

## ZENER DIODE

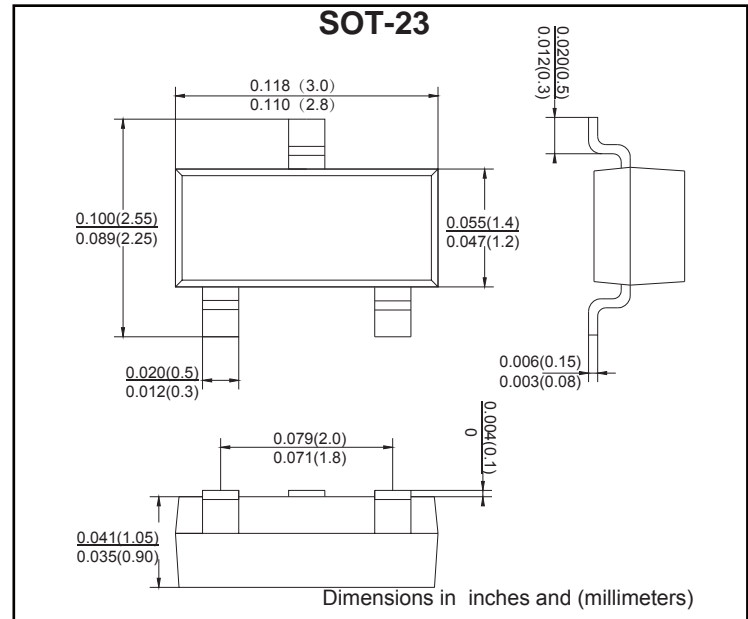
ZENER VOLTAGE RANGE: 2.4 --- 43V  
PEAK PULSE POWER:300mW

### FEATURES

- Low zener impedance
- High Stability and High Reliability
- Ideally suited for automated assembly processes
- The Plastic Material Carries U/L Recognition 94V-0.

### MECHANICAL DATA

- Case:SOT-23 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



## MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25 C ambient temperature unless otherwise specified

Parameters	SYMBOLS	VALUE	UNITS
Power Dissipation	$P_D$	300	mW
Forward Voltage @ $I_F=10mA$	$V_f$	0.9	V
Storage temperature range	$T_{STG}$	-65 to + 150	°C
Thermal resistance junction to ambient air Warmewider stand Sperschicht –umgebende Luft	$R_{thA}$	417	K/W

Note: 1.Valid provided that device terminals are kept at ambient temperature.

2.Test with pulse, period=5ms, pulse width=300us.

3.f=1KHz

## Electrical Specification ( $T_A=25^\circ C$ unless otherwise specified)

Type Number	Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Temperature Coefficient of Zener voltage @ $I_{ZT}=5mA$	
		$V_Z@I_{ZT}$			$I_{ZT}$	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	$I_{ZK}$	$I_R$	$V_R$	$mV/^\circ C$	
		Nom(V)	Min(V)	Max(V)	(mA)	( $\Omega$ )		(mA)	( $\mu A$ )	(V)	Min	Max
BZX84C2V4	Z11	2.4	2.20	2.60	5	100	600	1.0	50	1.0	-3.5	0
BZX84C2V7	Z12	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZX84C3V0	Z13	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZX84C3V3	Z14	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0
BZX84C3V6	Z15	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0
BZX84C3V9	Z16	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0
BZX84C4V3	Z17	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0
BZX84C4V7	Z1	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
BZX84C5V1	Z2	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2



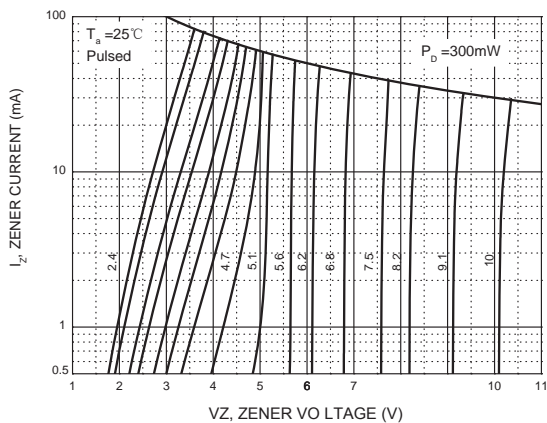
# RATINGS AND CHARACTERISTIC CURVES

Electrical Specification ( $T_A=25^\circ\text{C}$  unless otherwise specified)

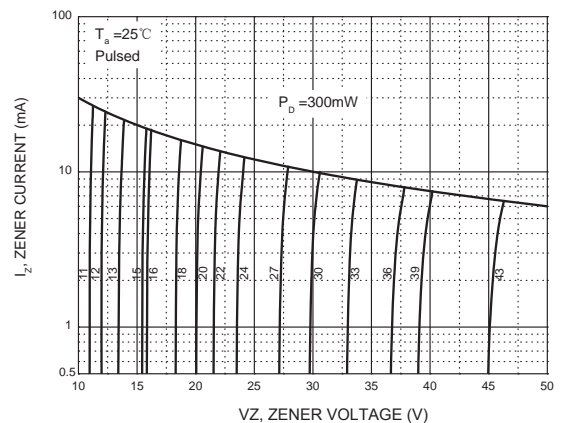
Type Number	Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Temperature Coefficient of Zener voltage @ $I_{ZT}=5\text{mA}$ $\text{mV}/^\circ\text{C}$	
		$V_Z@I_{ZT}$			$I_{ZT}$	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	$I_{ZK}$	$I_R$	$V_R$	Min	Max
		Nom(V)	Min(V)	Max(V)	(mA)	(Ω)		(mA)	(μA)	(V)		
BZX84C5V6	3	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
BZX84C6V2	4	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7
BZX84C6V8	5	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5
BZX84C7V5	6	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3
BZX84C8V2	7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX84C9V1	8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX84C10	9	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX84C11	1	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX84C12	2	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX84C13	3	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX84C15	4	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX84C16	5	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX84C18	6	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX84C20	7	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX84C22	8	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX84C24	9	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX84C27	10	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX84C30	11	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX84C33	12	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX84C36	13	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX84C39	14	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2
BZX84C43	15	43	40.0	46.0	2	100	700	1	0.	32	1	

- Notes: 1. Valid provided that device terminals are kept at ambient temperature.  
 2. Tested with pulses, period=5ms,pulse width =300μs.  
 3.  $f = 1\text{kHz}$ .

**FIG1.-Zener Characteristics( $V_Z$  Up to 10 V)**



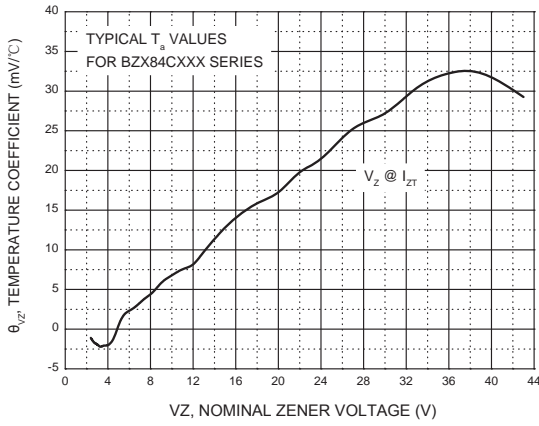
**FIG.2-Zener Charact eristics(11 V to 43 V)**



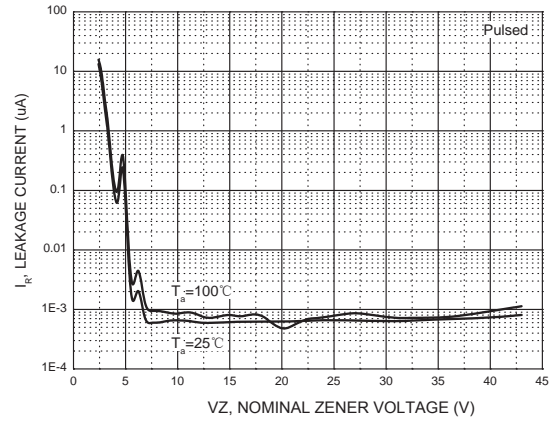
# RATINGS AND CHARACTERISTIC CURVES

Electrical Specification ( $T_a=25^\circ\text{C}$  unless otherwise specified)

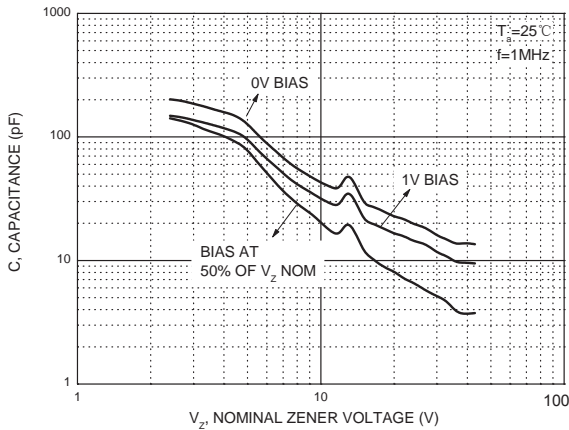
**FIG.3- Temperature Coefficients**



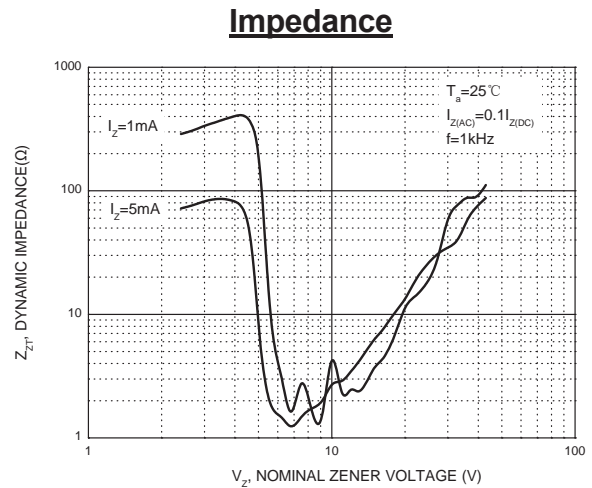
**FIG.4-Typical Leakage Current**



**FIG.5-Typical Capacitance**



**FIG.6-Effect of Zener Voltage on Zener Impedance**



**FIG.7-Power Derating Curve**

