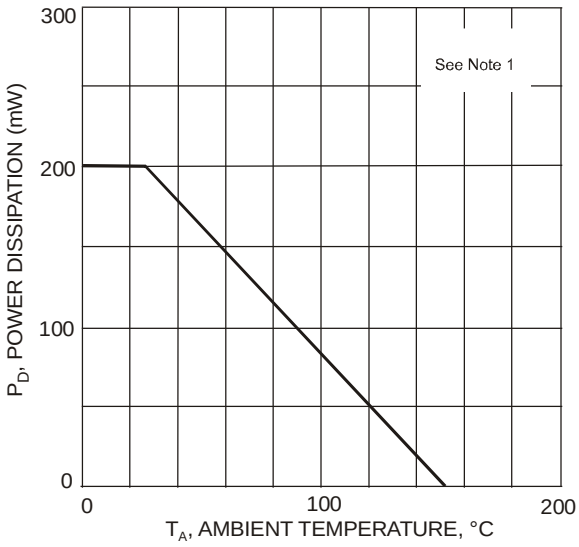


Fig. 1. Power Derating Curve

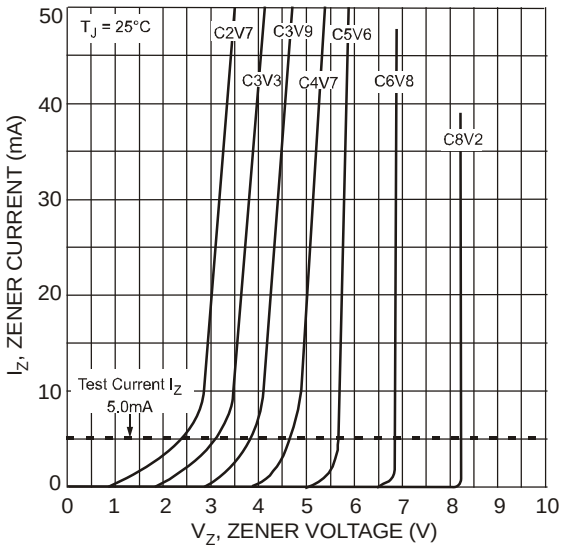


Fig. 2. Typical Zener Breakdown Characteristics

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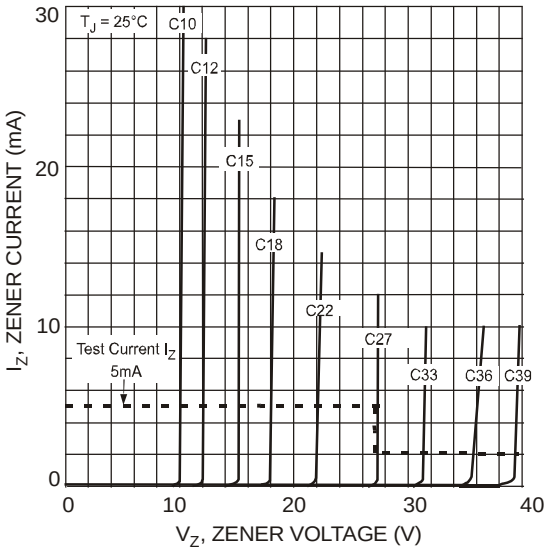


Fig. 3. Typical Zener Breakdown Characteristics

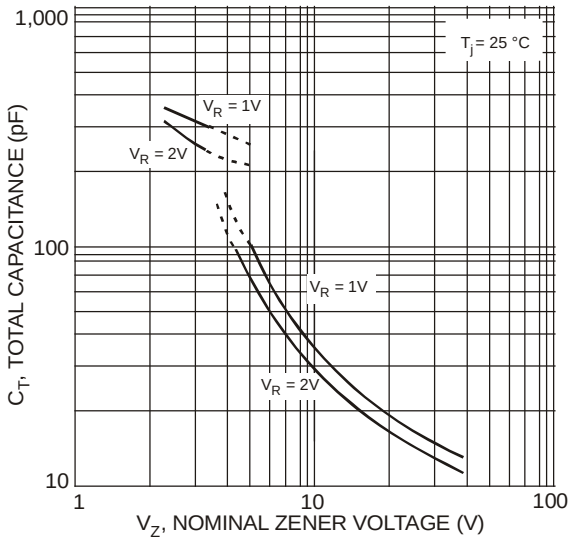


Fig. 4. Typical Total Capacitance vs. Nominal Zener Voltage

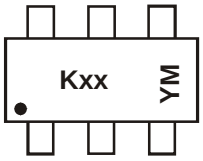
Ordering Information (Note 7)

Part Number	Case	Packaging
(Type Number)-7-F*	SOT-363	3000/Tape & Reel

*Add "-7-F" to the appropriate type number in Electrical Characteristics Table on Page 2 example: 6.2V Zener = BZX84C6V2TS-7-F.

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

Marking Information



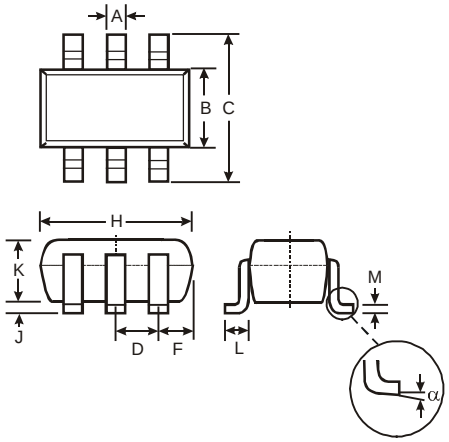
Kxx = Product Type Marking Code
(See Electrical Characteristics Table)
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2111	2012
Code	N	P	R	S	T	U	V	W	X	Y	Z

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

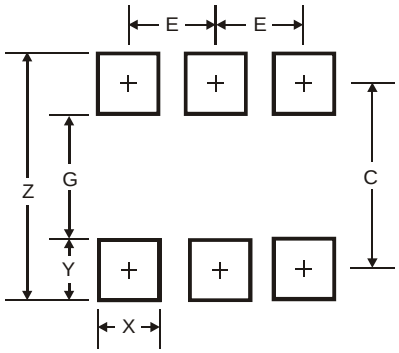
Package Outline Dimensions



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.40	0.45
H	1.80	2.20
J	0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.22
α	0°	8°
All Dimensions in mm		

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Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C	1.9
E	0.65

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