

1N4565UR-1 thru 1N4584UR-1 & 1N4565AUR-1 thru 1N4584AUR-1



Temperature Compensated Zener Reference Diode Series

Rev. V1

Features

- Available in JAN, JANTX, JANTXV and JANS per MIL-PRF-19500/452
- 6.4 V Nominal Zener Voltage $\pm 5\%$
- 500 mW Power Handling
- Hermetically sealed MELF DO-213 package
- Also available in axial-leaded glass DO-35 style package.



Electrical Specifications:

$I_R = 2 \mu A$ @ $+25^\circ C$ & $V_R = 3 V_{dc}$, $T_A = +25^\circ C$ (unless otherwise specified)

JEDEC Type #	Zener Test Current I_{ZT}	Effective Temperature Coefficient	Voltage Temperature Stability ΔV_{ZT} max. ¹	Temperature Range	Maximum Dynamic Zener Impedance ²
	mA	%/ $^\circ C$	mV	$^\circ C$	Ω
1N4565UR-1 1N4565AUR-1	0.5	0.01	48 100	0 to +75 -55 to +100	200
1N4566UR-1 1N4566AUR-1	0.5	0.005	24 50	0 to +75 -55 to +100	200
1N4567UR-1 1N4567AUR-1	0.5	0.002	10 20	0 to +75 -55 to +100	200
1N4568UR-1 1N4568AUR-1	0.5	0.001	5 10	0 to +75 -55 to +100	200
1N4569UR-1 1N4569AUR-1	0.5	0.0005	2.5 5.0	0 to +75 -55 to +100	200
1N4570UR-1 1N4570AUR-1	1.0	0.01	48 100	0 to +75 -55 to +100	100
1N4571UR-1 1N4571AUR-1	1.0	0.005	24 50	0 to +75 -55 to +100	100
1N4572UR-1 1N4572AUR-1	1.0	0.002	10 20	0 to +75 -55 to +100	100
1N4573UR-1 1N4573AUR-1	1.0	0.001	5 10	0 to +75 -55 to +100	100
1N4574UR-1 1N4574AUR-1	1.0	0.0005	2.5 5.0	0 to +75 -55 to +100	100
1N4575UR-1 1N4575AUR-1	2.0	0.01	48 100	0 to +75 -55 to +100	50
1N4576UR-1 1N4576AUR-1	2.0	0.005	24 50	0 to +75 -55 to +100	50

(Continued next page)

1N4565UR-1 thru 1N4584UR-1 & 1N4565AUR-1 thru 1N4584AUR-1



Temperature Compensated Zener Reference Diode Series

Rev. V1

Electrical Specifications:

$I_R = 2 \mu\text{A}$ @ $+25^\circ\text{C}$ & $V_R = 3 \text{ Vdc}$, $T_A = +25^\circ\text{C}$ (unless otherwise specified)

JEDEC Type #	Zener Test Current I_{ZT}	Effective Temperature Coefficient	Voltage Temperature Stability $\Delta V_{ZT} \text{ max.}^1$	Temperature Range	Maximum Dynamic Zener Impedance ²
	mA	%/°C	mV	°C	Ω
1N4577UR-1 1N4577AUR-1	2.0	0.002	10 20	0 to +75 -55 to +100	50
1N4578UR-1 1N4578AUR-1	2.0	0.001	5 10	0 to +75 -55 to +100	50
1N4579UR-1 1N4579AUR-1	2.0	0.0005	2.5 5.0	0 to +75 -55 to +100	50
1N4580UR-1 1N4580AUR-1	4.0	0.01	48 100	0 to +75 -55 to +100	25
1N4581UR-1 1N4581AUR-1	4.0	0.005	24 50	0 to +75 -55 to +100	25
1N4582UR-1 1N4582AUR-1	4.0	0.002	10 20	0 to +75 -55 to +100	25
1N4583UR-1 1N4583AUR-1	4.0	0.001	5 10	0 to +75 -55 to +100	25
1N4584UR-1 1N4584AUR-1	4.0	0.0005	2.5 5.0	0 to +75 -55 to +100	25

1. The maximum allowable change observed over the entire temperature range i.e., the diode voltage will not exceed the specified mV at any discrete temperature between the established limits, per JEDEC standard No. 5.
2. Zener impedance is derived by superimposing on I_{ZT} A 60Hz rms a.c. current equal to 10% of I_{ZT} .

Absolute Maximum Ratings

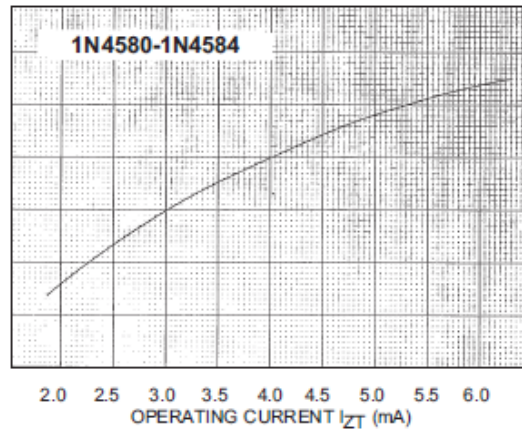
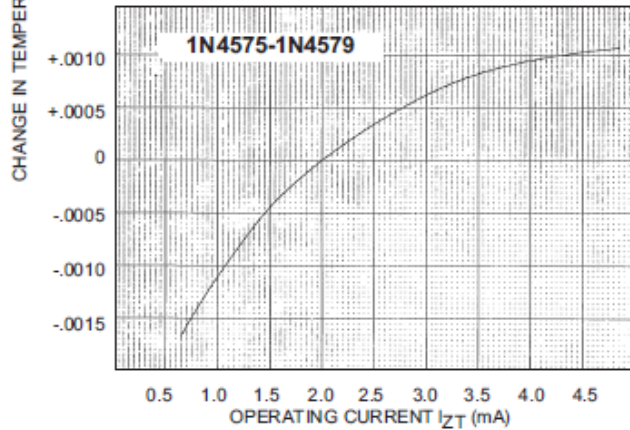
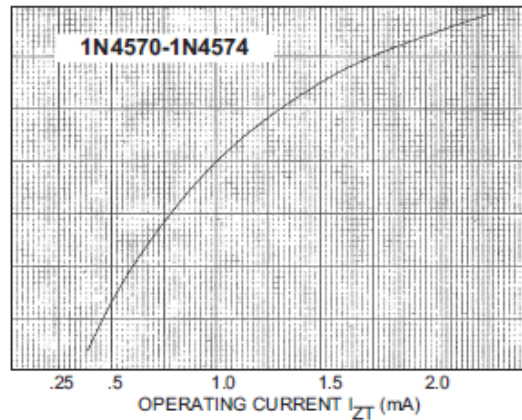
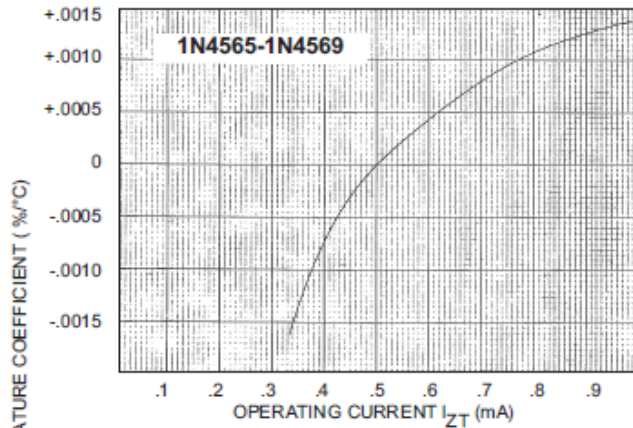
Parameter	Absolute Maximum
DC Power Dissipation	500 mW @ $+50^\circ\text{C}$
Power Derating	4 mW/°C above $+50^\circ\text{C}$
Operating & Storage Temperature	-55°C to $+175^\circ\text{C}$

1N4565UR-1 thru 1N4584UR-1 & 1N4565AUR-1 thru 1N4584AUR-1

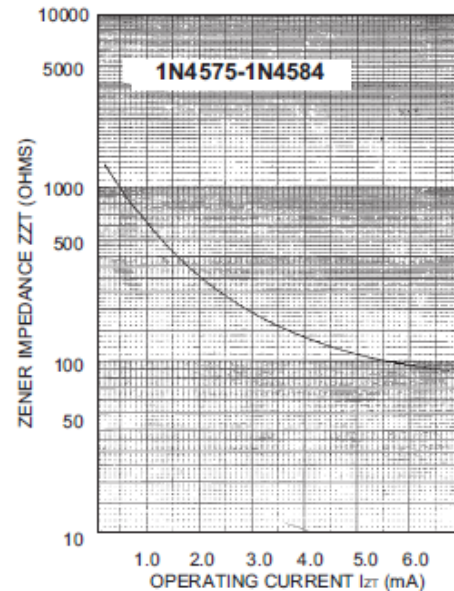
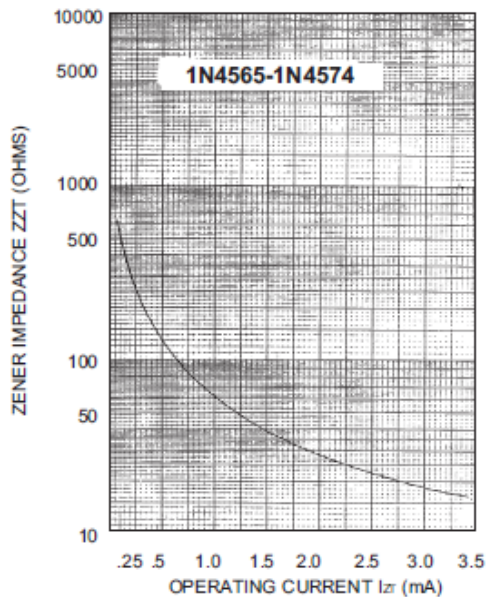


Temperature Compensated Zener Reference Diode Series

Rev. V1



TYPICAL CHANGE OF TEMPERATURE COEFFICIENT WITH CHANGE IN OPERATING CURRENT



ZENER IMPEDANCE VS. OPERATING CURRENT

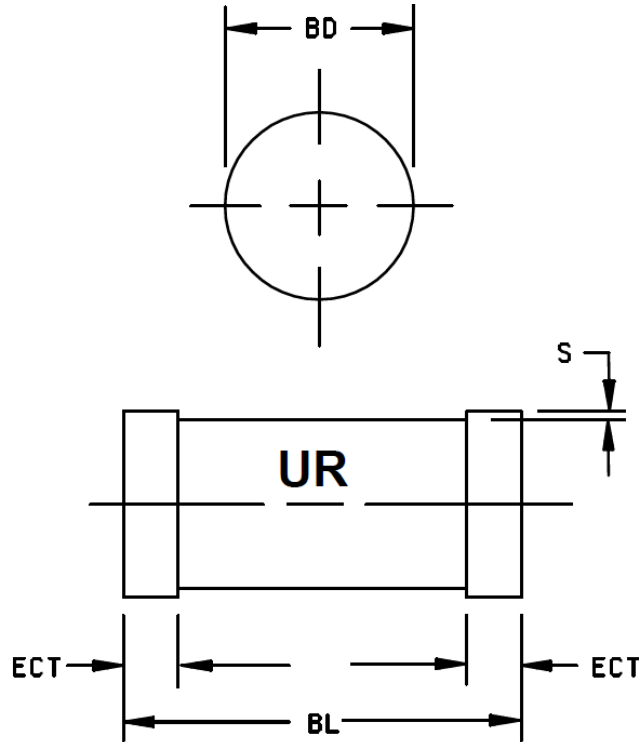
1N4565UR-1 thru 1N4584UR-1 & 1N4565AUR-1 thru 1N4584AUR-1



Temperature Compensated
Zener Reference Diode Series

Rev. V1

Outline



Outline Dimensions

Symbol	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	.063	.067	1.60	1.70
ECT	.016	.022	0.41	0.56
BL	.130	.146	3.30	3.71
S	.001 Min		0.03 Min	

Leaded Design Data

Case: DO-213AA, Hermetically sealed glass case. (MELF, SOD-80, LL34)

Lead Finish: Tin / Lead

Polarity: Cathode end is banded.

Mounting Position: Any.

Mounting Surface Selection: The Axial Coefficient of Expansion (COE) of this device is approximately +6 PPM/°C. The COE of the mounting surface system should be selected to provide a suitable match with this device.

1N4565UR-1 thru 1N4584UR-1 & 1N4565AUR-1 thru 1N4584AUR-1



Temperature Compensated Zener Reference Diode Series

Rev. V1

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 estoppel 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.