

# BZX83C Series

## SILICON EPITAXIAL PLANAR ZENER DIODES

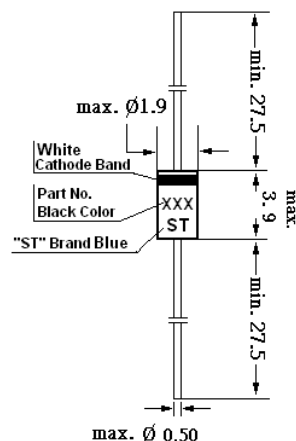
The Zener voltages are graded according to the international E 24 standard. Other tolerances and higher Zener voltages are upon request.

### Features:

High reliability

### Applications:

Voltage stabilization



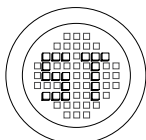
Glass case JEDEC DO-35  
Dimensions in mm

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

	Symbol	Value	Unit
Zener Current see Table "Characteristics"			
Power Dissipation at $I=4\text{mA}$ $T_L = 25^\circ\text{C}$	$P_{\text{tot}}$	500	mW
Z-current	$I_Z$	$P_{\text{tot}}/V_Z$	mA
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-65 to +175	$^\circ\text{C}$

### Characteristics at $T_{\text{amb}} = 25^\circ\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
Junction to Ambient at $I=4\text{mA}$ $T_L = \text{constant}$	$R_{\text{thJA}}$	-	-	350	K/W
Forward Voltage at $I_F = 50\text{mA}$	$V_F$	-	-	1	V



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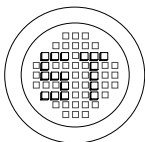
Type	Zener Voltage Range			Dynamic Resistance			Reverse Leakage Current			Temp. coefficient of Zener Voltage
	$V_{znom}$ V	$I_{zT}$ mA	for $V_{zT}$ V	$r_{zJT}$ $\Omega$	$r_{zJK}$ $\Omega$	at $I_{zK}$ mA	$T_a = 25^\circ\text{C}$ $\mu\text{A}$	$T_a = 125^\circ\text{C}$ $\mu\text{A}$	$I_R$ at $V_R$ V	TKVz %/K
BZX 83C 2V7	2.7	5	2.5...2.9	<90	<600	1	<100	<50	1	-0.09...-0.06
BZX 83C 3V0	3.0	5	2.8...3.2	<90	<600	1	<60	<40	1	-0.08...-0.05
BZX 83C 3V3	3.3	5	3.1...3.5	<90	<600	1	<30	<40	1	-0.08...-0.05
BZX 83C 3V6	3.6	5	3.4...3.8	<90	<600	1	<20	<40	1	-0.08...-0.05
BZX 83C 3V9	3.9	5	3.7...4.1	<90	<600	1	<10	<40	1	-0.08...-0.05
BZX 83C 4V3	4.3	5	4.0...4.6	<80	<600	1	<5	<20	1	-0.06...-0.03
BZX 83C 4V7	4.7	5	4.4...5.0	<80	<600	1	<2	<10	1	-0.05...+0.02
BZX 83C 5V1	5.1	5	4.8...5.4	<60	<550	1	<1	<2	1	-0.02...+0.02
BZX 83C 5V6	5.6	5	5.2...6.1	<40	<450	1	<1	<2	1	-0.05...+0.05
BZX 83C 6V2	6.2	5	5.8...6.6	<10	<200	1	<1	<2	2	0.03...0.06
BZX 83C 6V8	6.8	5	6.4...7.2	<8	<150	1	<1	<2	3	0.03...0.07
BZX 83C 7V5	7.5	5	7.0...7.9	<7	<50	1	<1	<2	3.6	0.03...0.07
BZX 83C 8V2	8.2	5	7.7...8.7	<7	<50	1	<1	<2	4	0.03...0.08
BZX 83C 9V1	9.1	5	8.5...9.6	<10	<50	1	<1	<2	5	0.03...0.09
BZX 83C 10	10	5	9.4...10.6	<15	<70	1	<1	<2	6	0.03...0.1
BZX 83C 11	11	5	10.4...11.6	<20	<70	1	<1	<2	8.2	0.03...0.11
BZX 83C 12	12	5	11.4...12.7	<20	<90	1	<1	<2	9.1	0.03...0.11
BZX 83C 13	13	5	12.4...14.1	<26	<110	1	<1	<2	10	0.03...0.11
BZX 83C 15	15	5	13.8...15.6	<30	<110	1	<1	<2	11	0.03...0.11
BZX 83C 16	16	5	15.3...17.1	<40	<170	1	<1	<2	12	0.03...0.11
BZX 83C 18	18	5	16.8...19.1	<55	<170	1	<1	<2	13	0.03...0.11
BZX 83C 20	20	5	18.8...21.2	<55	<220	1	<1	<2	15	0.03...0.11
BZX 83C 22	22	5	20.8...23.3	<58	<220	1	<1	<2	16	0.04...0.12
BZX 83C 24	24	5	22.8...25.6	<80	<220	1	<1	<2	18	0.04...0.12
BZX 83C 27	27	5	25.1...28.9	<80	<220	1	<1	<2	20	0.04...0.12
BZX 83C 30	30	5	28...32	<80	<220	1	<1	<2	22	0.04...0.12
BZX 83C 33	33	5	31...35	<90	<220	1	<1	<2	24	0.04...0.12
BZX 83C 36	36	5	34...38	<90	<220	1	<1	<2	27	0.04...0.12
BZX 83C 39	39	2.5	37...41	<100	<500	0.5	<1	<5	30	0.04...0.12
BZX 83C 43	43	2.5	40...46	<100	<600	0.5	<1	<5	33	0.04...0.12
BZX 83C 47	47	2.5	44...50	<120	<700	0.5	<1	<5	36	0.04...0.12
BZX 83C 51	51	2.5	48...54	<125	<700	0.5	<1	<10	39	0.04...0.12
BZX 83C 56	56	2.5	52...60	<135	<1000	0.5	<1	<10	43	0.04...0.12
BZX 83C 62	62	2.5	58...66	<170	<1000	0.5	<1	<10	47	0.04...0.12
BZX 83C 68	68	2.5	64...72	<200	<1000	0.5	<1	<10	51	0.04...0.12
BZX 83C 75	75	2.5	70...79	<250	<1500	0.5	<1	<10	56	0.04...0.12

Note: 1. Tighter tolerances available request:

B----- $\pm 2\%$  of  $V_{znom}$

C----- $\pm 5\%$  of  $V_{znom}$

2. Tested with pulses  $t_p = 20$  ms.



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(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
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ISO 9001 : 2000  
Certificate No. 559-1996-A2-ROC-ROK

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