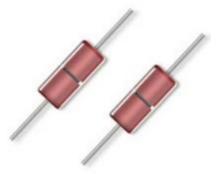


Low Noise Zener Diode Series

Rev. V3

Features

- 50 µA Low Operating Current
- Double Plug Construction
- · Metallurgically Bonded



Electrical Specifications: $T_A = +25^{\circ}C$ (unless otherwise specified)

TYPE NUMBER (Note 1)	NOMINAL ZENER VOLTAGE VZ	ZENER TEST CURRENT IZT	ST VOLTAGE REGULATION REVERSE LEAKAGE CURRENT		LEAKAGE RENT	MAXIMUM DC ZENER CURRENT IZM
	VOLTS	μA	VOLTS	μΑ	VOLTS	mA
1N4678	1.8	50.0	0.70	7.5	1.0	120.0
1N4679	2.0	50.0	0.70	5.0	1.0	110.0
1N4680	2.2	50.0	0.80	4.0	1.0	100.0
1N4681	2.4	50.0	0.80	2.0	1.0	95.0
1N4682	2.7	50.0	0.85	1.0	1.0	90.0
1N4683	3.0	50.0	0.90	0.8	1.0	85.0
1N4684	3.3	50.0	0.95	7.5	1.5	80.0
1N4685	3.6	50.0	0.95	7.5	2.0	75.0
1N4686	3.9	50.0	0.97	5.0	2.0	70.0
1N4687	4.3	50.0	0.99	4.0	2.0	65.0
1N4688	4.7	50.0	0.99	10.0	3.0	60.0
1N4689	5.1	50.0	0.97	10.0	3.0	55.0
1N4690	5.6	50.0	0.96	10.0	4.0	50.0
1N4691	6.2	50.0	0.95	10.0	5.0	45.0
1N4692	6.8	50.0	0.90	10.0	5.1	35.0
1N4693	7.5	50.0	0.75	10.0	5.7	31.8
1N4694	8.2	50.0	0.50	1.0	6.2	29.0
1N4695	8.7	50.0	0.10	1.0	6.6	27.4
1N4696	9.1	50.0	0.08	1.0	6.9	26.2
1N4697	10.0	50.0	0.10	1.0	7.6	24.8
1N4698	11.0	50.0	0.11	0.05	8.4	21.6
1N4699	12.0	50.0	0.12	0.05	9.1	20.4

(Continued next page)

1N4678 thru 1N4717



Low Noise Zener Diode Series

Rev. V3

Electrical Specifications: $T_A = +25^{\circ}C$ (unless otherwise specified)

TYPE NUMBER (Note 1)	NOMINAL ZENER VOLTAGE VZ	ZENER TEST CURRENT IZT	MAXIMUM VOLTAGE REGULATION ΔVZ (Note 2)	MAXIMUM REVERSE LEAKAGE CURRENT IR @ VR		MAXIMUM DC ZENER CURRENT IZM
	VOLTS	μΑ	VOLTS	μA	VOLTS	mA
1N4700	13.0	50.0	0.13	0.05	9.8	19.0
1N4701	14.0	50.0	0.14	0.05	10.6	17.5
1N4702	15.0	50.0	0.15	0.05	11.4	16.3
1N4703	16.0	50.0	0.16	0.05	12.1	15.4
1N4704	17.0	50.0	0.17	0.05	12.9	14.5
1N4705	18.0	50.0	0.18	0.05	13.6	13.2
1N4706	19.0	50.0	0.19	0.05	14.4	12.5
1N4707	20.0	50.0	0.20	0.01	15.2	11.9
1N4708	22.0	50.0	0.22	0.01	16.7	10.8
1N4709	24.0	50.0	0.24	0.01	18.2	9.9
1N4710	25.0	50.0	0.25	0.01	19.0	9.5
1N4711	27.0	50.0	0.27	0.01	20.4	8.8
1N4712	28.0	50.0	0.28	0.01	21.2	8.5
1N4713	30.0	50.0	0.30	0.01	22.8	7.9
1N4714	33.0	50.0	0.33	0.01	25.0	7.2
1N4715	36.0	50.0	0.36	0.01	27.3	6.6
1N4716	39.0	50.0	0.39	0.01	29.6	6.1
1N4717	43.0	50.0	0.43	0.01	32.6	5.5

^{1.} The JEDEC type numbers shown above have a standard tolerance of +5 % of the nominal Zener volume. VZ is measured with the diode in thermal equilibrium at 25°C + 3°C.

Absolute Maximum Ratings

Parameter	Absolute Maximum		
Steady State Power Dissipation	500 mW @ +50°C		
Forward Voltage	1.1 V @ 200 mA		
DC Power Derating	4 mW / °C above +50°C		
Operating & Storage Temperature	-65°C to +175°C		

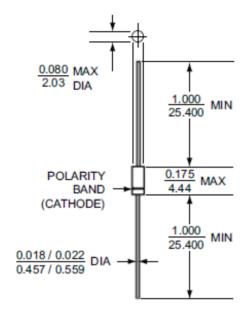
^{2.} Vz @ 100 μ A minus Vz @ 10 μ A.



Low Noise Zener Diode Series

Rev. V3

Outline Drawing



All dimensions in INCH mm

DESIGN DATA

CASE: Hermetically sealed glass case. DO - 35 outline.

LEAD MATERIAL: Copper clad steel.

LEAD FINISH: Tin / Lead

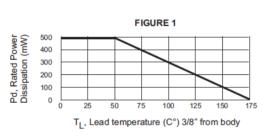
THERMAL RESISTANCE: ($R_{\Theta,JFC}$): 250 °C/W maximum at L = .375 inch

THERMAL IMPEDANCE: (Z_{OJX}): 35 °C/W maximum

POLARITY: Diode to be operated with the banded (cathode) end positive.

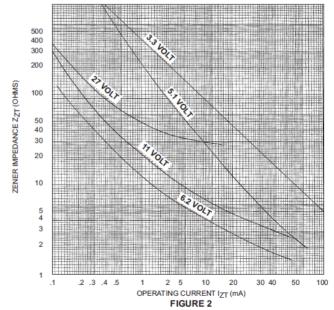
MOUNTING POSITION: ANY.

Graphs



POWER DERATING CURVE

1000



ZENER IMPEDANCE VS. OPERATING CURRENT

1N4678 thru 1N4717



Low Noise Zener Diode Series

Rev. V3

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.