

Thank you for your interest in **onsemi** products.  
Your technical document begins on the following pages.



## Your Feedback is Important to Us!

Please take a moment to participate in our short survey.  
At **onsemi**, we are dedicated to delivering technical content that best meets your needs.

### [Help Us Improve – Take the Survey](#)

This survey is intended to collect your feedback, capture any issues you may encounter, and to provide improvements you would like to suggest.

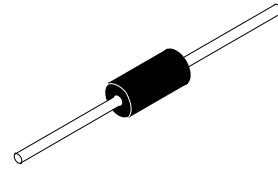
**We look forward to your feedback.**

To learn more about **onsemi**, please visit our website at  
[www.onsemi.com](http://www.onsemi.com)

**onsemi** and **onsemi** and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi** product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner. Other names and brands may be claimed as the property of others.

# Zener Diodes

## 1N4728A - 1N4758A



AXIAL LEAD  
CASE 017AH

**ABSOLUTE MAXIMUM RATINGS** (Note 1)

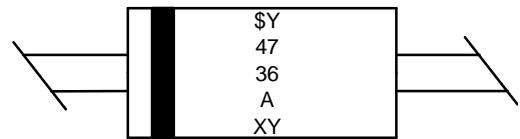
T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Unit
P <sub>D</sub>	Power Dissipation @ TL ≤ 50°C, Lead Length = 3/8"	1.0	W
	Derate above 50°C	6.67	mW/°C
T <sub>J</sub> , T <sub>STG</sub>	Operating and Storage Temperature Range	-65 to +200	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- These ratings are limiting values above which the serviceability of the diode may be impaired.

**MARKING DIAGRAM**



\$Y = Logo  
4736A = Specific Device Code  
XY = Date Code

**ORDERING INFORMATION**

See detailed ordering and shipping information on page 3 of this data sheet.

# 1N4728A – 1N4758A

**ELECTRICAL CHARACTERISTICS**  $T_a = 25^\circ\text{C}$  unless otherwise noted

Device	$V_Z$ (V) @ $I_Z$ (Note 2)			Test Current $I_Z$ (mA)	Max. Zener Impedance			Leakage Current		Non-Repetitive Peak Reverse Current $I_{ZSM}$ (mA) (Note 3)
	Min.	Typ.	Max.		$Z_Z$ @ $I_Z$ ( $\Omega$ )	$Z_{ZK}$ @ $I_{ZK}$ ( $\Omega$ )	$I_{ZK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	$V_R$ (V)	
1N4728A	3.135	3.3	3.465	76	10	400	1	100	1	1380
1N4732A	4.465	4.7	4.935	53	8	500	1	10	1	970
1N4733A	4.845	5.1	5.355	49	7	550	1	10	1	890
1N4734A	5.32	5.6	5.88	45	5	600	1	10	2	810
1N4735A	5.89	6.2	6.51	41	2	700	1	10	3	730
1N4736A	6.46	6.8	7.14	37	3.5	700	1	10	4	660
1N4737A	7.125	7.5	7.875	34	4	700	0.5	10	5	605
1N4738A	7.79	8.2	8.61	31	4.5	700	0.5	10	6	550
1N4739A	8.645	9.1	9.555	28	5	700	0.5	10	7	500
1N4740A	9.5	10	10.5	25	7	700	0.25	10	7.6	454
1N4741A	10.45	11	11.55	23	8	700	0.25	5	8.4	414
1N4742A	11.4	12	12.6	21	9	700	0.25	5	9.1	380
1N4743A	12.35	13	13.65	19	10	700	0.25	5	9.9	344
1N4744A	14.25	15	15.75	17	14	700	0.25	5	11.4	304
1N4745A	15.2	16	16.8	15.5	16	700	0.25	5	12.2	285
1N4746A	17.1	18	18.9	14	20	750	0.25	5	13.7	250
1N4747A	19	20	21	12.5	22	750	0.25	5	15.2	225
1N4748A	20.9	22	23.1	11.5	23	750	0.25	5	16.7	205
1N4749A	22.8	24	25.2	10.5	25	750	0.25	5	18.2	190
1N4750A	25.65	27	28.35	9.5	35	750	0.25	5	20.6	170
1N4751A	28.5	30	31.5	8.5	40	1000	0.25	5	22.8	150
1N4752A	31.35	33	34.65	7.5	45	1000	0.25	5	25.1	135
1N4753A	34.2	36	37.8	7	50	1000	0.25	5	27.4	125
1N4754A	37.05	39	40.95	6.5	60	1000	0.25	5	29.7	115
1N4755A	40.85	43	45.15	6	70	1500	0.25	5	32.7	110
1N4756A	44.65	47	49.35	5.5	80	1500	0.25	5	35.8	95
1N4757A	48.45	51	53.55	5	95	1500	0.25	5	38.8	90
1N4758A	53.2	56	58.8	4.5	110	2000	0.25	5	42.6	80

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

**NOTES:**

2. Zener Voltage ( $V_Z$ ).  
The zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature ( $T_L$ ) at  $30^\circ\text{C} \pm 1^\circ\text{C}$  and 3/8" lead length.
3. 2 Square wave Reverse Surge at 8.3 ms soak time.

# 1N4728A – 1N4758A

## TOP MARKING AND ORDERING INFORMATION

Device	Top Marking					Package	Shipping†		
	Line 1	Line 2	Line 3	Line 4	Line 5				
1N4728A	LOGO	47	28	A	XY	Axial Lead (Pb – Free / Halide Free)	3000 / Bulk Bag		
1N4728A–T50A							3000 / Fan–Fold		
1N4728ATR							3000 / Tape and Reel		
1N4732A			32				3000 / Bulk Bag		
1N4732A–T50A							3000 / Fan–Fold		
1N4732ATR							3000 / Tape and Reel		
1N4733A			33				33	3000 / Bulk Bag	
1N4733A–T50A								3000 / Fan–Fold	
1N4733A–T50R								3000 / Tape and Reel	
1N4733ATR			34				34	3000 / Tape and Reel	
1N4734A								35	3000 / Bulk Bag
1N4734A–T50A									3000 / Fan–Fold
1N4734A–T50R			35				35		3000 / Tape and Reel
1N4734ATR								36	3000 / Tape and Reel
1N4735A									36
1N4735A–T50A			3000 / Fan–Fold						
1N4735A–T50R			37				37	3000 / Tape and Reel	
1N4735ATR								37	3000 / Tape and Reel
1N4736A									38
1N4736A–T50A			3000 / Fan–Fold						
1N4736A–T50R			38				38	3000 / Tape and Reel	
1N4736ATR								39	3000 / Tape and Reel
1N4737A									39
1N4737A–T50A			3000 / Fan–Fold						
1N4737ATR			40				40	3000 / Tape and Reel	
1N4738A								40	3000 / Bulk Bag
1N4738A–T50A									3000 / Fan–Fold
1N4738A–T50R			41				41		3000 / Tape and Reel
1N4738ATR								41	3000 / Tape and Reel
1N4739A									42
1N4739A–T50A			3000 / Fan–Fold						
1N4739ATR			42				42	3000 / Tape and Reel	
1N4740A								42	3000 / Bulk Bag
1N4740A–T50A									3000 / Fan–Fold
1N4740ATR			41				41		3000 / Tape and Reel
1N4741A								41	3000 / Bulk Bag
1N4741A–T50A									3000 / Fan–Fold
1N4741ATR			42				42		3000 / Tape and Reel
1N4742A								42	3000 / Bulk Bag
1N4742A–T50A									3000 / Fan–Fold
1N4742ATR									3000 / Tape and Reel

# 1N4728A – 1N4758A

## TOP MARKING AND ORDERING INFORMATION (continued)

Device	Top Marking					Package	Shipping†																
	Line 1	Line 2	Line 3	Line 4	Line 5																		
1N4743A	LOGO	47	43	A	XY	Axial Lead (Pb – Free / Halide Free)	3000 / Bulk Bag																
1N4743A–T50A							3000 / Fan–Fold																
1N4743ATR							3000 / Tape and Reel																
1N4744A			44				A	XY	3000 / Bulk Bag														
1N4744A–T50A									3000 / Fan–Fold														
1N4744A–T50R									3000 / Tape and Reel														
1N4744ATR			3000 / Tape and Reel																				
1N4745A			45						A	XY	3000 / Bulk Bag												
1N4745A–T50A											3000 / Fan–Fold												
1N4745ATR											3000 / Tape and Reel												
1N4746A			46								A	XY	3000 / Bulk Bag										
1N4746A–T50A													3000 / Fan–Fold										
1N4746ATR													3000 / Tape and Reel										
1N4747A			47										A	XY	3000 / Bulk Bag								
1N4747A–T50A															3000 / Fan–Fold								
1N4747ATR															3000 / Tape and Reel								
1N4748A			48												A	XY	3000 / Bulk Bag						
1N4748A–T50A																	3000 / Fan–Fold						
1N4748ATR																	3000 / Tape and Reel						
1N4749A			49														A	XY	3000 / Bulk Bag				
1N4749A–T50A																			3000 / Fan–Fold				
1N4749A–T50R																			3000 / Tape and Reel				
1N4749ATR																			3000 / Tape and Reel				
1N4750A			50																A	XY	3000 / Bulk Bag		
1N4750A–T50A																					3000 / Fan–Fold		
1N4750ATR																					3000 / Tape and Reel		
1N4751A			51																		A	XY	3000 / Bulk Bag
1N4751A–T50A																							3000 / Fan–Fold
1N4751ATR	3000 / Tape and Reel																						
1N4752A	52	A	XY	3000 / Bulk Bag																			
1N4752A–T50A				3000 / Fan–Fold																			
1N4752ATR				3000 / Tape and Reel																			
1N4753A	53			A	XY	3000 / Bulk Bag																	
1N4753A–T50A						3000 / Fan–Fold																	
1N4754A	54					A	XY	3000 / Bulk Bag															
1N4754A–T50A								3000 / Fan–Fold															
1N4755A	55							A	XY	3000 / Bulk Bag													
1N4755A–T50A										3000 / Fan–Fold													
1N4756A	56									A	XY	3000 / Bulk Bag											
1N4757A												3000 / Bulk Bag											

# 1N4728A – 1N4758A

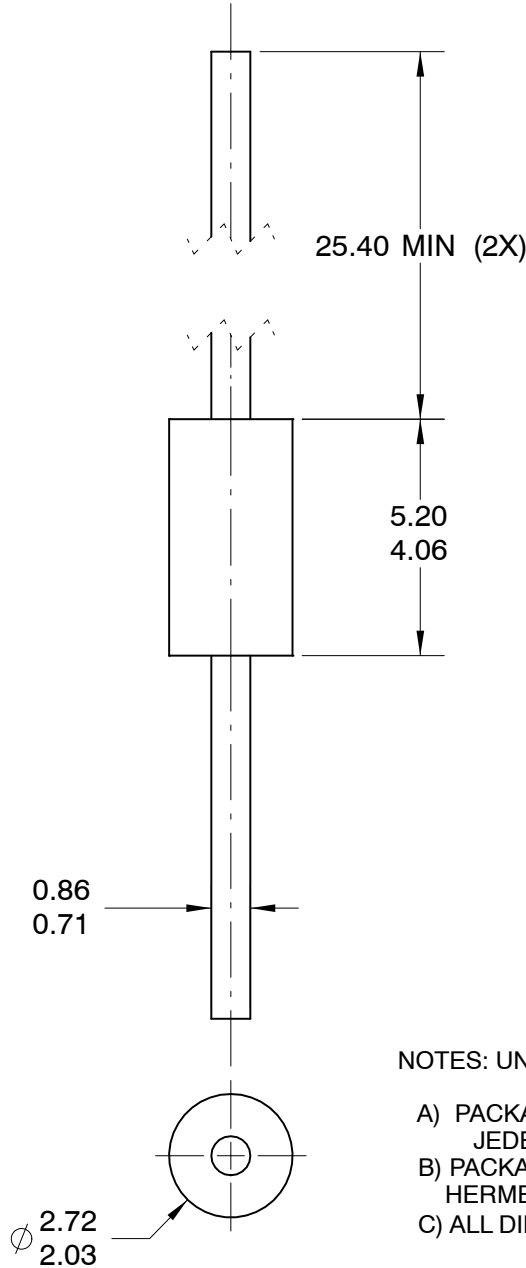
## TOP MARKING AND ORDERING INFORMATION (continued)

Device	Top Marking					Package	Shipping†
	Line 1	Line 2	Line 3	Line 4	Line 5		
1N4758A	LOGO	47	58	A	XY	Axial Lead (Pb – Free / Halide Free)	3000 / Bulk Bag
1N4758A–T50A							3000 / Fan–Fold

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

**AXIAL LEAD / DO-41**  
CASE 017AH  
ISSUE O


DATE 31 AUG 2016



**NOTES: UNLESS OTHERWISE SPECIFIED**

- A) PACKAGE STANDARD REFERENCE: JEDEC DO-204 VARIATION AL.
- B) PACKAGE BODY CAN BE PLASTIC OR HERMETICALLY SEALED GLASS.
- C) ALL DIMENSIONS ARE IN MILLIMETERS.

<b>DOCUMENT NUMBER:</b>	<b>98AON13444G</b>	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.
<b>DESCRIPTION:</b>	<b>AXIAL LEAD / DO-41</b>	<b>PAGE 1 OF 1</b>

ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. ON Semiconductor does not convey any license under its patent rights nor the rights of others.

**onsemi**, **Onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

## ADDITIONAL INFORMATION

### TECHNICAL PUBLICATIONS:

Technical Library: [www.onsemi.com/design/resources/technical-documentation](http://www.onsemi.com/design/resources/technical-documentation)  
onsemi Website: [www.onsemi.com](http://www.onsemi.com)

### ONLINE SUPPORT: [www.onsemi.com/support](http://www.onsemi.com/support)

For additional information, please contact your local Sales Representative at [www.onsemi.com/support/sales](http://www.onsemi.com/support/sales)

