

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	BS108/01,126
Manufacturer:	NXP USA Inc.
Package:	Please confirm with sales
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/nxp-usa-inc/bs108-01-126.html>

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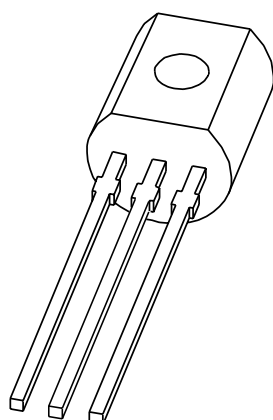
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Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

DATA SHEET



BS108

N-channel enhancement mode
vertical D-MOS transistor

Product specification
Supersedes data of 1997 Jun 17

2001 May 18

N-channel enhancement mode vertical D-MOS transistor

BS108

FEATURES

- Direct interface to C-MOS, TTL, etc.
- High-speed switching
- No secondary breakdown.

APPLICATIONS

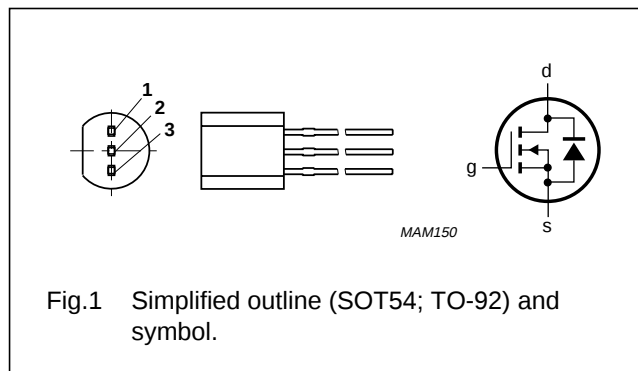
- Line current interruptor in telephone sets
- Applications in relay, high-speed and line transformer drivers.

DESCRIPTION

N-channel enhancement mode vertical D-MOS transistor in a SOT54 (TO-92) package.

PINNING - SOT54

PIN	DESCRIPTION
1	source
2	gate
3	drain



QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V_{DS}	drain-source voltage (DC)	200	V
V_{GSth}	gate-source threshold voltage	1.8	V
I_D	drain current (DC)	300	mA
R_{DSon}	drain-source on-state resistance	5	Ω

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{DS}	drain-source voltage (DC)		–	200	V
V_{GSO}	gate-source voltage (DC)	open drain	–	± 20	V
I_D	drain current (DC)		–	300	mA
I_{DM}	peak drain current		–	1.2	A
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$; note 1	–	1	W
T_{stg}	storage temperature		–55	+150	$^{\circ}\text{C}$
T_j	junction temperature		–	150	$^{\circ}\text{C}$

Note

1. Device mounted on a printed-circuit board, maximum lead length 4 mm; mounting pad for the drain lead minimum $10 \times 10\text{ mm}$.

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	125	K/W

Note

1. Device mounted on a printed-circuit board, maximum lead length 4 mm; mounting pad for the drain lead minimum 10×10 mm.

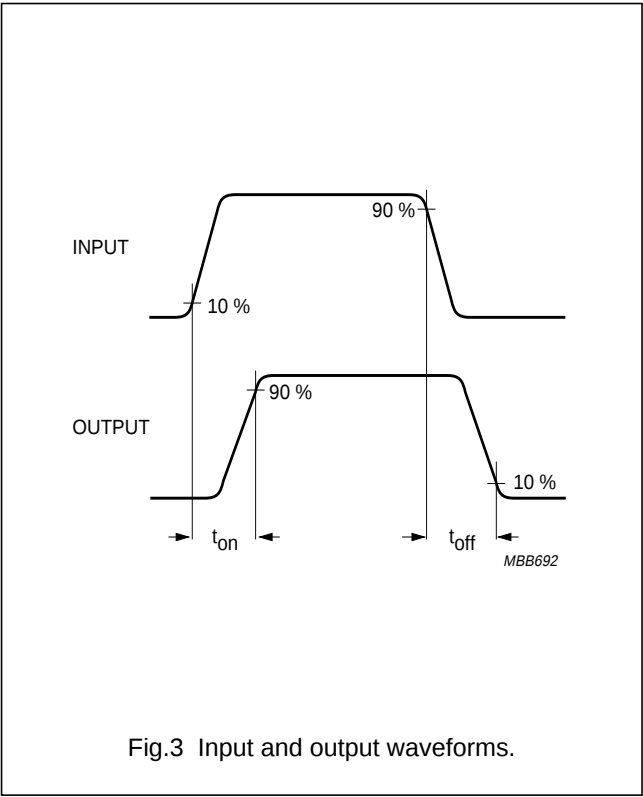
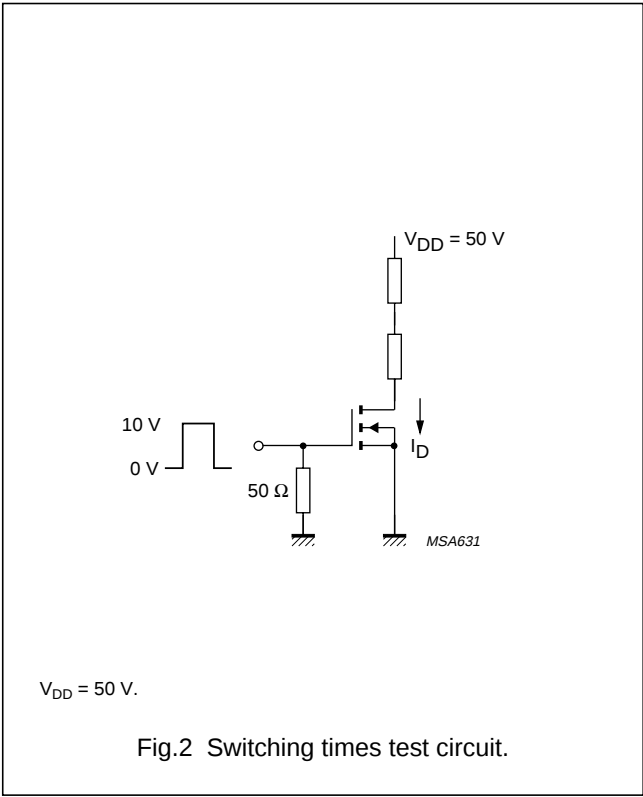
CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_{(BR)DSS}$	drain-source breakdown voltage	$I_D = 10\text{ }\mu\text{A}$; $V_{GS} = 0$	200	–	–	V
I_{DSS}	drain-source leakage current	$V_{DS} = 160\text{ V}$; $V_{GS} = 0$	–	–	1	μA
I_{GSS}	gate-source leakage current	$V_{GS} = \pm 20\text{ V}$; $V_{DS} = 0$	–	–	± 100	nA
V_{GSth}	gate-source threshold voltage	$I_D = 1\text{ mA}$; $V_{GS} = V_{DS}$	0.4	–	1.8	V
R_{DSon}	drain-source on-state resistance	$I_D = 100\text{ mA}$; $V_{GS} = 2.8\text{ V}$	–	2.7	5	Ω
$ Y_{fs} $	transfer admittance	$I_D = 300\text{ mA}$; $V_{DS} = 25\text{ V}$	200	600	–	mS
C_{iss}	input capacitance	$V_{DS} = 25\text{ V}$; $V_{GS} = 0$; $f = 1\text{ MHz}$	–	100	120	pF
C_{oss}	output capacitance	$V_{DS} = 25\text{ V}$; $V_{GS} = 0$; $f = 1\text{ MHz}$	–	20	30	pF
C_{rss}	reverse transfer capacitance	$V_{DS} = 25\text{ V}$; $V_{GS} = 0$; $f = 1\text{ MHz}$	–	10	15	pF
Switching times (see Figs 2 and 3)						
t_{on}	turn-on time	$I_D = 250\text{ mA}$; $V_{DD} = 50\text{ V}$; $V_{GS} = 0$ to 10 V	–	6	10	ns
t_{off}	turn-off time	$I_D = 250\text{ mA}$; $V_{DD} = 50\text{ V}$; $V_{GS} = 0$ to 10 V	–	49	60	ns

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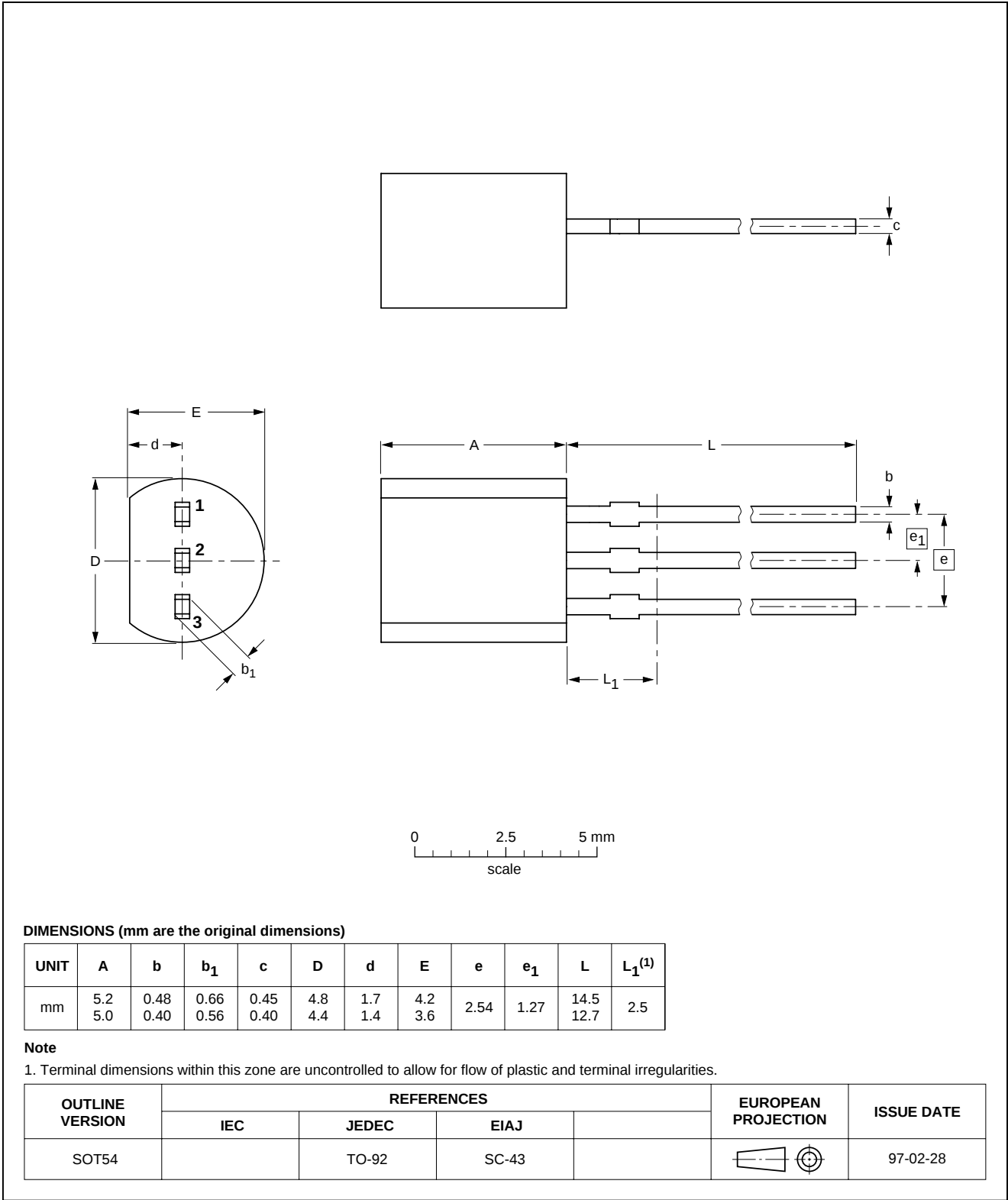
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PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads

SOT54



N-channel enhancement mode vertical D-MOS transistor

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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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N-channel enhancement mode
vertical D-MOS transistor

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