1N4728A to 1N4749A

Voltage regulator diodes

Rev. 02 — 30 October 2009 Product data sheet

1. Product profile

1.1 General description

Low voltage regulator diodes in hermetically sealed small SOD66 (DO-41) glass packages.

The series consists of 22 types with nominal working voltages from 3.3 to 24 V.

1.2 Features

- Total power dissipation: max. ≤ 1000 mW
- Working voltage range: nom. 3.3 V to 24 V
- Tolerance series: ±5 %
- Small hermetically sealed glass package

1.3 Applications

- Low voltage stabilizers

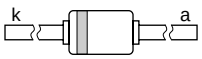
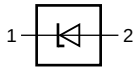
1.4 Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_F	forward voltage	I_F = 200 mA	-	-	1.2	V
P_{tot}	total power dissipation		-	-	1000	mW

2. Pinning information

Table 2. Pinning

Pin	Description	Simplified outline	Graphic symbol
1	cathode [1]		 006aaa152
2	anode		

[1] The marking band indicates the cathode.

founded by Philips

3. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
1N4728A to 1N4749A[1]	-	hermetically sealed glass package; axial leaded; 2 leads	SOD66

[1] The series consists of 22 types with nominal working voltages from 3.3 V to 24 V.

4. Marking

Table 4. Marking codes

Type number	Marking code
1N4728A to 1N4749A	The diodes are type branded.

5. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions	Min	Max	Unit
I_F	forward current		-	500	mA
I_Z	working current		-	see Table 8	
I_{ZSM}	non-repetitive peak reverse current		-	see Table 8	
P_{tot}	total power dissipation	T_{amb} = 50 °C	-	1000	mW
T_j	junction temperature		–65	+200	°C
T_{stg}	storage temperature		–65	+200	°C

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6. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$R_{th(j-t)}$	thermal resistance from junction to tie-point	lead length 4 mm	-	-	110	K/W

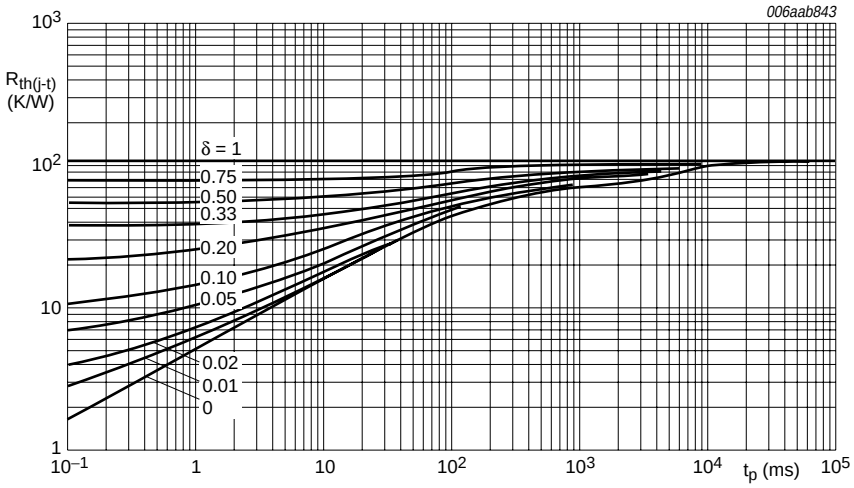

Fig 1. Thermal resistance from junction to tie-point as a function of pulse duration; lead length 4 mm

7. Characteristics

Table 7. Characteristics

T_j = 25 °C unless otherwise specified.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_F	forward voltage	I_F = 200 mA	-	-	1.2	V

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Table 8. Characteristics per type

T_j = 25 °C unless otherwise specified.

Type number	Working voltage V_Z (V)[1] at I_{test}	Test current I_{test} (mA)	Differential resistance r_{dif} (Ω)			Reverse current I_R (μA)		Working current I_Z (mA)	Non-repetitive peak reverse current I_{ZSM} (mA)[2]
			at I_{test}	at I_Z	I_Z (mA)				
	Nom		Max	Max		Max	V_R (V)	Max	Max
1N4728A	3.3	76	10	400	1	100	1	276	1380
1N4729A	3.6	69	10	400	1	100	1	252	1260
1N4730A	3.9	64	9	400	1	50	1	234	1190
1N4731A	4.3	58	9	400	1	10	1	217	1070
1N4732A	4.7	53	8	500	1	10	1	193	970
1N4733A	5.1	49	7	550	1	10	1	178	890
1N4734A	5.6	45	5	600	1	10	2	162	810
1N4735A	6.2	41	2	700	1	10	3	146	730
1N4736A	6.8	37	3.5	700	1	10	4	133	660
1N4737A	7.5	34	4	700	0.5	10	5	121	605
1N4738A	8.2	31	4.5	700	0.5	10	6	110	550
1N4739A	9.1	28	5	700	0.5	10	7	100	500
1N4740A	10	25	7	700	0.25	10	7.6	91	454
1N4741A	11	23	8	700	0.25	5	8.4	83	414
1N4742A	12	21	9	700	0.25	5	9.1	76	380
1N4743A	13	19	10	700	0.25	5	9.9	69	344
1N4744A	15	17	14	700	0.25	5	11.4	61	304
1N4745A	16	15.5	16	700	0.25	5	12.2	57	285
1N4746A	18	14	20	750	0.25	5	13.7	50	250
1N4747A	20	12.5	22	750	0.25	5	15.2	45	225
1N4748A	22	11.5	23	750	0.25	5	16.7	41	205
1N4749A	24	10.5	25	750	0.25	5	18.2	38	190

[1] V_Z is measured with device at thermal equilibrium while held in clips at 10 mm from body in still air at 25 °C.

[2] Half square wave or equivalent sine wave pulse 1/120 second duration superimposed on I_{test}.

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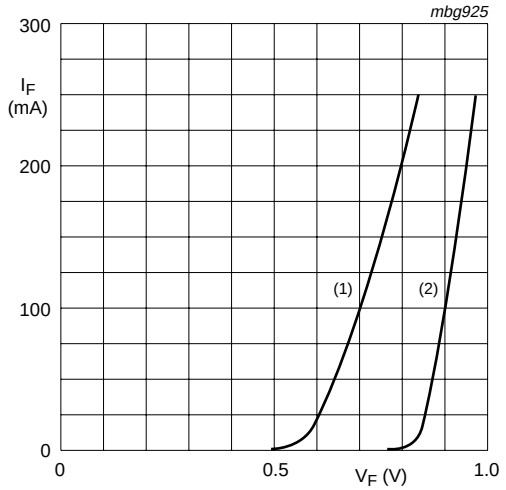

(1) T_j = 200 °C

(2) T_j = 25 °C

Fig 2. Forward current as a function of forward voltage; typical values

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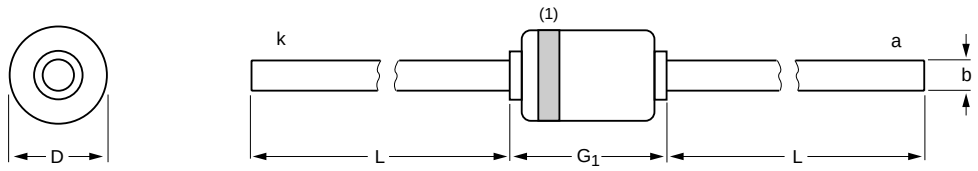
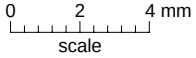
8. Package outline

Hermetically sealed glass package; axial leaded; 2 leads **SOD66**



Dimensions

Unit		b	D	G_1	L
mm	max	0.81	2.6	4.8	
	nom				
	min				25.4



Note
1. The marking band indicates the cathode.

sod066_po

Outline version	References				European projection	Issue date
	IEC	JEDEC	JEITA			
SOD66		DO-41				~~97-06-20~~ 09-10-09

Fig 3. Package outline SOD66 (DO-41)

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9. Packing information

Table 9. Packing methods

The indicated -xxx are the last three digits of the 12NC ordering code.[1]

Type number	Package	Description	Packing quantity
			10000
1N4728A to 1N4749A[2]	SOD66	52 mm tape ammopack, axial	-133
		52 mm reel pack, axial	-113

[1] For further information and the availability of packing methods, see Section 11.

[2] The series consists of 22 types with nominal working voltages from 3.3 V to 24 V.

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10. Revision history

Table 10. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
1N4728A_SER_2	20091030	Product data sheet	-	1N4728A_1
Modifications:	• The format of this data sheet has been redesigned to comply with the new identity guidelines of NXP Semiconductors. • Legal texts have been adapted to the new company name where appropriate. • Table 5 “Limiting values”: I_{ZM} redefined to I_Z working current • Table 6: $R_{th(j-tp)}$ redefined to $R_{th(j-t)}$ thermal resistance from junction to tie-point • Figure 1: $R_{th(j-tp)}$ redefined to $R_{th(j-t)}$ thermal resistance from junction to tie-point • Table 8 “Characteristics per type”: I_{Ztest} redefined to I_{test} test current • Figure 3 “Package outline SOD66 (DO-41)”: updated			
1N4728A_1	19960426	Product data sheet	-	-

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11.1 Data sheet status

Document status[1][2]	Product status[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

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Date of release: 30 October 2009
Document identifier: 1N4728A_SER_2

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