

# DATA SHEET



Datasheet.Directory

## **1N4728A to 1N4749A** Voltage regulator diodes

Product specification  
Supersedes data of April 1992

1996 Apr 26

# Voltage regulator diodes

# 1N4728A to 1N4749A

### FEATURES

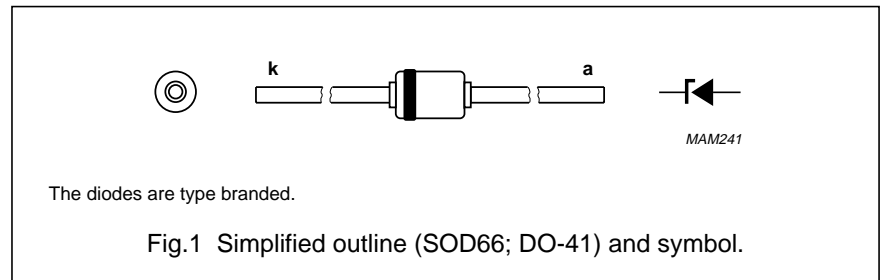
- Total power dissipation: max. 1000 mW
- Tolerance series:  $\pm 5\%$
- Working voltage range: nom. 3.3 to 24 V.

### APPLICATIONS

- Low voltage stabilizers.

### DESCRIPTION

Low voltage regulator diodes in hermetically sealed SOD66 (DO-41) packages. The series consists of 22 types with nominal working voltages from 3.3 to 24 V.



### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_F$	continuous forward current		–	500	mA
$I_{ZM}$	working current		see Table "Per type"		
$I_{ZSM}$	non-repetitive peak reverse current		see Table "Per type"		
$P_{tot}$	total power dissipation	$T_{amb} = 50\text{ }^\circ\text{C}$	–	1000	mW
$T_{stg}$	storage temperature		–65	+200	$^\circ\text{C}$
$T_j$	junction temperature		–65	+200	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS

#### Total series

$T_j = 25\text{ }^\circ\text{C}$ ; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_F$	forward voltage	$I_F = 200\text{ mA}$ ; see Fig.3	–	1.2	V

## Voltage regulator diodes

## 1N4728A to 1N4749A

## Per type

$T_j = 25\text{ °C}$ ; unless otherwise specified.

TYPE No.	WORKING VOLTAGE $V_Z$ (V) <sup>(1)</sup> at $I_{Ztest}$	TEST CURRENT $I_{Ztest}$ (mA)	DIFFERENTIAL RESISTANCE			REVERSE CURRENT at REVERSE VOLTAGE		WORKING CURRENT $I_{ZM}$ (mA)	NON-REPETITIVE PEAK REVERSE CURRENT $I_{ZSM}$ (mA) <sup>(2)</sup>
			$r_{dif}$ ( $\Omega$ ) at $I_{Ztest}$	$r_{dif}$ ( $\Omega$ ) at $I_Z$	$I_Z$ (mA)	$I_R$ ( $\mu$ A)	$V_R$ (V)		
	MAX.		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

## Notes

- $V_Z$  is measured with device at thermal equilibrium while held in clips at 10 mm from body in still air at 25 °C.
- Half square wave or equivalent sinewave pulse  $\frac{1}{120}$  second duration superimposed on  $I_{Ztest}$ .

## Voltage regulator diodes

1N4728A to 1N4749A

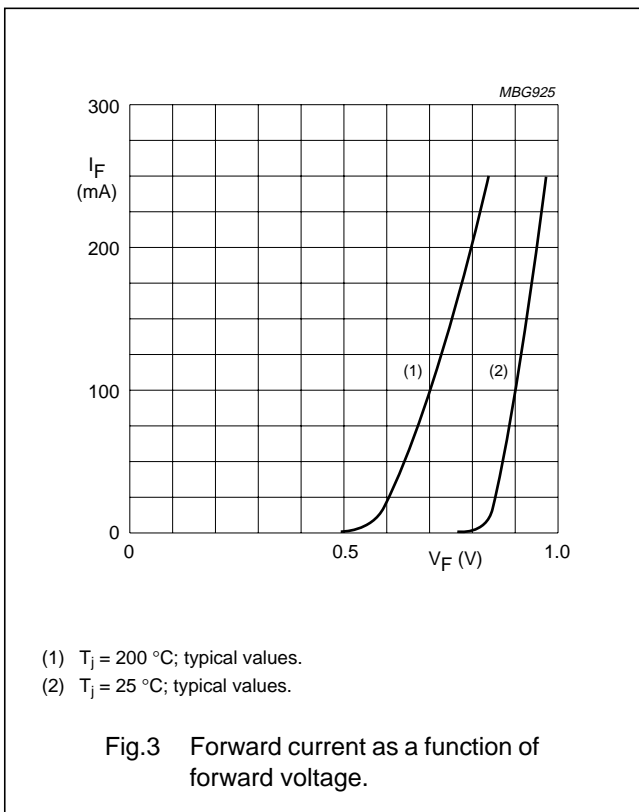
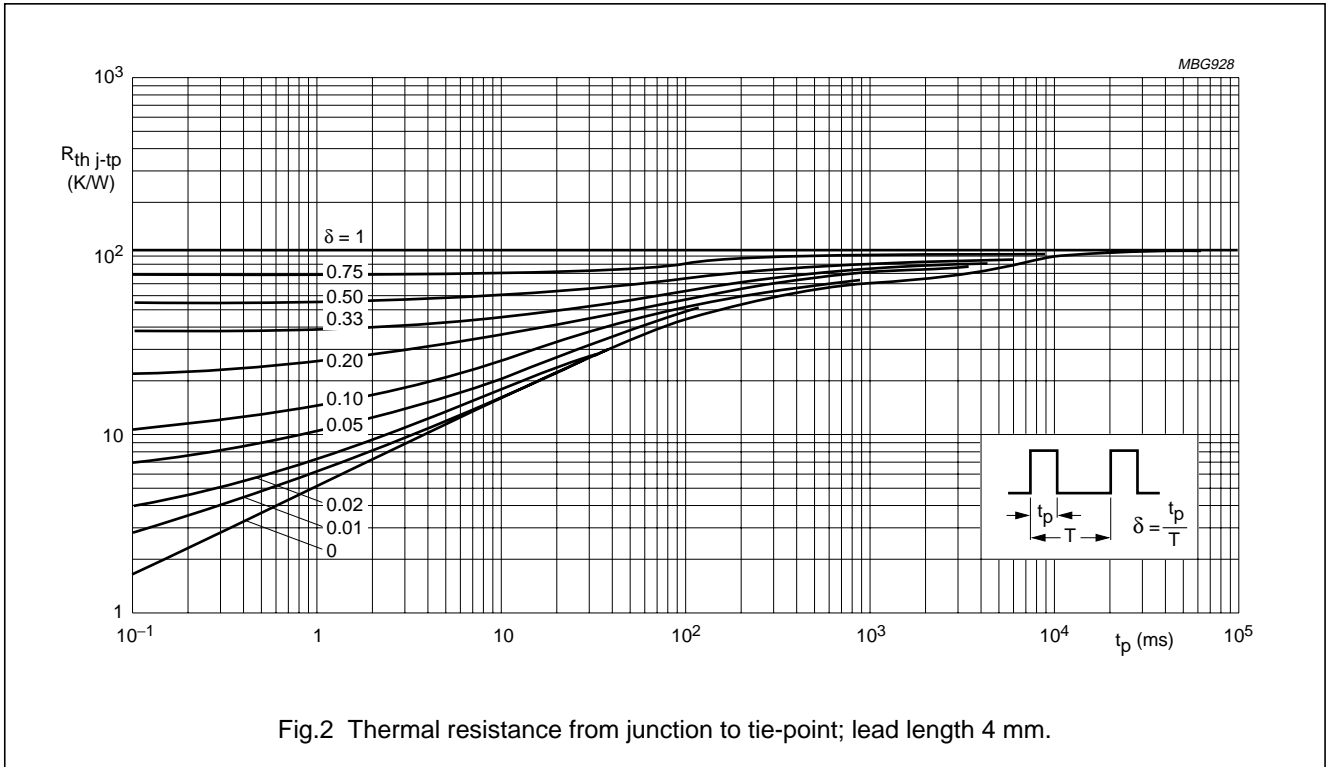
**THERMAL CHARACTERISTICS**

<b>SYMBOL</b>	<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>VALUE</b>	<b>UNIT</b>
$R_{th\ j-tp}$	thermal resistance from junction to tie-point	lead length 4 mm; see Fig.2	110	K/W

Voltage regulator diodes

1N4728A to 1N4749A

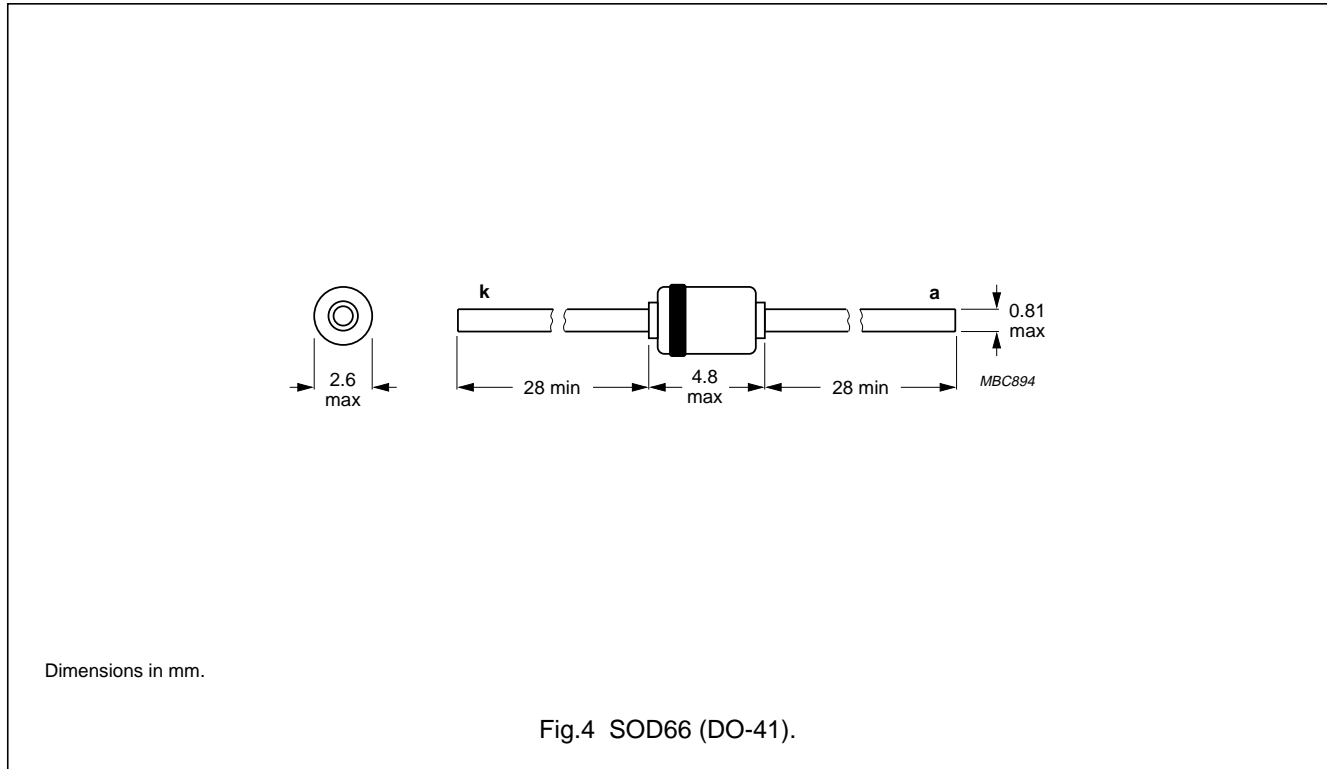
GRAPHICAL DATA



Voltage regulator diodes

1N4728A to 1N4749A

PACKAGE OUTLINE



DEFINITIONS

<b>Data sheet status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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# 1N4728A to 1N4749A; Voltage regulator diodes

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## General description

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

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

## Features

- Total power dissipation: max. 1000 mW
- Tolerance series: ±5%
- Working voltage range: nom. 3.3 to 24 V.

## Applications

- Low voltage stabilizers.

## Datasheet

<u>Type number</u>	<u>Title</u>	<u>Publication release date</u>	<u>Datasheet status</u>	<u>Page count</u>	<u>File size (kB)</u>	<u>Datasheet</u>
1N4728A to 1N4749A	Voltage regulator diodes	26-Apr-96	Product specification	6	33	<a href="#">Download</a>

## □ Parametrics

Type number	Package	$I_{F(AV)}$ max.(mA)	$V_Z$ nom(V)	Configuration	$P_{TOT}$ (mW)	tol. +/-%
1N4728A	<a href="#">SOD66</a> (DO-41)	500	3.3	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4729A	<a href="#">SOD66</a> (DO-41)	500	3.6	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4730A	<a href="#">SOD66</a> (DO-41)	500	3.9	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4731A	<a href="#">SOD66</a> (DO-41)	500	4.3	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4732A	<a href="#">SOD66</a> (DO-41)	500	4.7	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4733A	<a href="#">SOD66</a> (DO-41)	500	5.1	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4734A	<a href="#">SOD66</a> (DO-41)	500	5.6	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4735A	<a href="#">SOD66</a> (DO-41)	500	6.2	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4736A	<a href="#">SOD66</a> (DO-41)	500	6.8	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4737A	<a href="#">SOD66</a> (DO-41)	500	7.5	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4738A	<a href="#">SOD66</a> (DO-41)	500	8.2	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4739A	<a href="#">SOD66</a> (DO-41)	500	9.1	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4740A	<a href="#">SOD66</a> (DO-41)	500	10	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4741A	<a href="#">SOD66</a> (DO-41)	500	11	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4742A	<a href="#">SOD66</a> (DO-41)	500	12	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4743A	<a href="#">SOD66</a> (DO-41)	500	13	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4744A	<a href="#">SOD66</a> (DO-41)	500	15	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4745A	<a href="#">SOD66</a> (DO-41)	500	16	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4746A	<a href="#">SOD66</a> (DO-41)	500	18	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4747A	<a href="#">SOD66</a> (DO-41)	500	20	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5



1N4748A	<a href="#">SOD66</a> (DO-41)	500	22	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5
1N4749A	<a href="#">SOD66</a> (DO-41)	500	24	1	1000@Ttp/Tamb max. 50/55°C (mW)	appr. 5


## ▣ Products, packages, availability and ordering

<u>Type number</u>	<u>North American type number</u>	<u>Ordering code (12NC)</u>	<u>Marking/Packing</u> <a href="#">Discretes packing info</a>	<u>Package</u>	<u>Device status</u>	<u>Buy online</u>
1N4728A	1N4728A T/R	9339 315 40113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<a href="#">order this</a> <input type="checkbox"/>
		9339 315 40133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4729A	1N4729A T/R	9339 315 50113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<a href="#">order this</a> <input type="checkbox"/>
		9339 315 50133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4730A	1N4730A T/R	9339 315 60113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<a href="#">order this</a> <input type="checkbox"/>
		9339 315 60133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4731A	1N4731A T/R	9339 315 70113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<a href="#">order this</a> <input type="checkbox"/>
		9339 315 70133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4732A	1N4732A T/R	9339 315 80113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<a href="#">order this</a> <input type="checkbox"/>
		9339 315 80133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4733A	1N4733A T/R	9339 315 90113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<a href="#">order this</a> <input type="checkbox"/>
		9339 315 90133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-

1N4734A	1N4734A T/R	9339 316 00113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
		9339 316 00133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4735A	1N4735A T/R	9339 316 10113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
		9339 316 10133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4736A	1N4736A T/R	9339 316 20113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
		9339 316 20133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4737A	1N4737A T/R	9339 316 30113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
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1N4740A	1N4740A T/R	9339 316 60113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
		9339 316 60133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4741A	1N4741A T/R	9339 316 70113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
		9339 316 70133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-

1N4742A	1N4742A T/R	9339 316 80113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
		9339 316 80133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4743A	1N4743A T/R	9339 316 90113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
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1N4745A	1N4745A T/R	9339 317 10113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
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1N4746A	1N4746A T/R	9339 317 20113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
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		9339 317 30133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4748A	1N4748A T/R	9339 317 40113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
		9339 317 40133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-
1N4749A	1N4749A T/R	9339 317 50113	Standard Marking * Reel Pack, Axial, Standard	<a href="#">SOD66</a> (DO-41)	Full production	<input type="text" value="order this"/> <input type="text" value="-"/>
		9339 317 50133	Standard Marking * Ammopack, Axial, 52mm	<a href="#">SOD66</a> (DO-41)	Full production	-

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