



2SK1999

Silicon N-Channel MOS FET

HITACHI

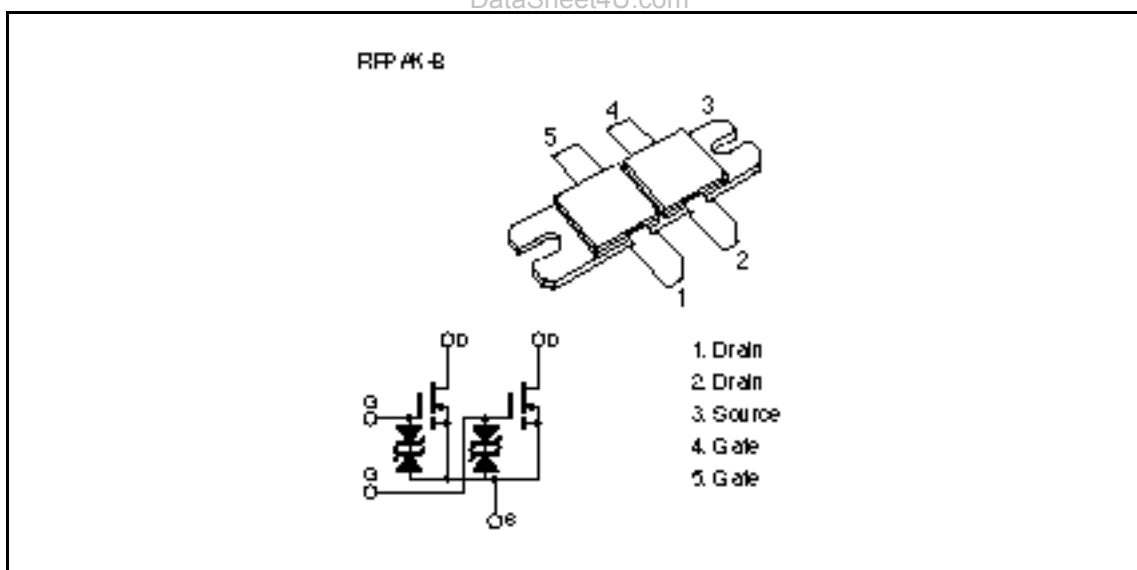
Application

VHF amplifier

Features

- High gain, high efficiency
PG = 15 dB, D = 65% typ (f = 200 MHz)
- Compact package
Suitable for push - pull circuit

Outline



2SK1999

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	120	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I_D	12	A
Channel dissipation	Pch* ¹	180	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

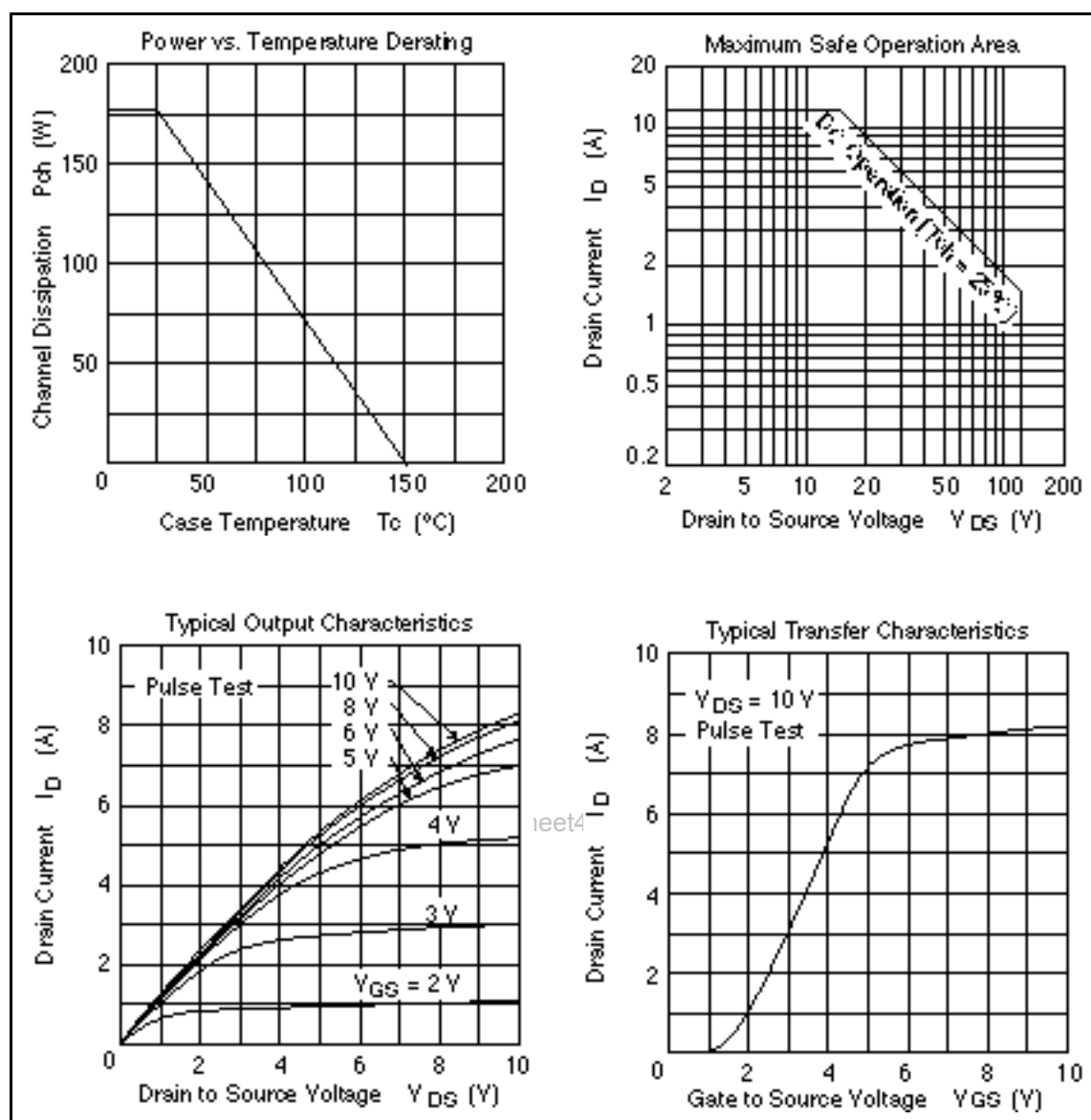
Note: 1. Value at T_c = 25°C

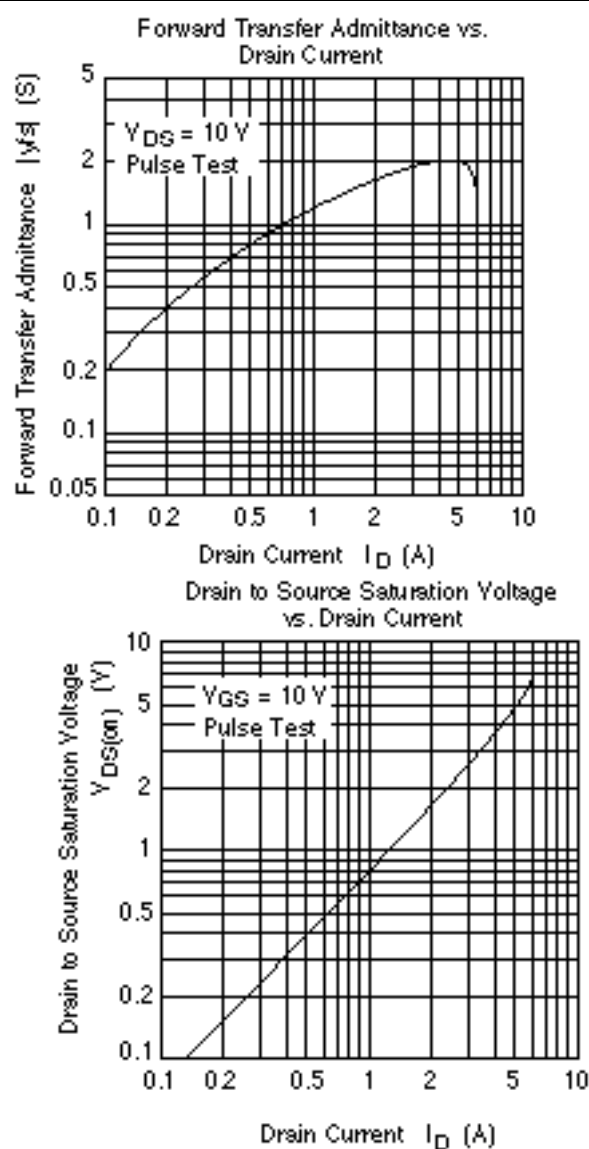
Electrical Characteristics (Ta = 25°C)

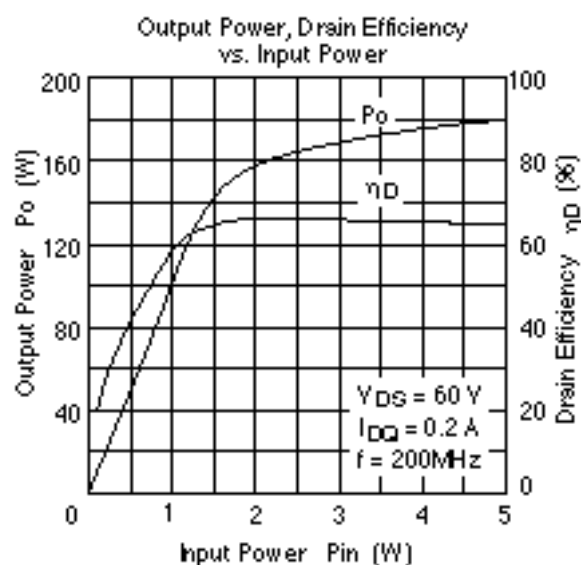
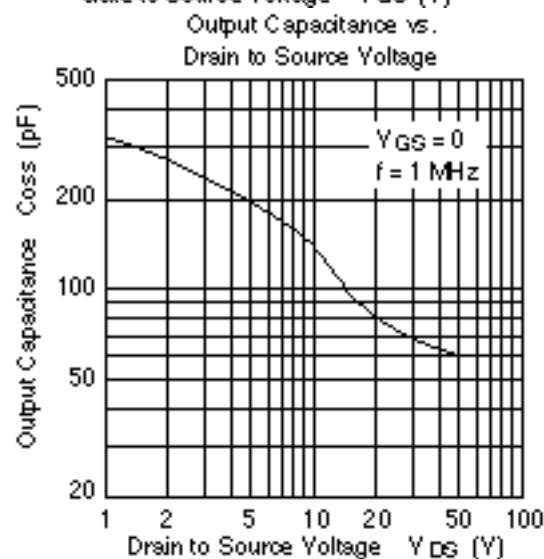
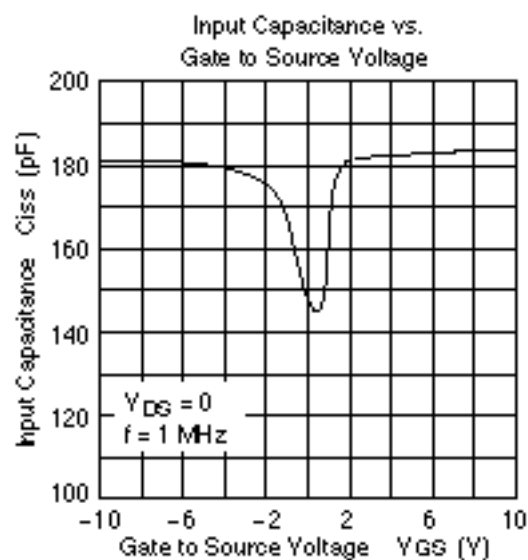
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage* ¹	$V_{(BR)DSS}$	120	—	—	V	$I_D = 1 \text{ mA}$, $V_{GS} = 0$
Gate to source breakdown voltage* ¹	$V_{(BR)GSS}$	±20	—	—	V	$I_G = \pm 100 \text{ } \mu\text{A}$, $V_{DS} = 0$
Zero gate voltage drain current* ¹	I_{DSS}	—	—	0.5	mA	$V_{DS} = 100 \text{ V}$, $V_{GS} = 0$
Gate to source cutoff voltage* ¹	$V_{GS(off)}$	0.5	—	2.0	V	$I_D = 1 \text{ mA}$, $V_{DS} = 10 \text{ V}$
Drain to source cutoff voltage* ¹	$V_{DS(on)}$	2.7	2.7	3.5	V	$I_D = 3 \text{ A}$, $V_{GS} = 10 \text{ V}$ * ²
Forward transfer admittance* ¹	$ y_{fs} $	1.5	1.8	—	S	$I_D = 2.5 \text{ A}$, $V_{DS} = 10 \text{ V}$ * ²
Input capacitance* ¹	Ciss	—	185	—	pF	$V_{GS} = 5 \text{ V}$, $V_{DS} = 0$ $f = 1 \text{ MHz}$
Output capacitance* ¹	Coss	—	60	—	pF	$V_{DS} = 50 \text{ V}$, $V_{GS} = 0$ $f = 1 \text{ MHz}$
Output Power	Po	150	180	—	W	$V_{DS} = 60 \text{ V}$, $I_{DQ} = 0.2 \text{ A}$
Drain Efficiency	D	—	65	—	%	$f = 200 \text{ MHz}$, Pin = 5 W

Notes: 1. Shows / unit FET

2. Pulse Test



2SK1999



2SK1999

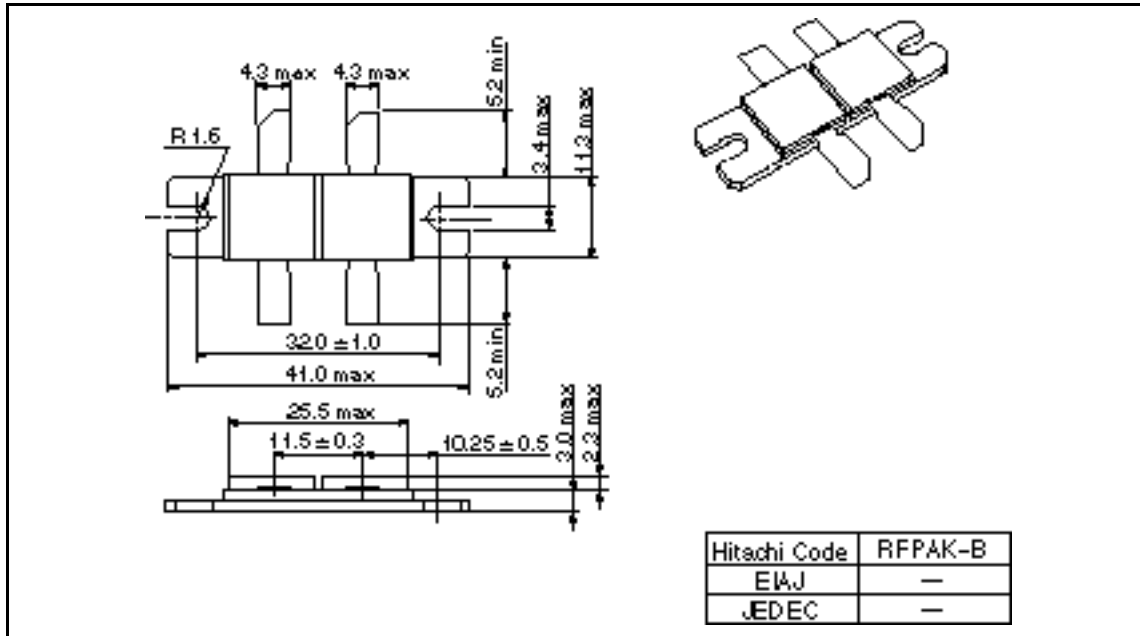
et4U.com

DataSheet4U.com

DataShee

2SK1999**Package Dimensions**

Unit: mm



2SK1999

When using this document, keep the following in mind:

1. This document may, wholly or partially, be subject to change without notice.
2. All rights are reserved: No one is permitted to reproduce or duplicate, in any form, the whole or part of this document without Hitachi's permission.
3. Hitachi will not be held responsible for any damage to the user that may result from accidents or any other reasons during operation of the user's unit according to this document.
4. Circuitry and other examples described herein are meant merely to indicate the characteristics and performance of Hitachi's semiconductor products. Hitachi assumes no responsibility for any intellectual property claims or other problems that may result from applications based on the examples described herein.
5. No license is granted by implication or otherwise under any patents or other rights of any third party or Hitachi, Ltd.
6. MEDICAL APPLICATIONS: Hitachi's products are not authorized for use in MEDICAL APPLICATIONS without the written consent of the appropriate officer of Hitachi's sales company. Such use includes, but is not limited to, use in life support systems. Buyers of Hitachi's products are requested to notify the relevant Hitachi sales offices when planning to use the products in MEDICAL APPLICATIONS.

HITACHI

Hitachi, Ltd.

Semiconductor & IC Div.

Nippon Bldg., 2-6-2, Ohite-machi, Chiyoda-ku, Tokyo 100, Japan

Tel Tokyo (03) 3270-2111

Fax (03) 3270-5109

For further information write to:

Hitachi America, Ltd.
Semiconductor & IC Div.
2000 Sierra Point Parkway
Brisbane, CA 94005-4835
U.S.A.
Tel 415-589-8000
Fax 415-589-4207

Hitachi Europe GmbH
Electronic Components Group
Continental Europe
Dornacher Straße 3
D-85622 Feldkirchen
München
Tel 089-9 94 80-0
Fax 089-9 29 30 00

Hitachi Europe Ltd.
Electronic Components Div.
Northern Europe Headquarters
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA
United Kingdom
Tel 0628-585000
Fax 0628-778322

Hitachi Asia Pte. Ltd.
45 Collyer Quay #20-00
Hitachi Tower
Singapore 0404
Tel 535-2100
Fax 535-1533

Hitachi Asia (Hong Kong) Ltd.
Unit 705, North Tower,
World Finance Centre
Harbour City, Canton Road
Tsim Sha Tsui, Kowloon
Hong Kong
Tel 27359218
Fax 27306074