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捷多邦, 专业PCB打样工厂, 24小时

PZFJ108/PZFJ109/PZFJ110 N-channel junction FETs

Data sheet	
status	Product specification
date of issue	July 1993

FEATURES

- High speed switching
- Interchangeability of drain and source connections
- Low $R_{DS(on)}$ at zero gate voltage ($< 8 \Omega$ for PZFJ108)

DESCRIPTION

Silicon symmetrical n-channel junction FETs in a SOT223 envelope. They are intended for use in applications such as analog switches, choppers and commutators, as well as in audio amplifiers.

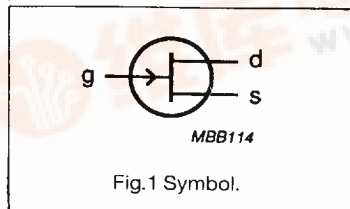
PINNING – SOT223

PIN	DESCRIPTION
1	drain
2	gate
3	source
4	gate

Note

1. Drain and source are interchangeable.

PIN CONFIGURATION



N-channel junction FETs

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LIMITING VALUES

In accordance with the Absolute Maximum System (IEC 134)

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$\pm V_{DS}$	drain-source voltage		-	25	V
$-V_{GS0}$	gate-source voltage		-	25	V
$-V_{GD0}$	gate-drain voltage		-	25	V
I_G	forward gate current	DC	-	50	mA
P_{tot}	total power dissipation	$T_{amb} \leq 50\text{ }^\circ\text{C}$ (note 1)	-	1.5	W
T_{stg}	storage temperature range		-65	150	$^\circ\text{C}$
T_j	operating junction temperature		-	150	$^\circ\text{C}$

THERMAL RESISTANCE

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-a}$	from junction to ambient (note 1)	83.3	K/W

Notes

1. Device mounted on an epoxy PCB, 40 mm x 40 mm x 1.5 mm. Mounting pad for the gate lead minimum 6 cm².

STATIC CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$-I_{GSS}$	reverse gate current	$-V_{GS} = 15\text{ V}$ $V_{DS} = 0$	-	3	nA
I_{DSX}	drain-source cut-off current	$-V_{GS} = 10\text{ V}$ $V_{DS} = 5\text{ V}$	-	3	nA
I_{DSS}	drain current	$V_{GS} = 0$ $V_{DS} = 15\text{ V}$	PZFJ108 80 PZFJ109 40 PZFJ110 10	- - -	mA
$-V_{(BR)GSS}$	gate-source breakdown voltage	$-I_G = 1\text{ }\mu\text{A}$ $V_{DS} = 0$	-	25	V
$-V_{GS(off)}$	gate-source cut-off voltage	$I_D = 1\text{ }\mu\text{A}$ $V_{DS} = 5\text{ V}$	PZFJ108 3 PZFJ109 2 PZFJ110 0.5	10 6 4	V
$R_{DS(on)}$	drain-source on-resistance	$V_{GS} = 0\text{ V}$ $V_{DS} = 0.1\text{ V}$	PZFJ108 - PZFJ109 - PZFJ110 -	8 12 18	Ω

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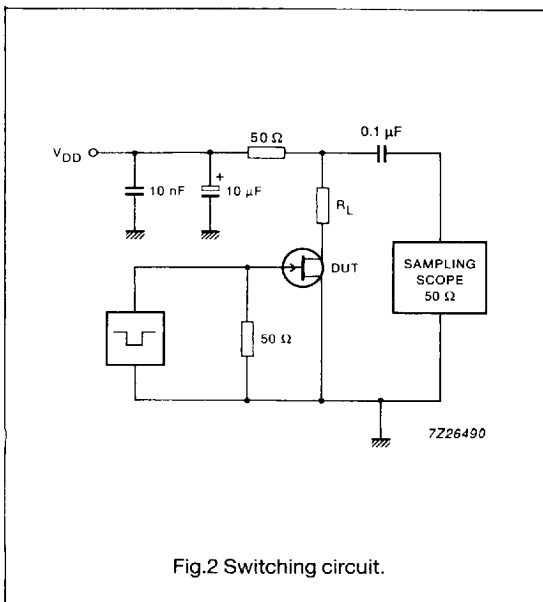
DYNAMIC CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
C_{is}	input capacitance	$V_{DS} = 0$ $-V_{GS} = 10\text{ V}$ $f = 1\text{ MHz}$	15	30	pF
C_{is}	input capacitance	$V_{DS} = 0$ $-V_{GS} = 0$ $f = 1\text{ MHz}$ $T_{amb} = 25\text{ }^\circ\text{C}$	50	85	pF
C_{rs}	feedback capacitance	$V_{DS} = 0$ $-V_{GS} = 10\text{ V}$ $f = 1\text{ MHz}$	8	15	pF
Switching times (see Figs. 2 and 3)					
t_d	delay time	note 1	2	-	ns
t_{on}	turn-on time	note 1	4	-	ns
t_s	storage time	note 1	4	-	ns
t_{off}	turn-off time	note 1	6	-	ns

Notes

- Test conditions for switching times are as follows:
 $V_{DD} = 1.5\text{ V}$, $V_{GS} = 0$ to $-V_{GS(off)}$ (all types);
 $-V_{GS(off)} = 12\text{ V}$, $R_L = 100\text{ }\Omega$ (PZFJ108);
 $-V_{GS(off)} = 7\text{ V}$, $R_L = 100\text{ }\Omega$ (PZFJ109);
 $-V_{GS(off)} = 5\text{ V}$, $R_L = 100\text{ }\Omega$ (PZFJ110).



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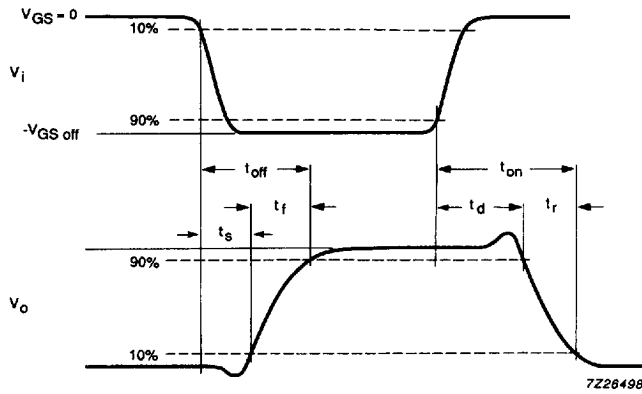


Fig.3 Input and output waveforms.