## Silicon N-Channel MOS FET

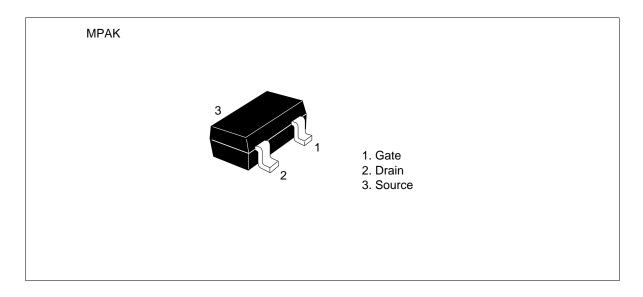
# **HITACHI**

ADE-208-1170 (Z) 1st. Edition Mar. 2001

## **Application**

VHF amplifier

#### **Outline**





## **Absolute Maximum Ratings** ( $Ta = 25^{\circ}C$ )

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSX}^{*1}$	20	V
Gate to source voltage	V <sub>GSS</sub>	±5	V
Drain current	I <sub>D</sub>	30	mA
Gate current	I <sub>G</sub>	±1	mA
Channel power dissipation	Pch	150	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1.  $V_{GS} = -4 \text{ V}$ 

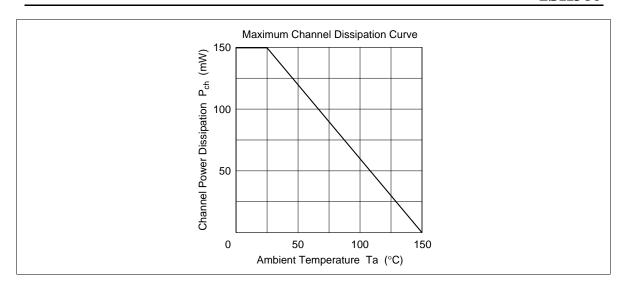
#### **Electrical Characteristics** ( $Ta = 25^{\circ}C$ )

Item	Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSX}$	20	_	_	V	$I_D = 100 \ \mu\text{A}, \ V_{GS} = -4 \ V$
Gate cutoff current	I <sub>GSS</sub>	_	_	±20	nA	$V_{GS} = \pm 5 \text{ V}, V_{DS} = 0$
Drain current	I <sub>DSS</sub> *1	4	_	12	mA	$V_{DS} = 10 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	$V_{\text{GS(off)}}$	0	_	-2.0	V	$V_{DS} = 10 \text{ V}, I_{D} = 10  \mu\text{A}$
Forward transfer admittance	$ y_{fs} $	8	14	_	mS	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$ f = 1 kHz
Input capacitance	Ciss	_	2.5	_	pF	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$ f = 1 MHz
Output capacitance	Coss	_	1.6	_	pF	
Reverse transfer capacitance	Crss		0.03	_	pF	
Power gain	PG	_	30	_	dB	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$ f = 100 MHz
Noise figure	NF	_	2.0	_	dB	

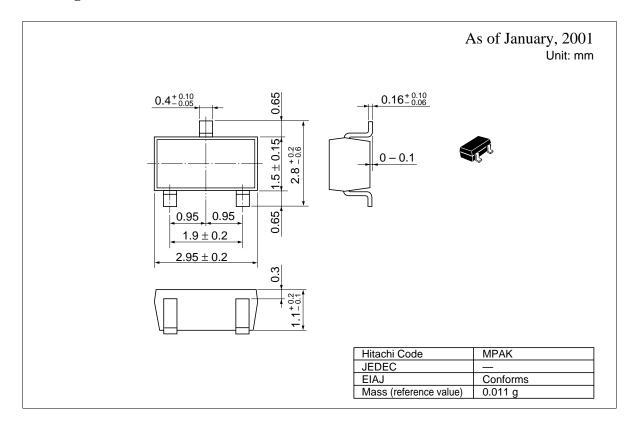
Note: 1. The 2SK360 is grouped by I<sub>DSS</sub> as follows.

Grade	D	E	F
Mark	IGD	IGE	IGF
I <sub>DSS</sub>	4 to 8	6 to 10	8 to 12

See characteristic curves of 2SK359.



## **Package Dimensions**



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Semiconductor & Integrated Circuits. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

NorthAmerica : http://semiconductor.hitachi.com/ http://www.hitachi-eu.com/hel/ecg Europe Asia http://sicapac.hitachi-asia.com http://www.hitachi.co.jp/Sicd/indx.htm Japan

#### For further information write to:

Hitachi Semiconductor (America) Inc. 179 East Tasman Drive, San Jose,CA 95134 D-85622 Tel: <1> (408) 433-1990 Germany Fax: <1>(408) 433-0223

Hitachi Europe GmbH Electronic Components Group Dornacher Straße 3 D-85622 Feldkirchen, Munich

Tel: <49> (89) 9 9180-0 Fax: <49> (89) 9 29 30 00 Hitachi Europe Ltd.

Electronic Components Group. Whitebrook Park Lower Cookham Road Maidenhead

Berkshire SL6 8YA, United Kingdom Tel: <44> (1628) 585000 Fax: <44> (1628) 585160

Hitachi Asia Ltd. Hitachi Tower 16 Collyer Quay #20-00, Singapore 049318 Tel: <65>-538-6533/538-8577 Fax: <65>-538-6933/538-3877 URL: http://www.hitachi.com.sg

Hitachi Asia Ltd. (Taipei Branch Office) 4/F, No. 167, Tun Hwa North Road, Hung-Kuo Building,

Taipei (105), Taiwan Tel: <886>-(2)-2718-3666 Fax: <886>-(2)-2718-8180 Telex: 23222 HAS-TP URL: http://www.hitachi.com.tw

Hitachi Asia (Hong Kong) Ltd. Group III (Electronic Components) 7/F North Tower World Finance Centre, Harbour City, Canton Road Tsim Sha Tsui, Kowloon, Hong Kong

Tel: <852>-(2)-735-9218 Fax: <852>-(2)-730-0281 URL: http://www.hitachi.com.hk

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