

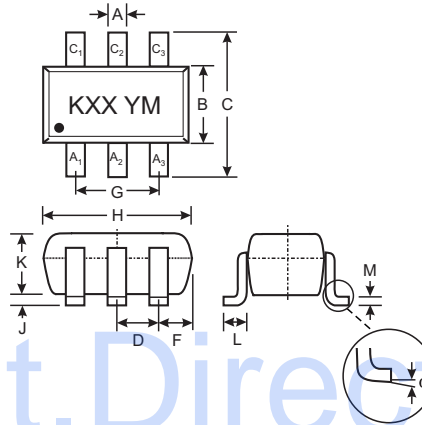


### Features

- Zener Voltages from 2.4 - 39V
- Three Isolated Diode Elements in a Single Ultra-Small Surface Mount Package
- Lead Free/RoHS Compliant (Note 5)

### Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Orientation: See Diagram
- Marking: Date Code and Marking Code (See Page 2)
- Weight: 0.006 grams (approximate)



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	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
$\alpha$	0°	8°
All Dimensions in mm		

### 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
Power Dissipation (Note 1)	P <sub>d</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150	°C

### Ordering Information (Note 4)

Device	Packaging	Shipping
(Type Number)-7-F	SOT-363	3000/Tape & Reel

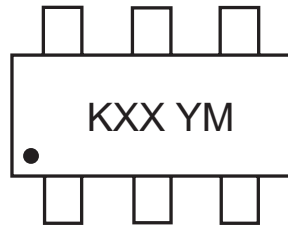
\* Add "-7-F" to the appropriate type number in Table 1 from Sheet 2 example: 6.2V Zener = BZX84C6V2TS-7-F.

- 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. Short duration test pulse used to minimize self-heating effect.
  3. f = 1KHz.
  4. For Packaging Details, got to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
  5. No purposefully added lead.

**Electrical Characteristics** @  $T_A = 25^\circ\text{C}$  unless otherwise specified

Type Number	Marking Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current (Note 2)		Temperature Coefficient of Zener Voltage @ $I_{ZT} = 5\text{mA}$ $\text{mV}/^\circ\text{C}$	
		$V_Z @ I_{ZT}$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R$	$V_R$	Min	Max
		Nom (V)	Min (V)	Max (V)	mA	$\Omega$	mA	$\mu\text{A}$	@ 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
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: 2. Short duration test pulse used to minimize self-heating effect.  
3.  $f = 1\text{KHz}$ .

**Marking Information**


KXX = Product Type Marking Code  
YM = Date Code Marking  
Y = Year ex: N = 2002  
M = Month ex: 9 = September

Date Code Key

<b>Year</b>	2002	2003	2004	2005	2006	2007	2008	2009				
<b>Code</b>	N	P	R	S	T	U	V	W				
<b>Month</b>	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Code</b>	1	2	3	4	5	6	7	8	9	O	N	D

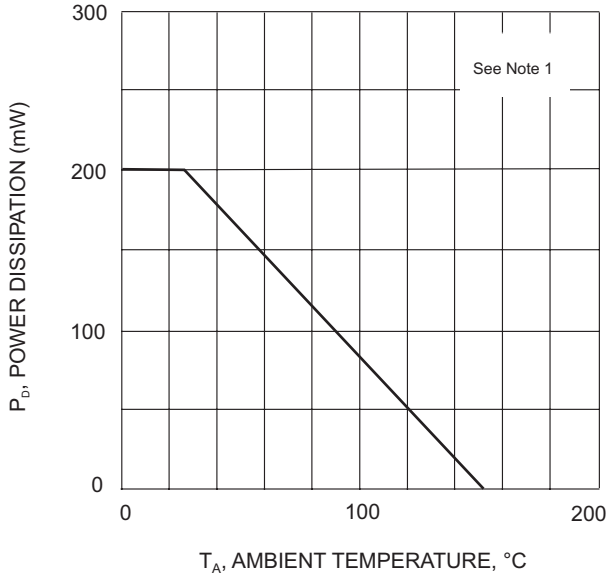


Fig. 1. Power Derating Curve

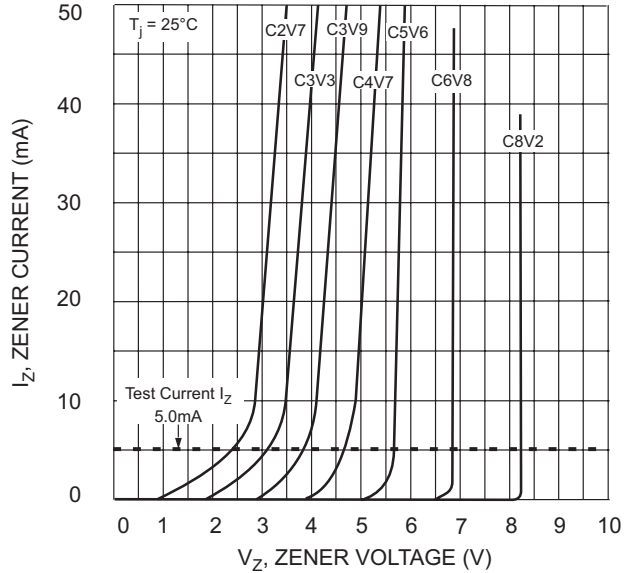


Fig. 2. Zener Breakdown Characteristics

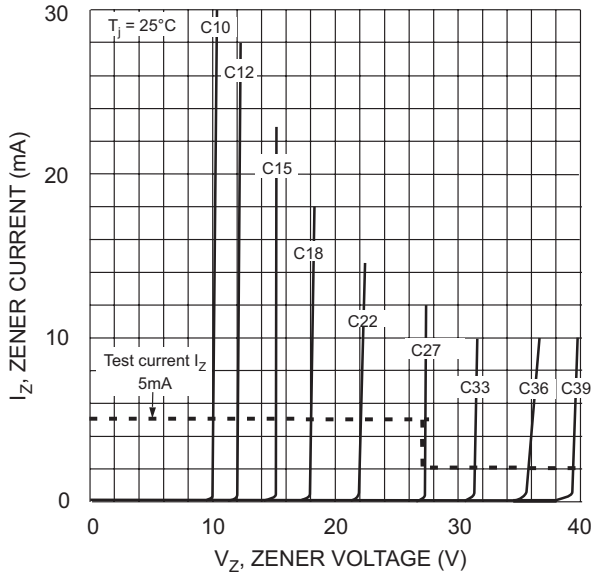


Fig. 3. Zener Breakdown Characteristics

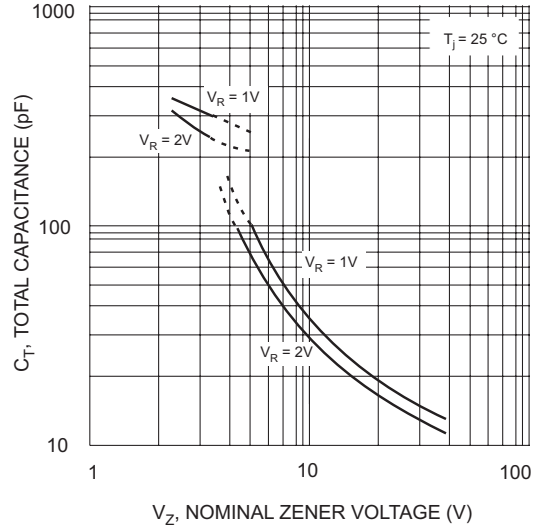


Fig. 4. Total Capacitance vs Nominal Zener Voltage

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