Microsemi
SCOTTSDALE DIVISION

1N4728UR thru 1N4764AUR,e3
(or MLL4728A thru MLL4764A,e3)

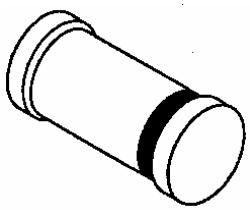
SURFACE MOUNT 1.0 W GLASS ZENER DIODES

DESCRIPTION

This surface mountable 1 watt Zener diode series is electrically equivalent to the 1N4728A thru 1N4764A registration in the DO-41 equivalent package except that it meets the JEDEC surface mount outline DO-213AB. It is an ideal selection for applications of high density and low parasitic requirements for voltage regulation. Standard voltage tolerance is +/- 5% with tighter tolerances available down to 1%. With its glass hermetic qualities, it may also be used for high reliability applications when required by a source control drawing (SCD).

IMPORTANT: For the most current data, consult *MICROSEMI's* website: **http://www.microsemi.com**

APPEARANCE



DO-213AB

FEATURES

- Electrically similar to the JEDEC registered 1N4728 thru 1N4764 zener series
- Zener voltages available 3.3V to 100V
- Standard voltage tolerances are +/- 5% with "A" suffix and 10 % with no suffix identification
- Tight tolerances available in plus or minus 2% or 1% with C or D suffix respectively
- Options for screening in accordance with MIL-PRF-19500 for JAN, JANTX, JANTXV, and JANS are available by adding MQ, MX, MV, or MSP prefixes respectively to part numbers.
- Surface mount equivalents also available as SMAJ4728A to SMAJ4764A and SMAJ4728A to SMAJ4764A
- RoHS Compliant devices also available by adding e3 suffix
- Plastic body axial-leaded Zener equivalents are also available as 1N4728A to 1N4764A

APPLICATIONS / BENEFITS

- Regulates voltage over a broad operating current and temperature range
- Wide selection from 3.3 to 100 V
- Leadless package for surface mounting
- Ideal for high density mounting
- Nonsensitive to ESD
- Hermetically sealed glass package
- Specified capacitance (see Figure 2)
- Inherently radiation hard per MicroNote 050

MAXIMUM RATINGS

- Power dissipation at 25°C: 1.0 watts (also see derating in Figure 1).
- Operating and Storage temperature: -65°C to +175°C
- Thermal Resistance: 50 °C/W junction to end cap, or 130°C/W junction to ambient when mounted on FR4 PC board (1 oz Cu) with recommended footprint (see last page)
- Steady-State Power: 1.00 watts at $T_{EC} \leq 125^{o}C$, or 1.00 watts at $T_A \leq 45^{o}C$ when mounted on FR4 PC board and recommended footprint as described for thermal resistance (also see Figure 1)
- Forward voltage @200 mA: 1.2 volts (maximum)
- Solder Temperatures: 260 °C for 10 s (max)

MECHANICAL AND PACKAGING

- CASE: Hermetically sealed DO-213AB glass MELF
- TERMINALS: Tin-Lead or RoHS Compliant annealed matte-Tin plating solderable per MIL-STD-750, method 2026
- POLARITY: Cathode indicated by band. Diode to be operated with the banded end positive with respect to the opposite end for Zener regulation
- MARKING: Cathode band only
- TAPE & REEL optional: Standard per EIA-481-B with 12 mm tape, 1500 per 7 inch reel or 5000 per 13 inch reel (add "TR" suffix to part number)
- WEIGHT: 0.05 grams
- See package dimensions & recommended mounting pad on last page

Copyright © 2005

Microsemi
Scottsdale Division
8700 E. Thomas Rd. PO Box 1390, Scottsdale, AZ 85252 USA, (480) 941-6300, Fax: (480) 947-1503

1N4728UR thru 1N4764AUR,e3
(or MLL4728A thru MLL4764A,e3)

SURFACE MOUNT 1.0 W GLASS ZENER DIODES

ELECTRICAL CHARACTERISTICS @ T_C = 30°C

TYPE NUMBER (NOTE 1 & 5)	ZENER VOLTAGE (NOTE 4) V_Z	TEST CURRENT I_{ZT}	MAXIMUM DYNAMIC IMPEDANCE (Note 2) Z_{ZT} @ I_{ZT}	MAXIMUM REVERSE CURRENT I_R @ V_R	TEST VOLTAGE V_R	MAXIMUM REGULATOR CURRENT T_A = 50°C I_{ZM}	MAXIMUM KNEE IMPEDANCE (NOTE2) Z_{ZK} @ I_{ZK}	TEST CURRENT I_{ZK}	MAXIMUM (SURGE) CURRENT (NOTE 3) I_S
	Volts	mA	Ohms	µA	Volts	mA	Ohms	mA	mA
1N4728AUR	3.3	76	10	100	1	276	400	1.0	1380
1N4729AUR	3.6	69	10	100	1	252	400	1.0	1260
1N4730AUR	3.9	64	9	50	1	234	400	1.0	1190
1N4731AUR	4.3	58	9	10	1	217	400	1.0	1070
1N4732AUR	4.7	53	8	10	1	193	500	1.0	970
1N4733AUR	5.1	49	7	10	1	178	550	1.0	890
1N4734AUR	5.6	45	5	10	2	162	600	1.0	810
1N4735AUR	6.2	41	2	10	3	146	700	1.0	730
1N4736AUR	6.8	37	3.5	10	4	133	700	1.0	660
1N4737AUR	7.5	34	4.0	10	5	121	700	0.5	605
1N4738AUR	8.2	31	4.5	10	6	110	700	0.5	550
1N4739AUR	9.1	28	5.0	10	7	100	700	0.5	500
1N4740AUR	10	25	7	10	7.6	91	700	0.25	454
1N4741AUR	11	23	8	5	8.4	83	700	0.25	414
1N4742AUR	12	21	9	5	9.1	76	700	0.25	380
1N4743AUR	13	19	10	5	9.9	69	700	0.25	344
1N4744AUR	15	17	14	5	11.4	61	700	0.25	304
1N4745AUR	16	15.5	16	5	12.2	57	700	0.25	285
1N4746AUR	18	14	20	5	13.7	50	750	0.25	250
1N4747AUR	20	12.5	22	5	15.2	45	750	0.25	225
1N4748AUR	22	11.5	23	5	16.7	41	750	0.25	205
1N4749AUR	24	10.5	25	5	18.2	38	750	0.25	190
1N4750AUR	27	9.5	35	5	20.6	34	750	0.25	170
1N4751AUR	30	8.5	40	5	22.8	30	1000	0.25	150
1N4752AUR	33	7.5	45	5	25.1	27	1000	0.25	135
1N4753AUR	36	7.0	50	5	27.4	25	1000	0.25	125
1N4754AUR	39	6.5	60	5	29.7	23	1000	0.25	115
1N4755AUR	43	6.0	70	5	32.7	22	1500	0.25	110
1N4756AUR	47	5.5	80	5	35.8	19	1500	0.25	95
1N4757AUR	51	5.0	95	5	38.8	18	1500	0.25	90
1N4758AUR	56	4.5	110	5	42.6	16	2000	0.25	80
1N4759AUR	62	4.0	125	5	47.1	14	2000	0.25	70
1N4760AUR	68	3.7	150	5	51.7	13	2000	0.25	65
1N4761AUR	75	3.3	175	5	56.0	12	2000	0.25	60
1N4762AUR	82	3.0	200	5	62.2	11	3000	0.25	55
1N4763AUR	91	2.8	250	5	69.2	10	3000	0.25	50
1N4764AUR	100	2.5	350	5	76.0	9	3000	0.25	45

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

NOTE 2: The Zener impedance is derived from the 60Hz 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 ensure a sharp knee on the breakdown curve and eliminate unstable units.

NOTE 3: The reverse surge current is measured at 25°C ambient using a ½ 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.

NOTE 5: This product series has also been previously identified as the MLL4728A thru MLL4764A series. This alternate name may still be used.

Copyright © 2005

Microsemi
Scottsdale Division
8700 E. Thomas Rd. PO Box 1390, Scottsdale, AZ 85252 USA, (480) 941-6300, Fax: (480) 947-1503

GRAPHS

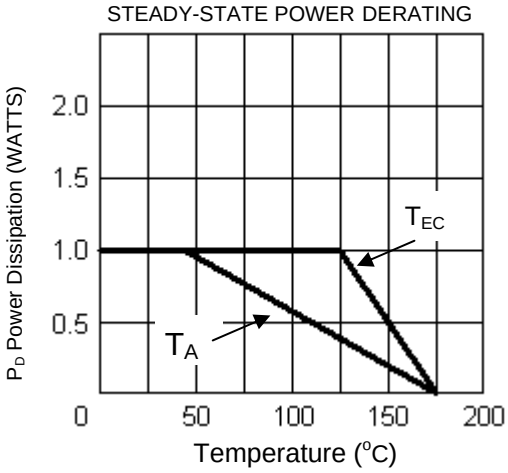


FIGURE 1

Power Derating Curve Where T_{EC} is End Cap Temp and T_A is Ambient Temperature on FR4 PC board.

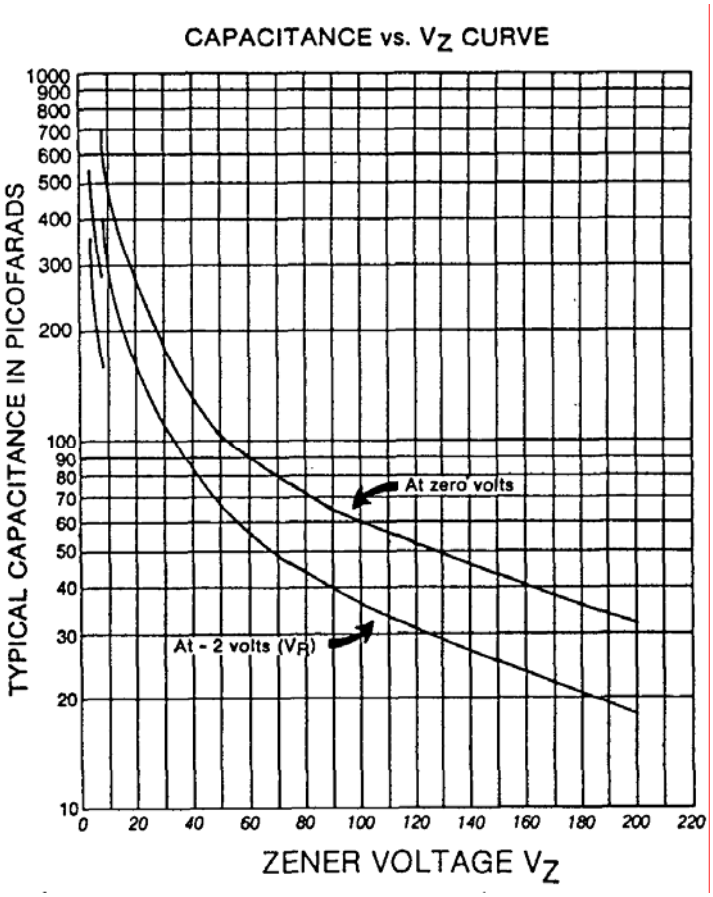
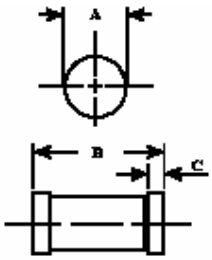
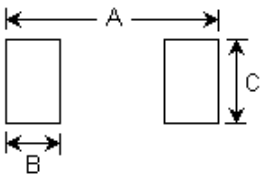


FIGURE 2

PACKAGE DIMENSIONS



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.094	0.105	2.39	2.66
B	0.189	0.205	4.80	5.20
C	0.016	0.022	0.41	0.55



PAD LAYOUT

	INCHES	mm
A	.276	7.00
B	0.070	1.8
C	0.110	2.8

www.Microsemi.COM

Copyright © 2005
10-18-2005 REV D

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Microchip:

1N4733AUR 1N4745AUR 1N4742AUR 1N4729AUR 1N4741AUR 1N4744AUR 1N4728AUR 1N4734AUR 1N4738AUR 1N4763AUR 1N4760AUR 1N4737AUR 1N4761AUR 1N4732AUR 1N4743AUR 1N4736AUR 1N4740AUR 1N4762AUR 1N4758AUR 1N4739AUR 1N4735AUR 1N4731AUR 1N4764AUR 1N4730AUR 1N4736CP/TR8 1N4734P/TR12 1N4735P/TR8 1N4734CP/TR8 1N4736Ce3/TR13 1N4734CPe3/TR12 1N4735CP/TR12 1N4735Pe3/TR12 1N4735CPe3/TR8 1N4735e3/TR13 1N4734P/TR8 1N4736Pe3/TR12 1N4734CP/TR12 1N4736UR-1 1N4736e3/TR13 1N4728UR-1 1N4731UR-1 1N4734Ce3/TR13 1N4736CPe3/TR8 1N4735Pe3/TR8 1N4736P/TR8 1N4734UR-1 1N4732UR-1 1N4734CPe3/TR8 1N4734Pe3/TR12 1N4735Ce3/TR13 1N4735UR-1 1N4734Pe3/TR8 1N4736P/TR12 1N4730UR-1 1N4736Pe3/TR8 1N4736CP/TR12 1N4736CPe3/TR12 1N4735CP/TR8 1N4729UR-1 1N4735P/TR12 1N4734e3/TR13 1N4735CPe3/TR12 1N4758UR-1 1N4751AUR/TR 1N4736AUR/TR 1N4733AURe3 1N4750AUR/TR 1N4747AUR/TR 1N4738AURe3 1N4752AUR/TR 1N4733AUR/TR 1N4735AUR/TR 1N4742AUR/TR 1N4757AUR/TR 1N4738AURe3/TR 1N4731AUR/TR 1N4733AURe3/TR 1N4749AUR/TR 1N4759AUR/TR 1N4740AUR/TR

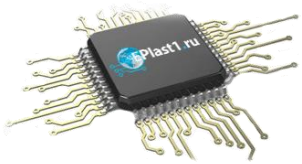
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.