

**Microsemi Corp.**

The diode experts

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**MLL4728  
thru  
MLL4764**

## DESCRIPTION/FEATURES

- LEADLESS PACKAGE FOR SURFACE MOUNT TECHNOLOGY
- IDEAL FOR HIGH DENSITY MOUNTING
- VOLTAGE RANGE—3.3 TO 100 VOLTS
- HERMETICALLY SEALED, DOUBLE-SLUG GLASS CONSTRUCTION

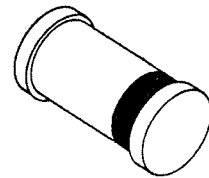
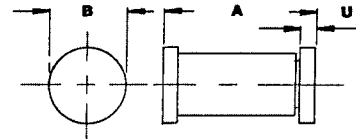
## MAXIMUM RATINGS

1.00 Watt DC Power Rating (See Power Derating Curve)  
-65°C to +200°C Operating and Storage Junction Temperature  
Power Derating 10.0 mW/°C above 50°C  
Forward Voltage @ 200 mA: 1.2 Volts

## APPLICATION

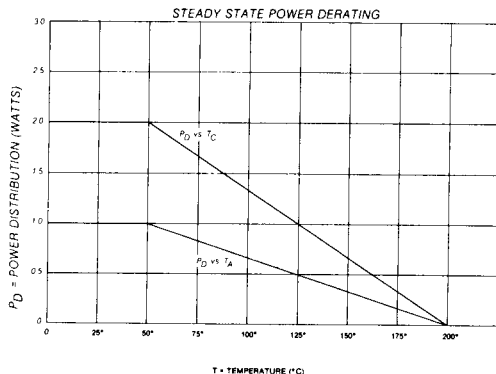
This surface mountable zener diode series is similar to the 1N4728 thru 1N4764 registration in the DO-41 equivalent package except that it meets the new JEDEC surface mount outline DO-213AB. It is an ideal selection for applications of high density and low parasitic requirements. Due to its glass hermetic qualities, it may also be considered for high reliability applications when required by a source control drawing (SCD).

## LEADLESS GLASS ZENER DIODES



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.20	.189	.205
B	2.49	2.65	.094	.105
U	.41	.55	.016	.022

DO-213AB



## MECHANICAL CHARACTERISTICS

**CASE:** Hermetically sealed glass with solder contact tabs at each end.

**FINISH:** All external surfaces are corrosion resistant, readily solderable.

**POLARITY:** Banded end is cathode.

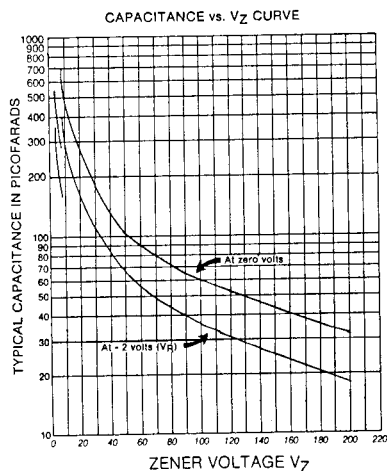
**THERMAL RESISTANCE:** 75°C/Watt typical junction to contact (case) tabs. (See Power Derating Curve)

**MOUNTING POSITION:** Any.

# MLL4728 thru MLL4764

## ELECTRICAL CHARACTERISTICS @ $T_C = 30^\circ\text{C}$

TYPE NUMBER (Note 1)	ZENER VOLTAGE ( $V_Z$ ) (NOTE 4)	TEST CURRENT ( $I_Z$ )	MAXIMUM DYNAMIC IMPEDANCE ( $Z_{ZT}$ @ $I_{ZT}$ ) (Note 2)	MAXIMUM REVERSE CURRENT ( $I_R$ @ $V_R$ )	TEST VOLTAGE ( $V_R$ )	MAXIMUM REGULATOR CURRENT ( $I_{ZM}$ ) $T_A = 50^\circ\text{C}$	MAXIMUM KNEE IMPEDANCE ( $Z_{ZK}$ @ $I_{ZK}$ ) (Note 2)	TEST CURRENT ( $I_{ZT}$ )	MAXIMUM (SURGE) CURRENT ( $I_{ZM}$ ) (Note 3)
	VOLTS	mA	OHMS	$\mu\text{A}$	VOLTS	mA	OHMS	mA	mA
MLL4728A	3.3	76	10	100	1	276	400	1.0	1380
MLL4729A	3.6	69	10	100	1	252	400	1.0	1260
MLL4730A	3.9	64	9	50	1	234	400	1.0	1190
MLL4731A	4.3	58	9	10	1	217	400	1.0	1070
MLL4732A	4.7	53	8	10	1	193	500	1.0	970
MLL4733A	5.1	49	7	10	1	178	550	1.0	890
MLL4734A	5.6	45	5	10	2	162	600	1.0	810
MLL4735A	6.2	41	5	10	3	146	700	1.0	730
MLL4736A	6.8	37	3.5	10	4	133	700	1.0	660
MLL4737A	7.5	34	4.0	10	5	121	700	0.5	605
MLL4738A	8.2	31	4.5	10	6	110	700	0.5	550
MLL4739A	9.1	28	5.0	10	7	100	700	0.5	500
MLL4740A	10	25	7	10	7.6	91	700	0.25	454
MLL4741A	11	23	8	5	8.4	83	700	0.25	414
MLL4742A	12	21	9	5	9.1	76	700	0.25	380
MLL4743A	13	19	10	5	9.9	69	700	0.25	344
MLL4744A	15	17	14	5	11.4	61	700	0.25	304
MLL4745A	16	15.5	16	5	12.2	57	700	0.25	285
MLL4746A	18	14	20	5	13.7	50	750	0.25	250
MLL4747A	20	12.5	22	5	15.2	45	750	0.25	225
MLL4748A	22	11.5	23	5	16.7	41	750	0.25	205
MLL4749A	24	10.5	25	5	18.2	38	750	0.25	190
MLL4750A	27	9.5	35	5	20.6	34	750	0.25	170
MLL4751A	30	8.5	40	5	22.8	30	1000	0.25	150
MLL4752A	33	7.5	45	5	25.1	27	1000	0.25	135
MLL4753A	36	7.0	50	5	27.4	25	1000	0.25	125
MLL4754A	39	6.5	60	5	29.7	23	1000	0.25	115
MLL4755A	43	6.0	70	5	32.7	22	1500	0.25	110
MLL4756A	47	5.5	80	5	35.8	19	1500	0.25	95
MLL4757A	51	5.0	95	5	38.8	18	1500	0.25	90
MLL4758A	56	4.5	110	5	42.6	16	2000	0.25	80
MLL4759A	62	4.0	125	5	47.1	14	2000	0.25	70
MLL4760A	68	3.7	150	5	51.7	13	2000	0.25	65
MLL4761A	75	3.3	175	5	56.0	12	2000	0.25	60
MLL4762A	82	3.0	200	5	62.2	11	3000	0.25	55
MLL4763A	91	2.8	250	5	69.2	10	3000	0.25	50
MLL4764A	100	2.5	350	5	76.0	9	3000	0.25	45



**NOTE 1:** The type numbers shown with an "A" suffix have a  $\pm 5\%$  tolerance on the nominal Zener voltage. Also available with suffix "C" for  $\pm 2\%$ , and "D" for  $\pm 1\%$ , while the absence of a suffix letter denotes  $\pm 10\%$  tolerance.

**NOTE 2:** The Zener impedance is derived from the 60 Hz ac voltage, which results when an ac current having an rms value equal to 10% of the DC Zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ . Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and eliminate unstable units.

**NOTE 3:** The reverse surge current is measured at  $25^\circ\text{C}$  ambient using a 1/2 square wave or equivalent sine wave pulse 1/120 second duration superimposed on  $I_{ZT}$ .

**NOTE 4:** Voltage measurements to be performed 90 seconds after application of DC current.