

2SK2596

Silicon N-Channel MOS FET
UHF Power Amplifier

HITACHI

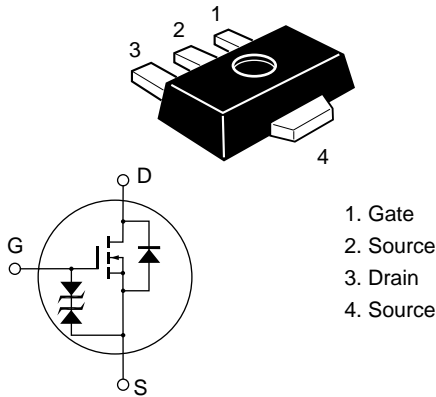
ADE-208-1367 (Z)
1st. Edition
Mar. 2001

Features

- High power output, High gain, High efficiency
PG = 12.2dB, Pout = 30.2dBm, $\eta_D = 45\% \text{ min.}$ ($f = 836.5\text{MHz}$)
- Compact package capable of surface mounting

Outline

UPAK



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

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	17	V
Gate to source voltage	V_{GSS}	±10	V
Drain current	I_D	0.4	A
Drain peak current	$I_{D(pulse)}^{*1}$	1	A
Channel dissipation	Pch ^{*2}	3	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-45 to +150	°C

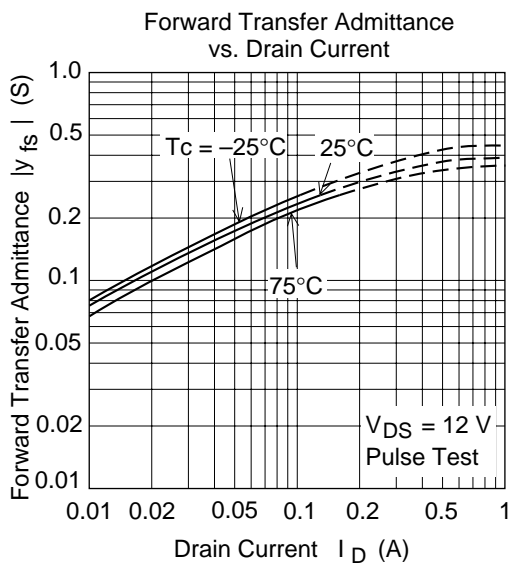
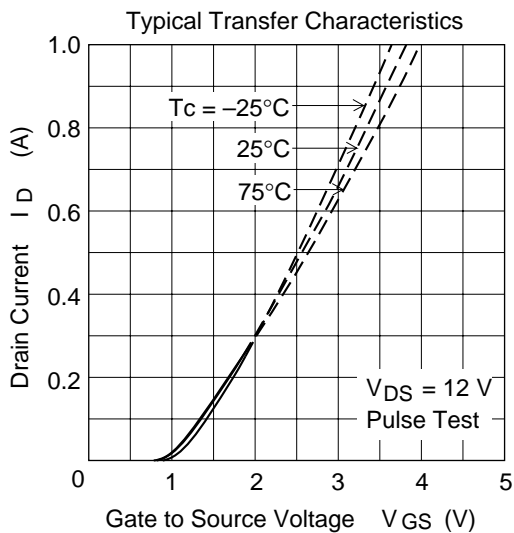
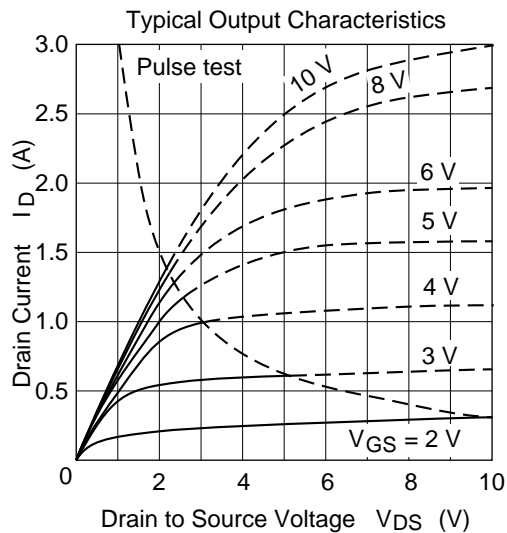
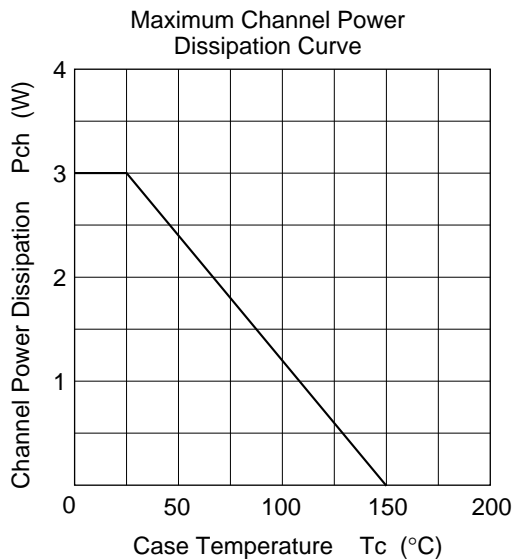
Notes: 1. $PW \leq 10\mu s$, duty cycle $\leq 1\%$

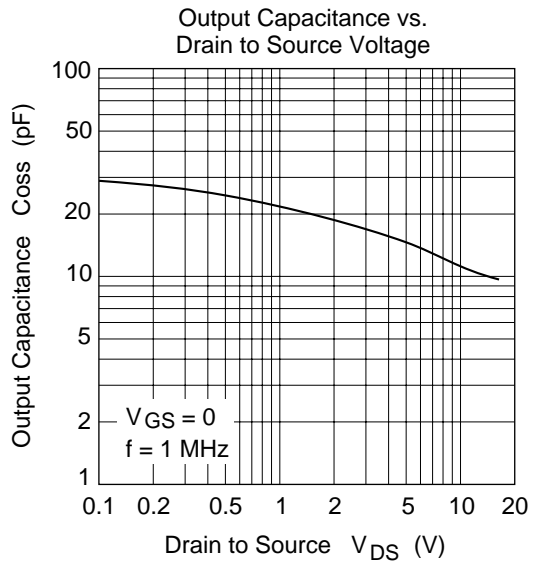
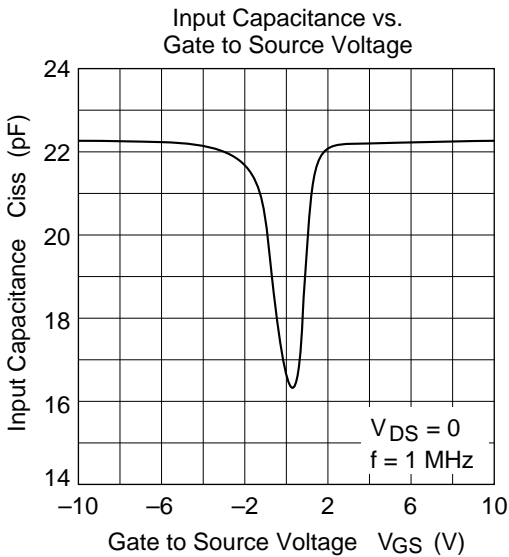
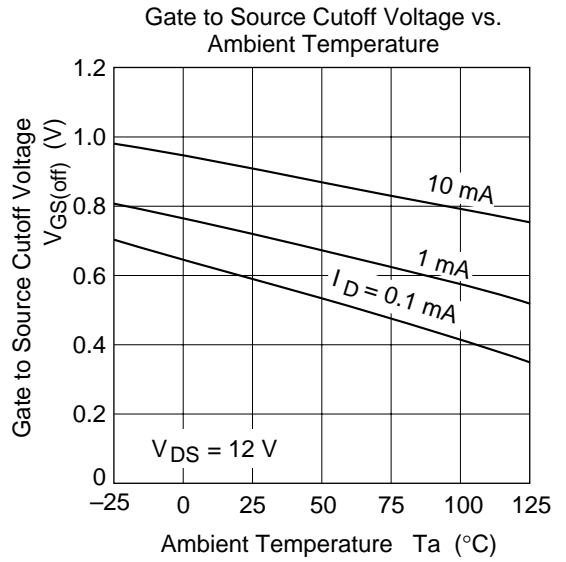
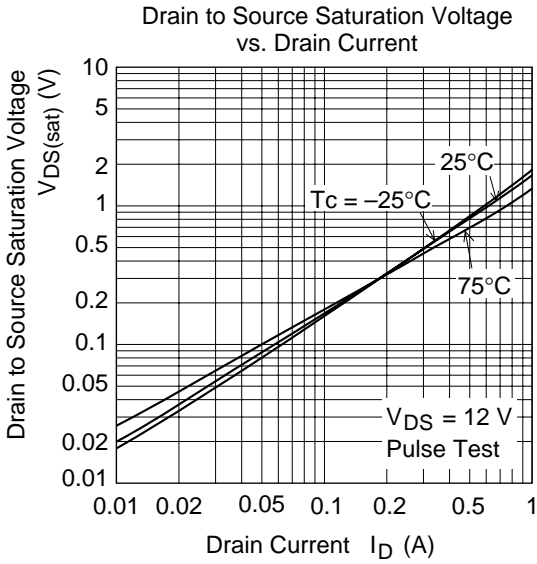
2. Value at Tc = 25°C

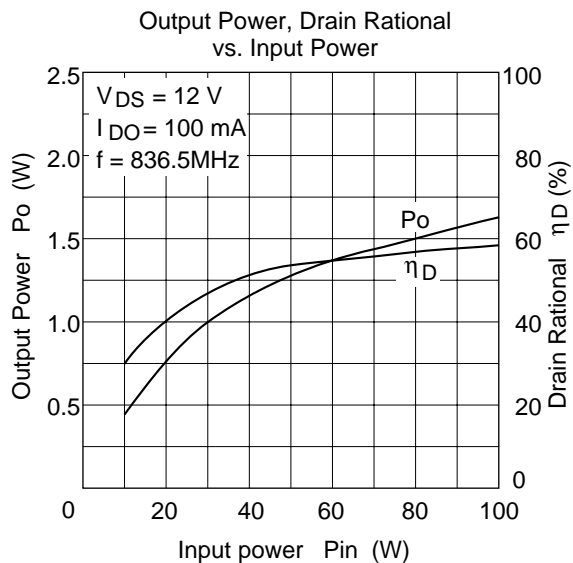
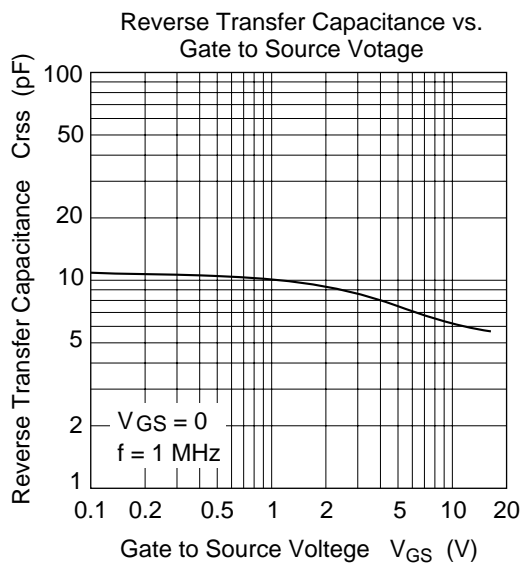
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min.	Typ	Max.	Unit	Test Conditions
Zero gate voltage drain current	I_{DSS}	—	—	10	μA	$V_{DS} = 12V, V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	±5.0	μA	$V_{GS} = \pm 10V, V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	0.4	—	1.1	V	$I_D = 2mA, V_{DS} = 12V$
Input capacitance	Ciss	—	22	—	pF	$V_{GS} = 5V, V_{DS} = 0$ f = 1MHz
Output capacitance	Coss	—	10.5	—	pF	$V_{DS} = 12V, V_{GS} = 0$ f = 1MHz
Output Power	Pout	30.2	31.46	—	dBm	$V_{DS} = 12V$ f = 836.5MHz Pin = 18dBm
Drain Rational	η_D	45	55	—	%	$V_{DS} = 12V$ Pout = 30.2dBm f = 836.5MHz Pin = 18dBm

Main Characteristics

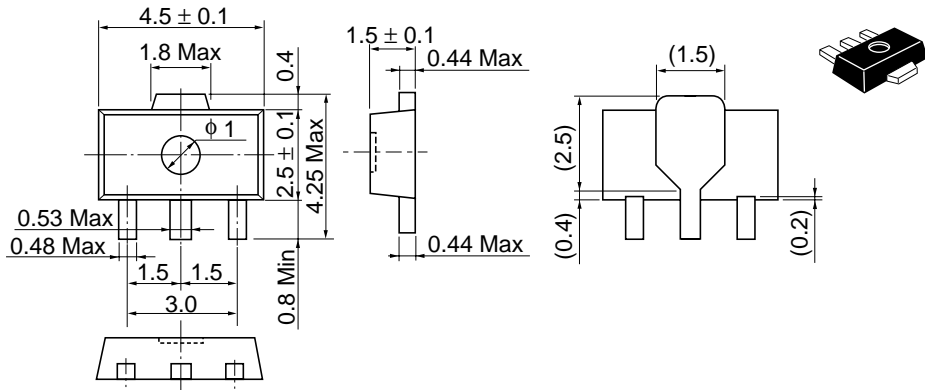






Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.050 g

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