

## Features

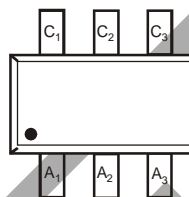
- Zener Voltages from 7.5V - 36V
- Three Isolated Diode Elements in a Single Ultra-Small Surface Mount Package
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: 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 <sup>(E3)</sup>
- Lead Free Plating (Matte Tin Finish Annealed over Alloy 42 Leadframe).
- Weight: 0.006 grams (Approximate)



Top View



Package Pin Out Configuration

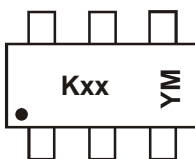
## Ordering Information (Note 4)

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: 7.5V Zener = BZX84C7V5TS-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 <http://www.diodes.com/products/packages.html>

## Marking Information (Note 5)



Kxx = Product Type Marking Code  
(See Electrical Characteristics Table)  
YM = Date Code Marking  
Y = Year (ex: A = 2013)  
M = Month (ex: 9 = September)

### Date Code Key

Year	2006	2007	2008	2009	2010	2111	2012	2013	2014	2015	2016	2017	2018
Code	T	U	V	W	X	Y	Z	A	B	C	D	E	F

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

Note: 5. 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.

**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**

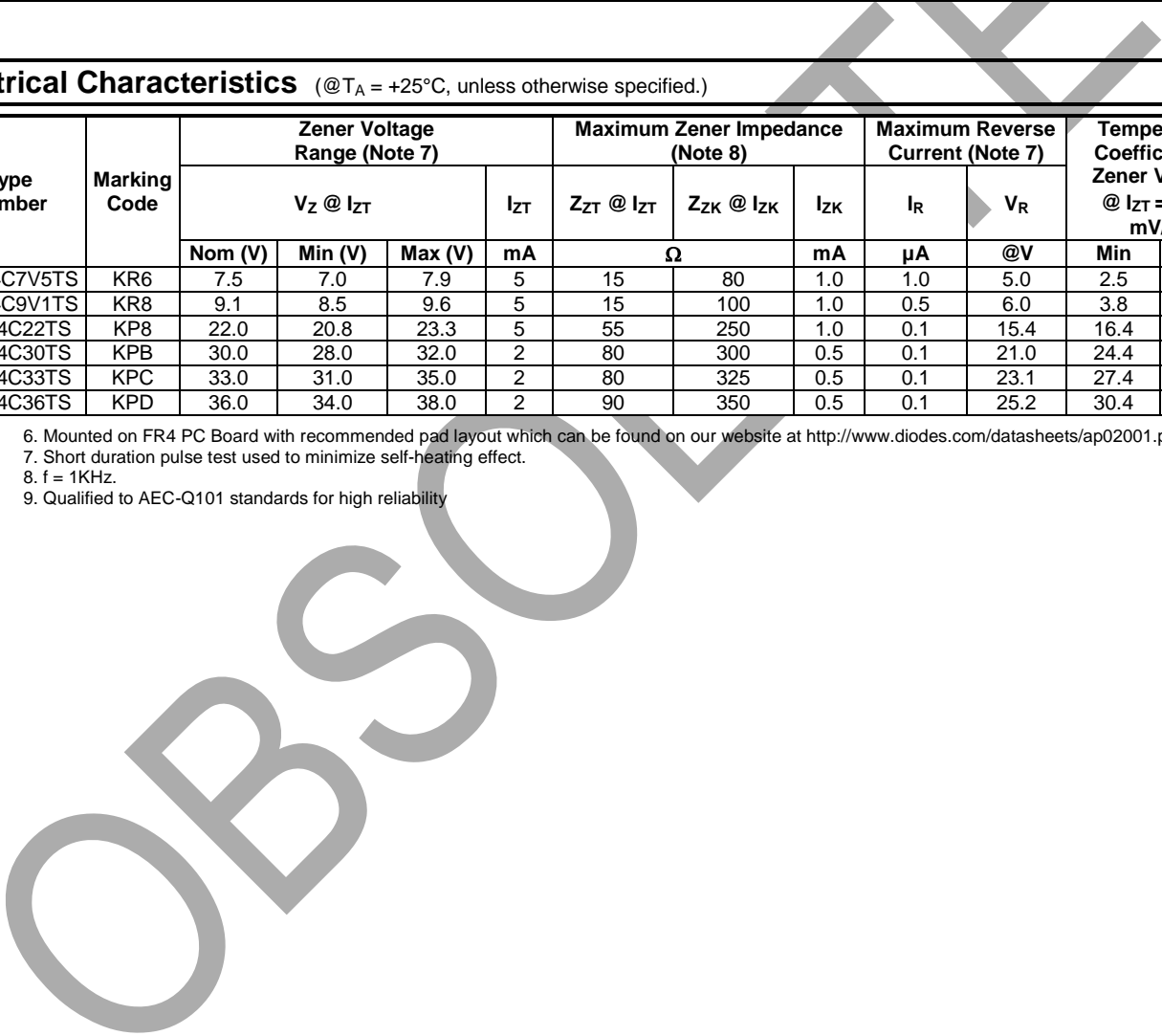
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P <sub>D</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 6)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

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

Type Number	Marking Code	Zener Voltage Range (Note 7)				Maximum Zener Impedance (Note 8)			Maximum Reverse Current (Note 7)		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			
BZX84C7V5TS	KR6	7.5	7.0	7.9	5	15	80	1.0	1.0	5.0	2.5	5.3
BZX84C9V1TS	KR8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX84C22TS	KP8	22.0	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	—
BZX84C30TS	KPB	30.0	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	—
BZX84C33TS	KPC	33.0	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	—
BZX84C36TS	KPD	36.0	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	—

- Notes:
- Mounted on FR4 PC Board with recommended pad layout which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  - Short duration pulse test used to minimize self-heating effect.
  - f = 1KHz.
  - Qualified to AEC-Q101 standards for high reliability

OBSOLETE - PART DISCONTINUED



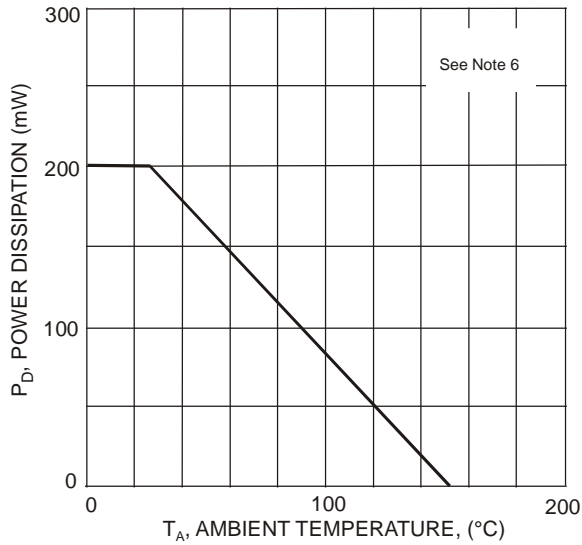


Fig. 1. Power Derating Curve

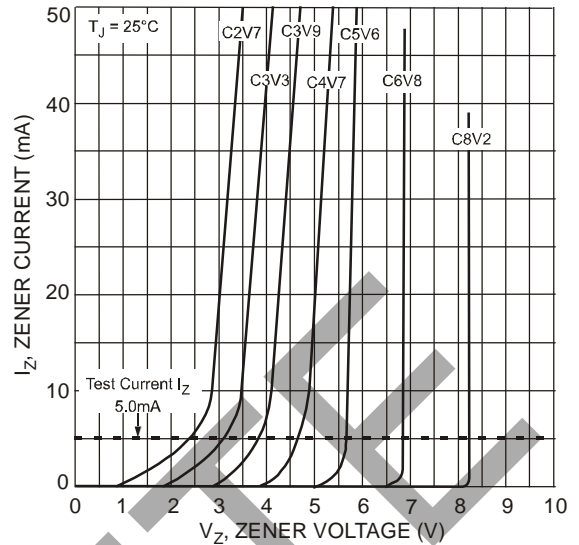


Fig. 2. Typical Zener Breakdown Characteristics

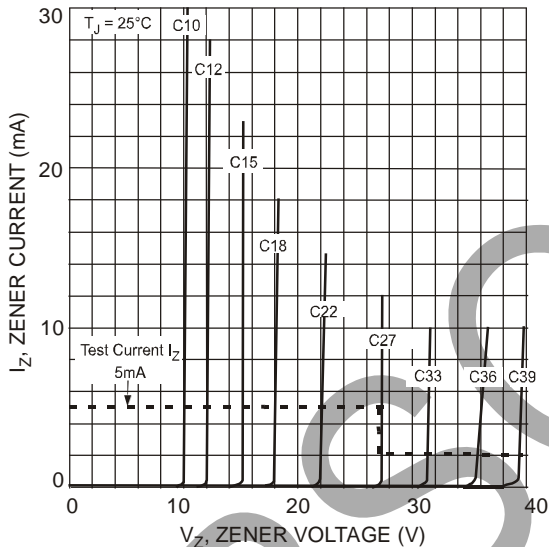


Fig. 3. Typical Zener Breakdown Characteristics

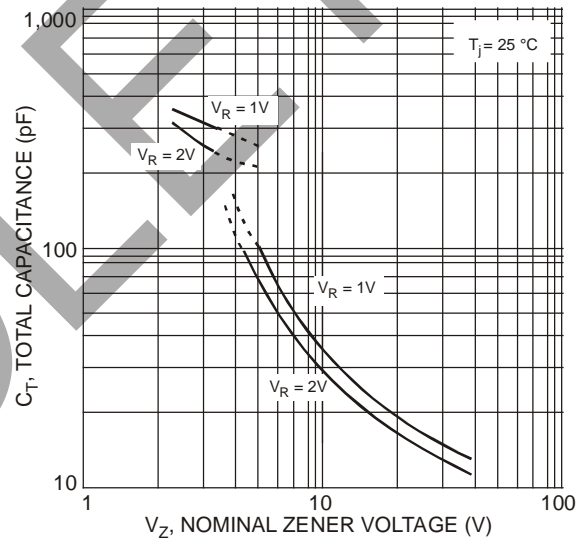
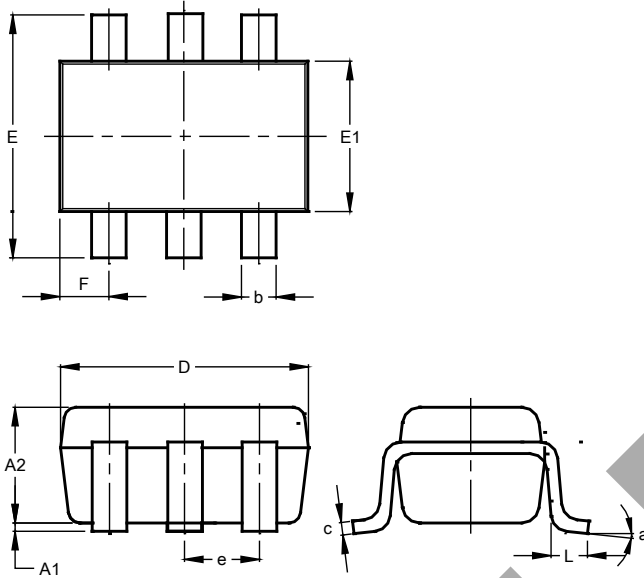


Fig. 4. Typical Total Capacitance vs. Nominal Zener Voltage

**Package Outline Dimensions**

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

**SOT363**

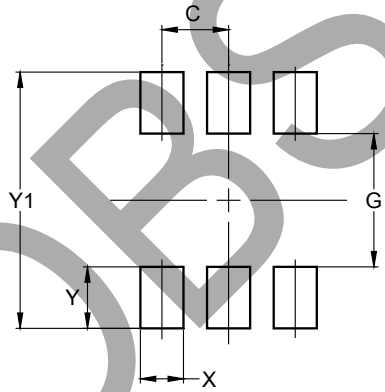


SOT363			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	--
<b>All Dimensions in mm</b>			

**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

OBSOLETE - PART DISCONTINUED

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