

## Features

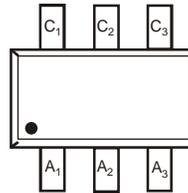
- Zener Voltages from 2.4 to 39V
- Three Isolated Diode Elements in a Single Ultra-Small Surface Mount Package
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: SOT363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Lead Free Plating (Matte Tin Finish Annealed over Alloy 42 Leadframe). Solderable per MIL-STD-202, Method 208③
- Weight: 0.006 grams (Approximate)



Top View



Package Pin Out Configuration

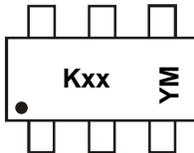
## Ordering Information (Note 4)

Part Number	Case	Packaging
(Type Number)-7-F*	SOT363	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:
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



Kxx = Product Type Marking Code  
(See Electrical Characteristics Table)  
YM = Date Code Marking  
Y = Year (ex: G = 2019)  
M = Month (ex: 9 = September)

### Date Code Key

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Code	C	D	E	F	G	H	I	J	K	L	M

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<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

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Type Number	Marking Code	Zener Voltage Range (Note 6)				Maximum Zener Impedance (Note 7)			Maximum Reverse Current (Note 6)		Temperature Coefficient of Zener Voltage @ I <sub>ZT</sub> = 5mA mV/°C	
		V <sub>Z</sub> @ I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	V <sub>R</sub>	Min	Max
		Nom (V)	Min (V)	Max (V)	mA	Ω		mA	μA	@V		
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
BZX84C8V2TS	KR7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
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 (Note 8)	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
BZX84C24TS	KP9	24.0	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	-
BZX84C27TS	KPA	27.0	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	-
BZX84C39TS	KPE	39.0	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	-

- Notes:
- Mounted on FR-4 PC Board with recommended pad layout which can be found on our website at <http://www.diodes.com/package-outlines.html>.
  - Short duration pulse test used to minimize self-heating effect.
  - f = 1kHz.
  - Qualified to AEC-Q101 standards for high reliability.

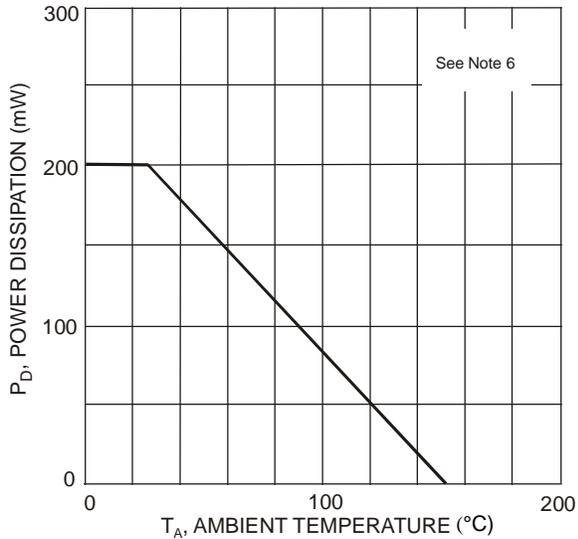


Fig. 1. Power Derating Curve

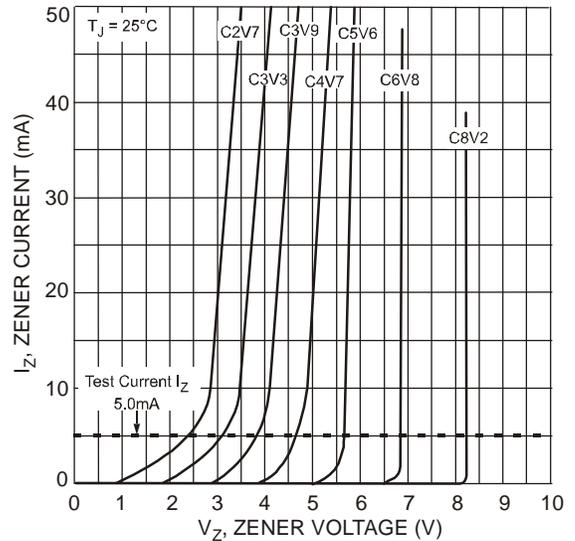


Fig. 2. Typical Zener Breakdown Characteristics

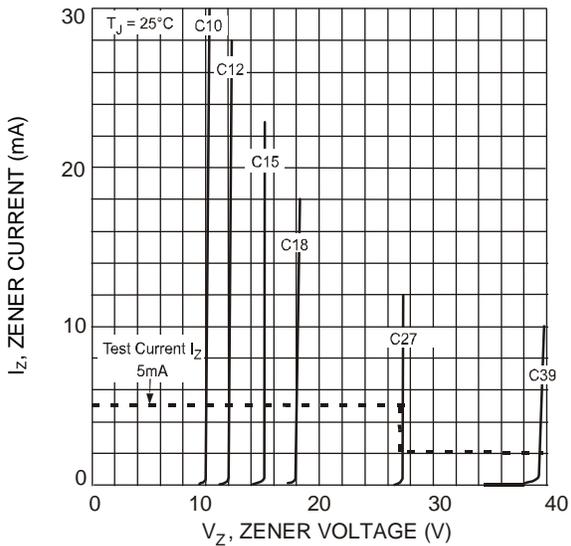


Fig. 3. Typical Zener Breakdown Characteristics

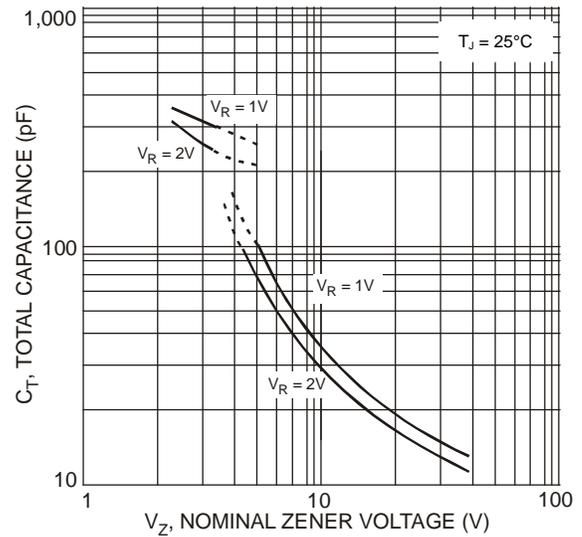
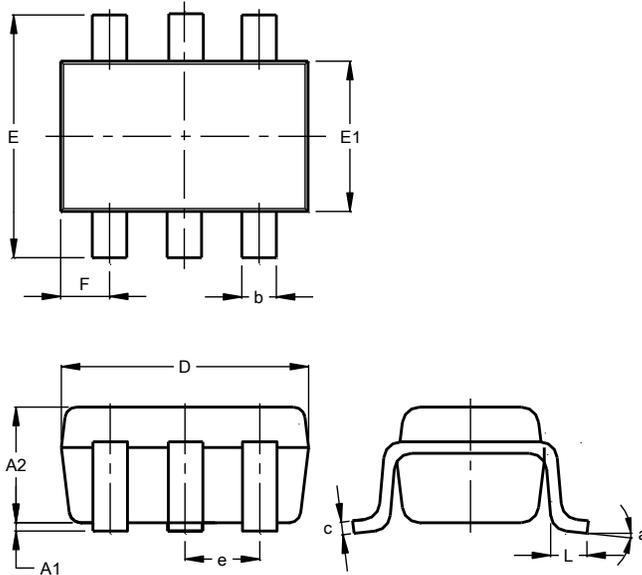


Fig. 4. Typical Total Capacitance vs. Nominal Zener Voltage

**Package Outline Dimensions**

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

**SOT363**

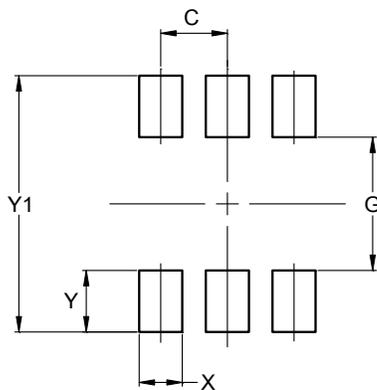


SOT363			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

**Suggested Pad Layout**

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

**SOT363**



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.420
Y	0.600
Y1	2.500

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