2SK2922

Silicon N Channel MOS FET
UHF Power Amplifier

HITACHI

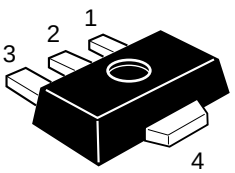
ADE-208-675(Z)
1st. Edition
Aug. 1998

Features

- High power output, High gain, High efficiency
  PG = 8.0dB, Pout = 31dBm, ηD = 57 %min. (f = 836.5MHz)
- Compact package capable of surface mounting

Outline

UPAK



1. Gate
2. Source
3. Drain
4. Source

This Device is sensitive to Electro Static Discharge.
An Adequate handling procedure is requested.

Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	10	V
Gate to source voltage	V_{GSS}	±6	V
Drain current	I_D	0.7	A
Drain peak current	$I_{D(pulse)}$ Note1	1.4	A
Channel dissipation	Pch Note2	3	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–45 to +150	°C

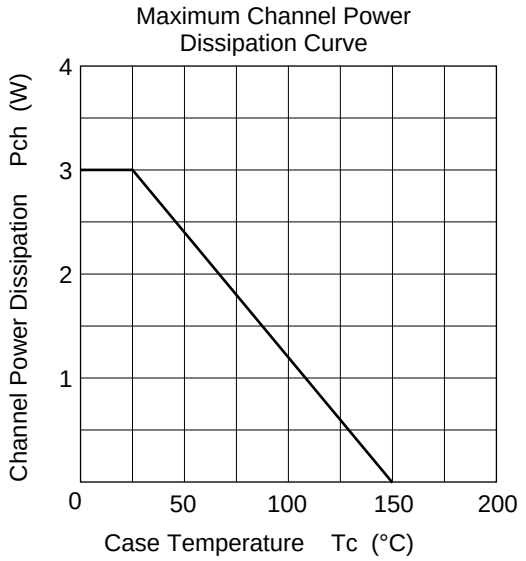
Note: 1. PW ≤ 10ms, duty cycle ≤ 50 %
2. Value at Tc = 25°C

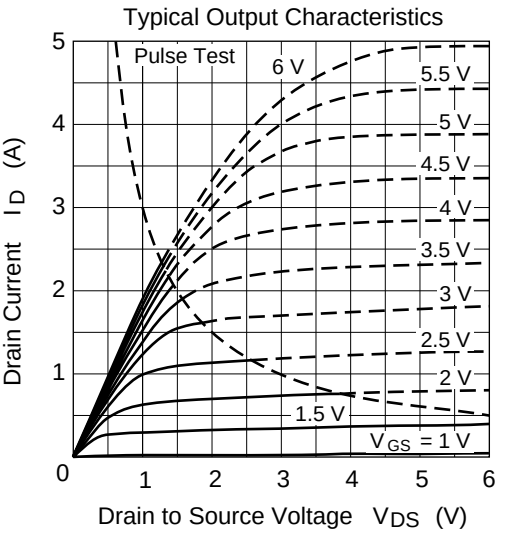
Electrical Characteristics (Ta = 25°C)

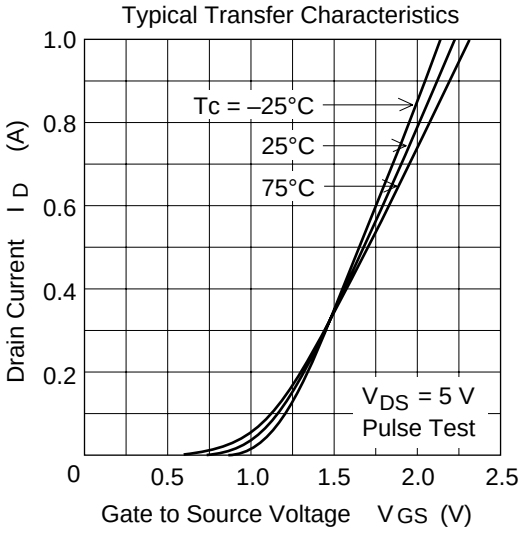
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage drain current	I_{DSS}	—	—	100	µA	V_{DS} = 10 V, V_{GS} = 0
Gate to source leak current	I_{GSS}	—	—	±5.0	µA	V_{GS} = ±6V, V_{DS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	0.4	—	1.2	V	I_D = 3mA, V_{DS} = 5V
Input capacitance	Ciss	—	27	—	pF	V_{GS} = 2V, V_{DS} = 0, f = 1MHz
Output capacitance	Coss	—	13	—	pF	V_{DS} = 5, V_{GS} = 0, f = 1MHz
Output Power	Pout	31	—	—	dBm	V_{DS} = 4.7V, f =836.5Mhz Pin = 23dBm
Drain Rational	ηD	57	—	—	%	V_{DS} = 4.7V, f =836.5Mhz Pin = 23dBm

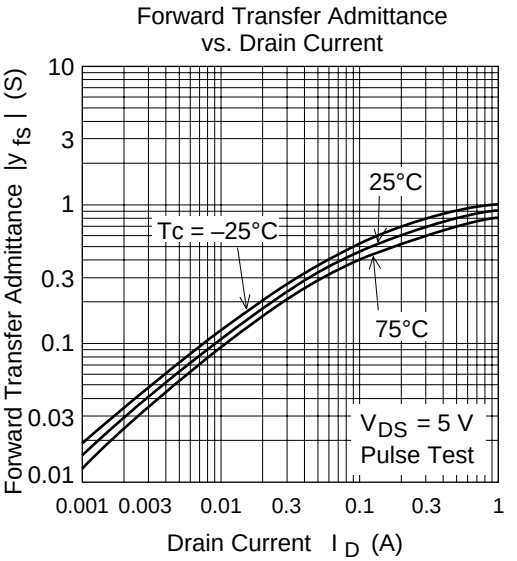
Note: 1. Marking is “HX”.

Main Characteristics

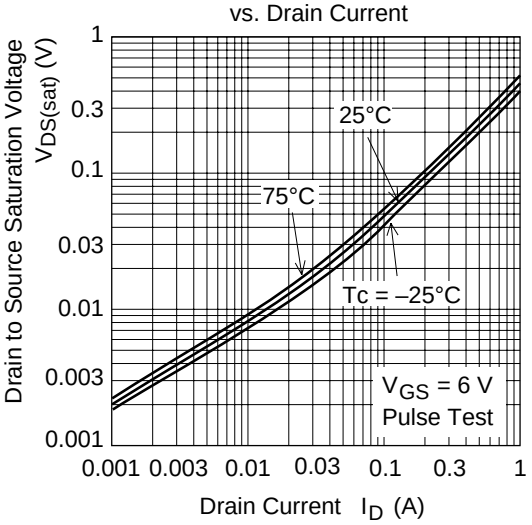




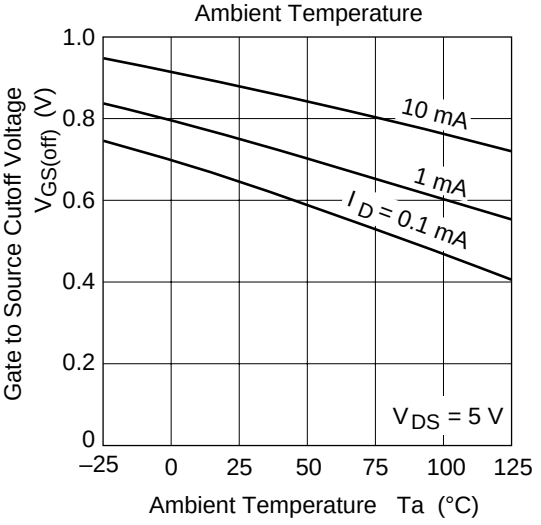




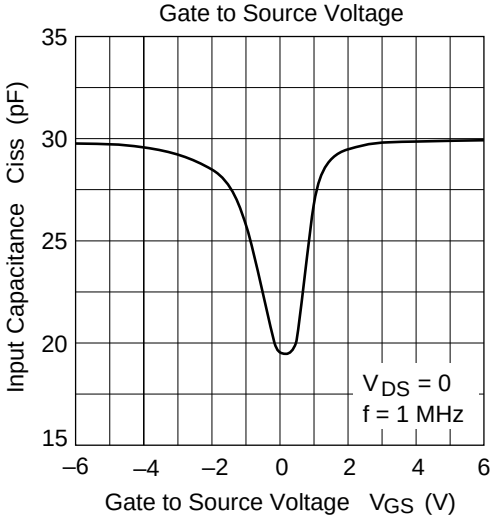
Drain to Source Saturation Voltage vs. Drain Current



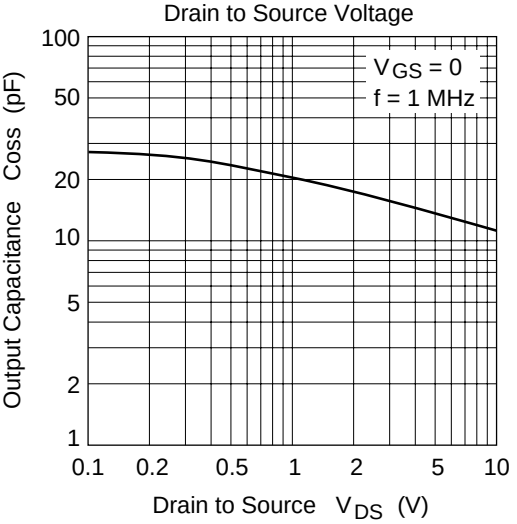
Gate to Source Cutoff Voltage vs. Ambient Temperature

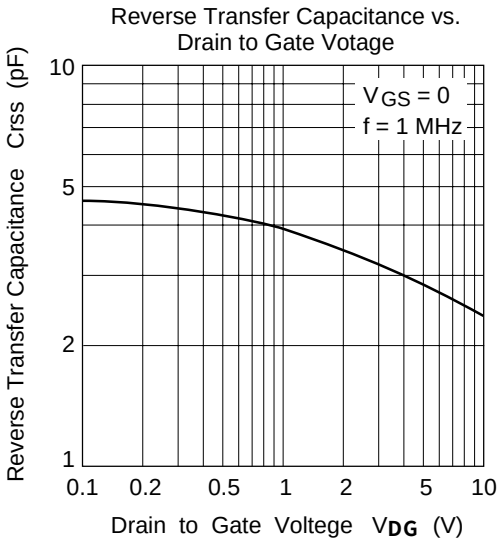


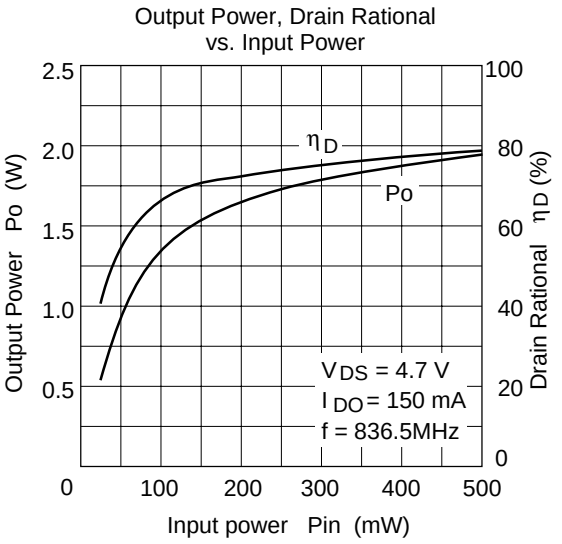
Input Capacitance vs. Gate to Source Voltage



Output Capacitance vs. Drain to Source Voltage

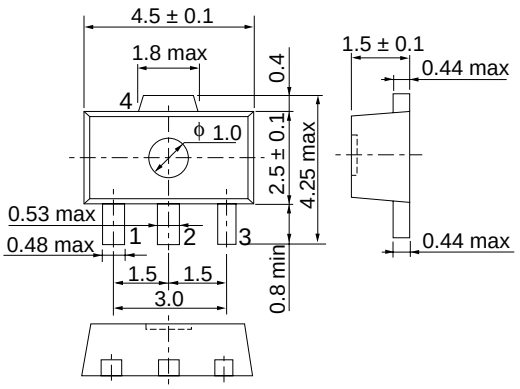


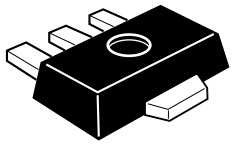

Reverse Transfer Capacitance vs.
Drain to Gate Votage
Reverse Transfer Capacitance Crss (pF)
10
5
2
1
0.1
0.2
0.5
1
2
5
10
VGS = 0
f = 1 MHz
Drain to Gate Voltege VDG (V)


Output Power, Drain Rational
vs. Input Power
Output Power Po (W)
2.5
2.0
1.5
1.0
0.5
0
100
200
300
400
500
100
80
60
40
20
0
Drain Rational ηD (%)
ηD
Po
VDS = 4.7 V
IDO = 150 mA
f = 836.5MHz
Input power Pin (mW)

Package Dimensions

Unit: mm





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HITACHI

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
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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