
2SK439

Silicon N-Channel MOS FET

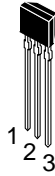
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Application

VHF amplifier

Outline

SPAK



1. Gate
2. Source
3. Drain

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DS}	20	V
Gate to source voltage	V_{GSS}	±5	V
Drain current	I_D	30	mA
Gate current	I_G	±1	mA
Channel power dissipation	Pch	300	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

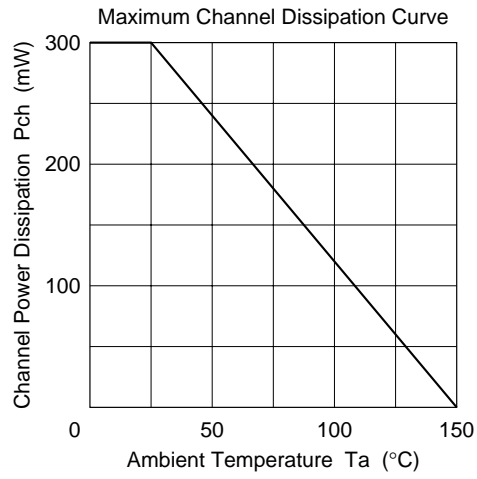
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSX}$	20	—	—	V	$I_D = 100 \mu A, V_{GS} = -4 V$
Gate cutoff current	I_{GSS}	—	—	±20	nA	$V_{GS} = \pm 5 V, V_{DS} = 0$
Drain current	I_{DSS}^{*1}	4	—	12	mA	$V_{DS} = 10 V, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	0	—	-2.0	V	$V_{DS} = 10 V, I_D = 10 \mu A$
Forward transfer admittance	$ y_{fs} $	8	14	—	mS	$V_{DS} = 10 V, V_{GS} = 0, f = 1 kHz$
Input capacitance	Ciss	—	2.5	—	pF	$V_{DS} = 10 V, V_{GS} = 0, f = 1 MHz$
Reverse transfer capacitance	Crss	—	0.03	—	pF	
Output capacitance	Coss	—	1.8	—	pF	$V_{DS} = 5 V, V_{GS} = 0, f = 1 MHz$
Power gain	PG	—	30	—	dB	$V_{DS} = 10 V, V_{GS} = 0, f = 100 MHz$
Noise figure	NF	—	2.0	—	dB	

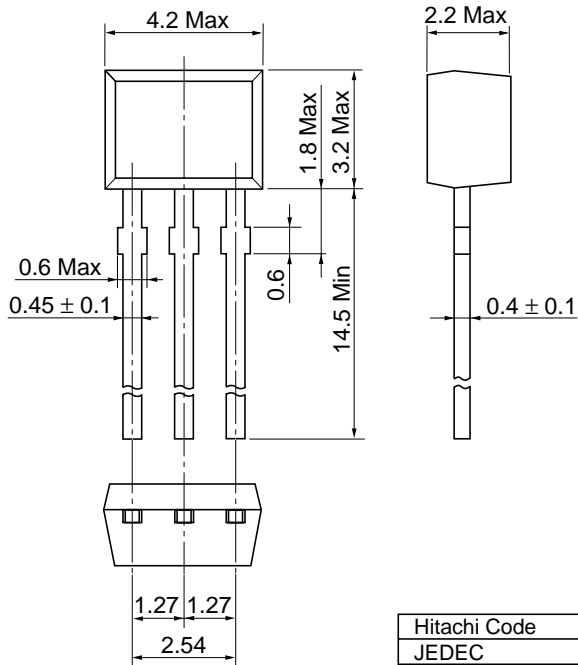
Note: 1. The 2SK439 is grouped by I_{DSS} as follows.

Grade	D	E	F
I_{DSS}	4 to 8	6 to 10	8 to 12

See characteristic curves of 2SK359.



Unit: mm



Hitachi Code	SPAK
JEDEC	—
EIAJ	—
Weight (reference value)	0.10 g

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Hitachi, Ltd.

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

URL North America : <http://semiconductor.hitachi.com/>
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For further information write to:

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

Hitachi Europe GmbH
Electronic components Group
Dornacher Straße 3
D-85622 Feldkirchen, Munich
Germany
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) 778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia Ltd.
Taipei Branch Office
3F, Hung Kuo Building, No.167,
Tun-Hwa North Road, Taipei (105)
Tel: <886> (2) 2718-3666
Fax: <886> (2) 2718-8180

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
Telex: 40815 HITEC HX

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