

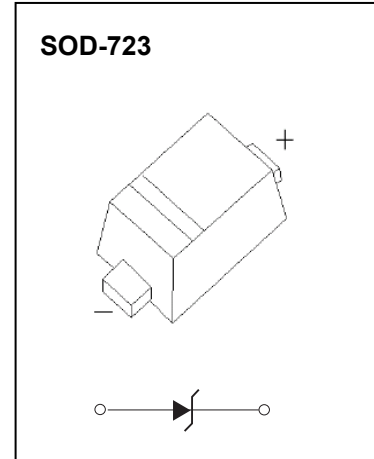


## SOD-723 Plastic-Encapsulate Diodes

### **BZX784C2V4-BZX784C39** ZENER DIODE

#### FEATURES

- Planar Die Construction
- 150mW Power Dissipation
- Zener Voltages from 2.4 – 39V
- Ideally Suited for Automated Assembly Processes



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

Characteristic	Symbol	Value	Unit
Forward Voltage	$V_F$	0.9	V
Power Dissipation (Note 1)	$P_D$	150	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55~+150	$^{\circ}\text{C}$

# ELECTRICAL CHARACTERISTICS

$T_a=25^{\circ}\text{C}$  unless otherwise specified

Type Number	Type Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Typical temperature coefficient @ $I_{ZT}$ mV/ $^{\circ}\text{C}$	
		$V_Z@I_{ZT}$			$I_{ZT}$	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$		$I_R$	$V_R$	Min	Max
		Nom(V)	Min(V)	Max(V)	(mA)	( $\Omega$ )	(mA)	( $\mu\text{A}$ )	(V)			
BZX784C2V4	Z1	2.4	2.20	2.60	5	100	600	1.0	50	1.0	-3.5	0
BZX784C2V7	Z2	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZX784C3V0	Z3	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZX784C3V3	Z4	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0
BZX784C3V6	Z5	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0
BZX784C3V9	Z6	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0
BZX784C4V3	Z7	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0
BZX784C4V7	X1	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
BZX784C5V1	X2	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2
BZX784C5V6	X3	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
BZX784C6V2	X4	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7
BZX784C6V8	X5	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5
BZX784C7V5	X6	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3
BZX784C8V2	X7	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX784C9V1	X8	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX784C10	X9	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX784C11	W1	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX784C12	W2	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX784C13	W3	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX784C15	W4	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX784C16	W5	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX784C18	W6	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX784C20	W7	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX784C22	W8	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX784C24	W9	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX784C27	Y1	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX784C30	Y2	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX784C33	Y3	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX784C36	Y4	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX784C39	Y5	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2

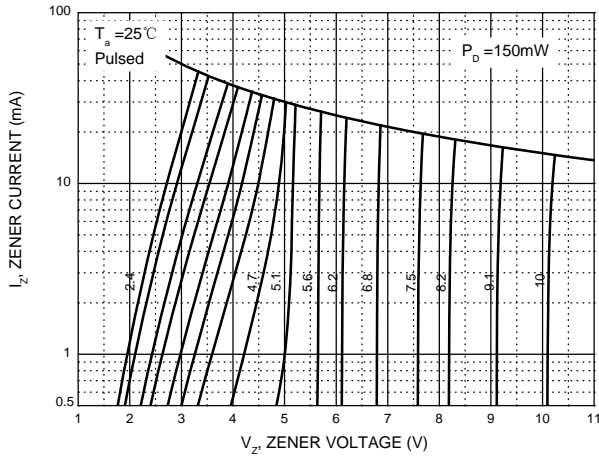
**Notes:** 1. Valid provided that device terminals are kept at ambient temperature.

2. Tested with pulses, period=5ms, pulse width =300 $\mu\text{s}$ .

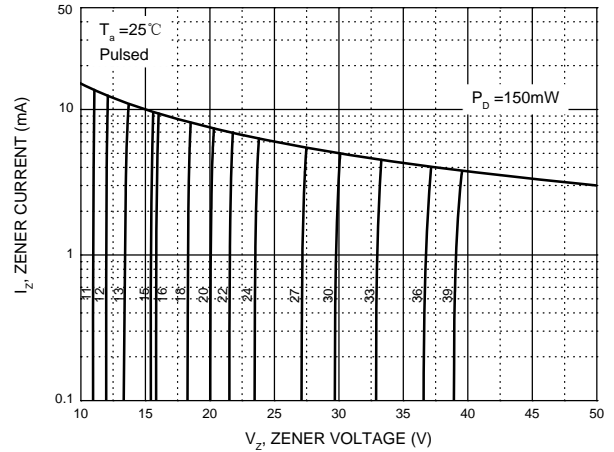
3.  $f = 1\text{KHz}$ .

# Typical Characteristics

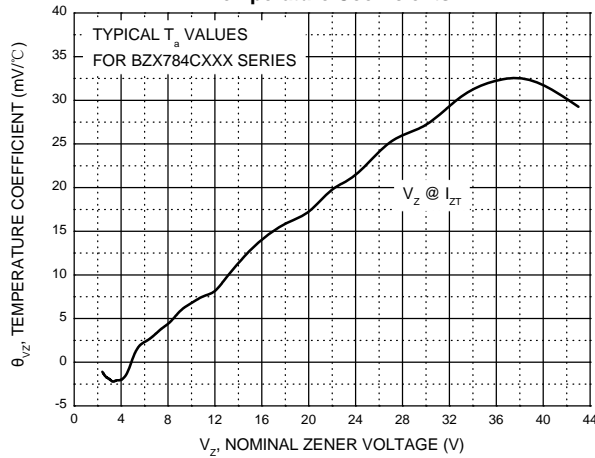
Zener Characteristics ( $V_z$  Up to 10 V)



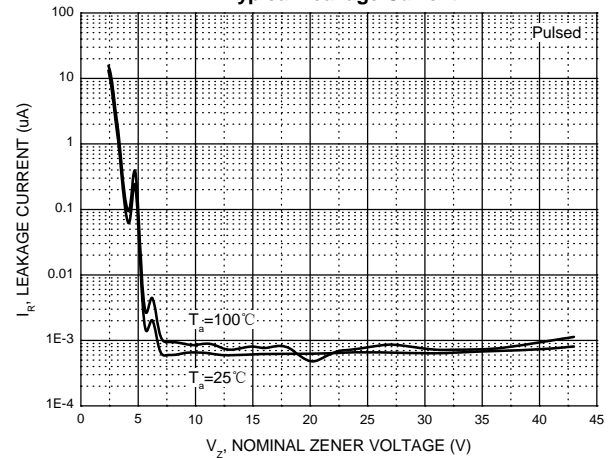
Zener Characteristics (11 V to 39 V)



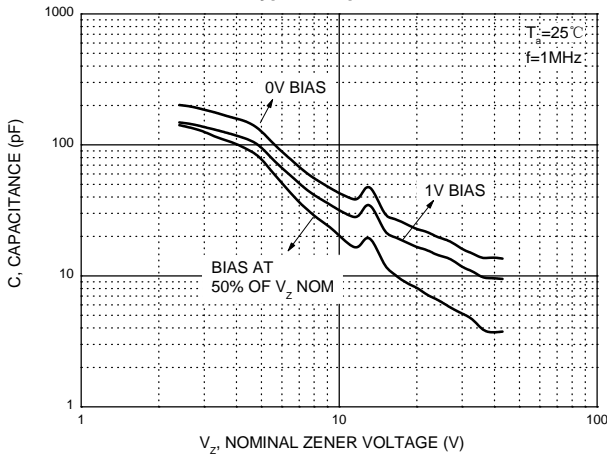
Temperature Coefficients



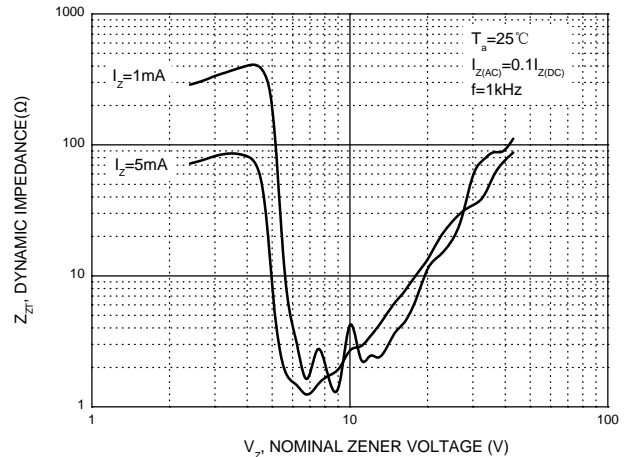
Typical Leakage Current



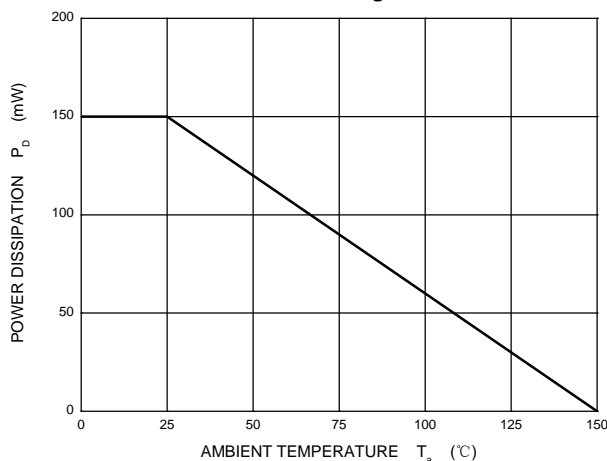
Typical Capacitance



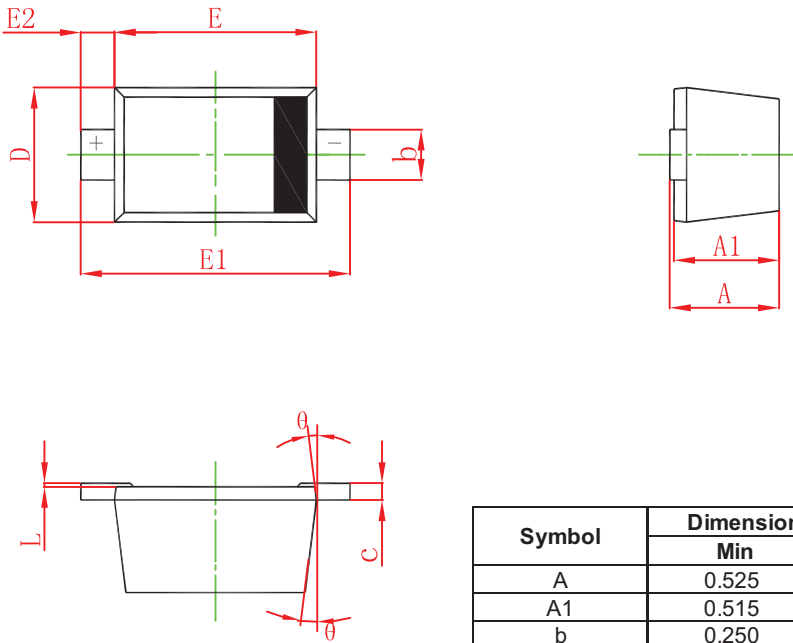
Effect of Zener Voltage on Zener Impedance



Power Derating Curve

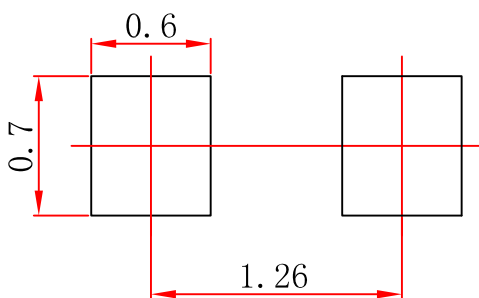


## SOD-723 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.525	0.650	0.021	0.026
A1	0.515	0.580	0.020	0.023
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.550	0.650	0.022	0.026
E	0.900	1.100	0.035	0.043
E1	1.300	1.500	0.051	0.059
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
theta	7° REF		7° REF	

## SOD-723 Suggested Pad Layout



### Note:

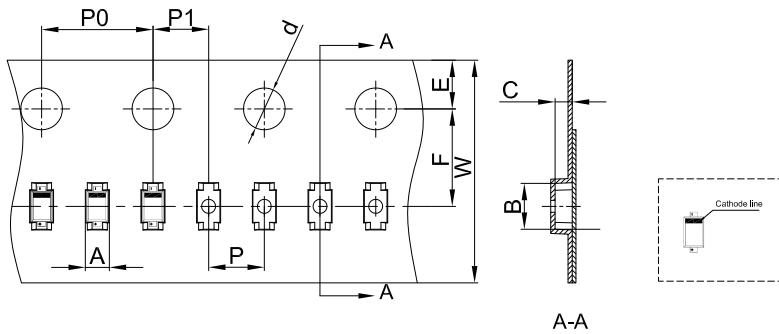
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.

### NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

# SOD-723 Tape and Reel

## SOD-723 Embossed Carrier Tape



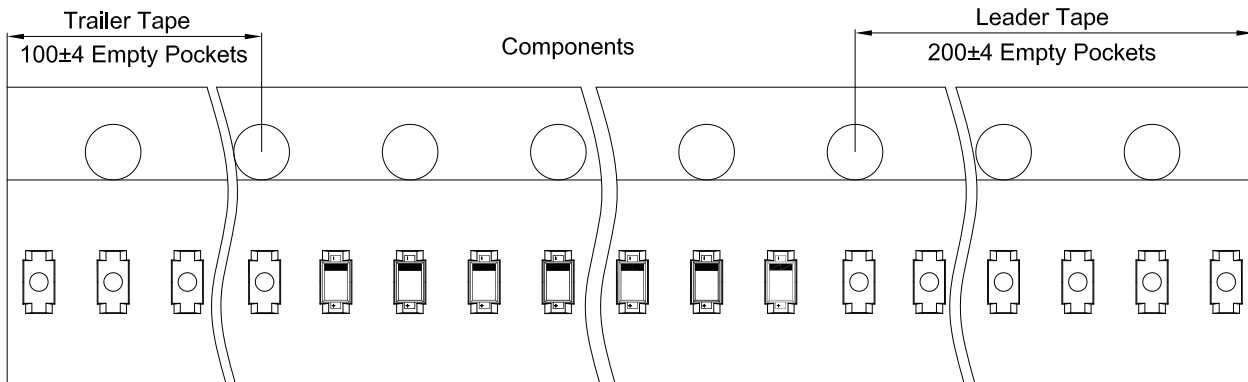
### Packaging Description:

SOD-723 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 8,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

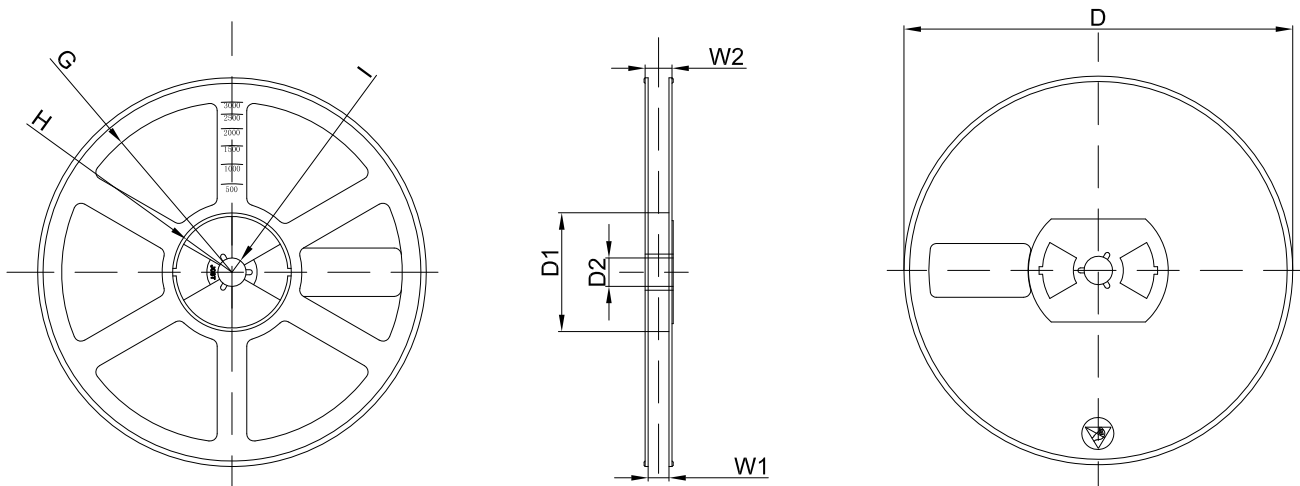
Note: If it is the product of the same polarity, the cathode line should be removed.

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-723	0.73	1.71	0.62	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00

## SOD-723 Tape Leader and Trailer



## SOD-723 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
8000 pcs	7 inch	120,000 pcs	203×203×195	480,000 pcs	438×438×220	