

2SK3391

Silicon N Channel MOS FET
UHF Power Amplifier

HITACHI

ADE-208-847 (Z)

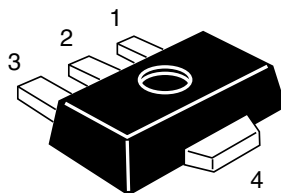
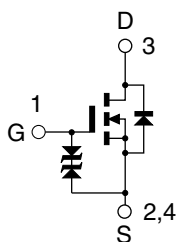
1st. Edition
Aug. 2001

Features

- High power output, High gain, High efficiency
PG = 18 dB, Pout = 1.6 W, η_{add} = 58 % min. (f = 836 MHz)
- Compact package capable of surface mounting

Outline

UPAK



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

Note: Marking is "JX".

This Device is sensitive to Electro Static 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	0.3	A
Drain peak current	$I_{D(pulse)}$ ^{Note1}	0.75	A
Channel dissipation	P_{ch} ^{Note2}	5	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-45 to +150	°C

Note: 1. PW < 1sec, Tch < 150 °C
2. Value at Tc = 25°C, Use the ideal heat sink.

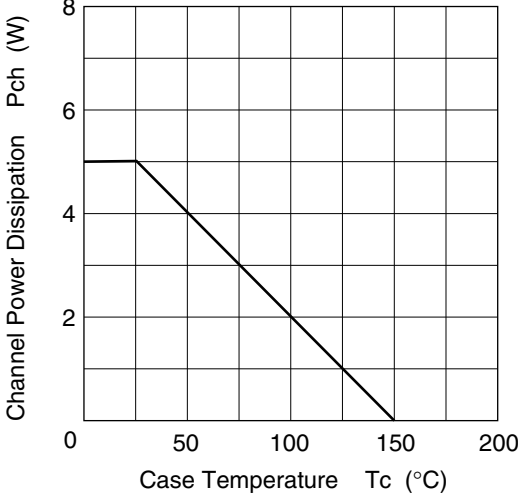
Electrical Characteristics

(Tc = 25°C)

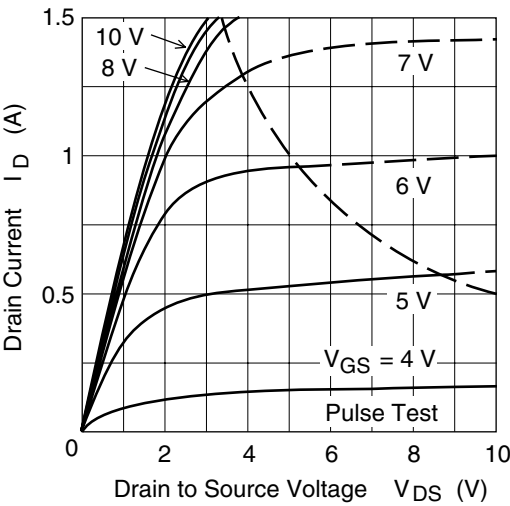
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage drain current	I_{DSS}	—	—	10	μA	$V_{DS} = 13.7\text{ V}$, $V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 5	μA	$V_{GS} = \pm 10\text{ V}$, $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	2.3	—	3.1	V	$I_D = 1\text{ mA}$, $V_{DS} = 13.7\text{ V}$
Input capacitance	Ciss	—	10	—	pF	$V_{GS} = 5\text{ V}$, $V_{DS} = 0$, $f = 1\text{ MHz}$
Output capacitance	Coss	—	3.5	—	pF	$V_{DS} = 13.7\text{ V}$, $V_{GS} = 0$, $f = 1\text{ MHz}$
Output Power	Pout	1.6	—	—	W	$V_{DS} = 13.7\text{ V}$, $I_{DO} = 0.15\text{ A}$ $f = 836\text{ MHz}$, $P_{in} = 25.1\text{ mW}$
Added Efficiency	η_{add}	58	—	—	%	$V_{DS} = 13.7\text{ V}$, $I_{DO} = 0.15\text{ A}$ $f = 836\text{ MHz}$, $P_{in} = 25.1\text{ mW}$

Main Characteristics

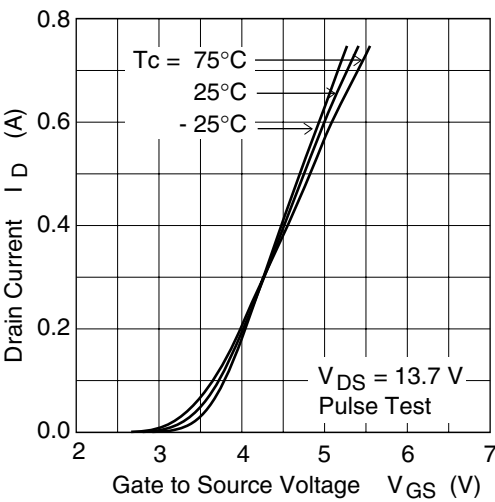
Maximum Channel Power
Dissipation Curve



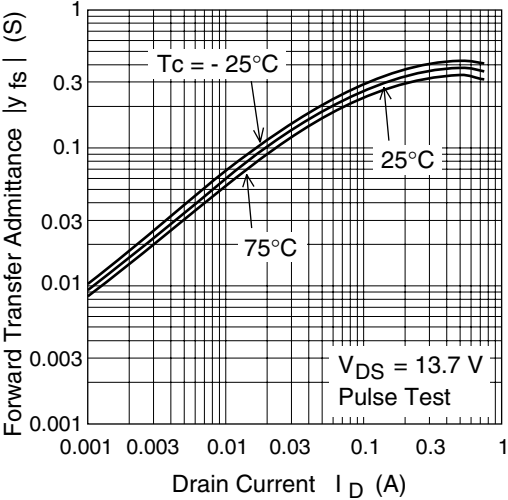
Typical Output Characteristics

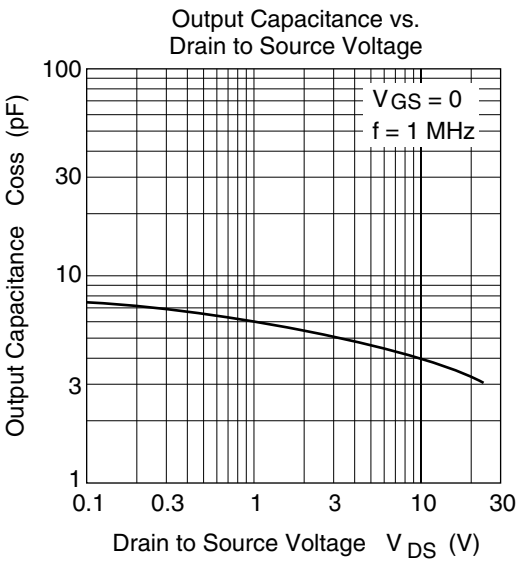
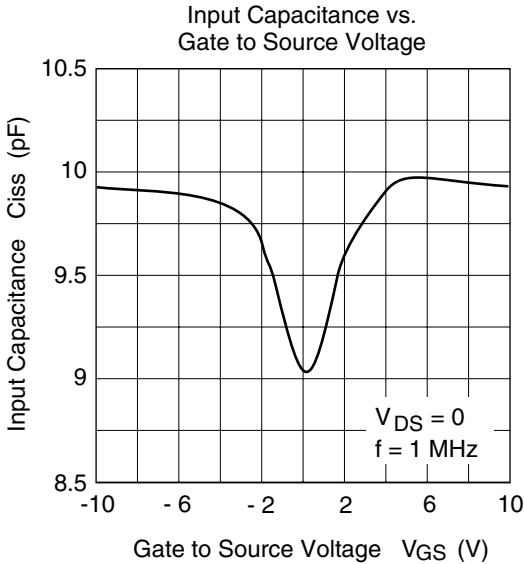
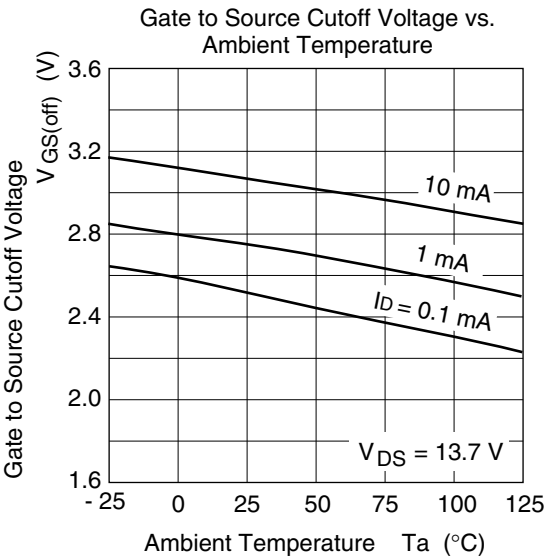
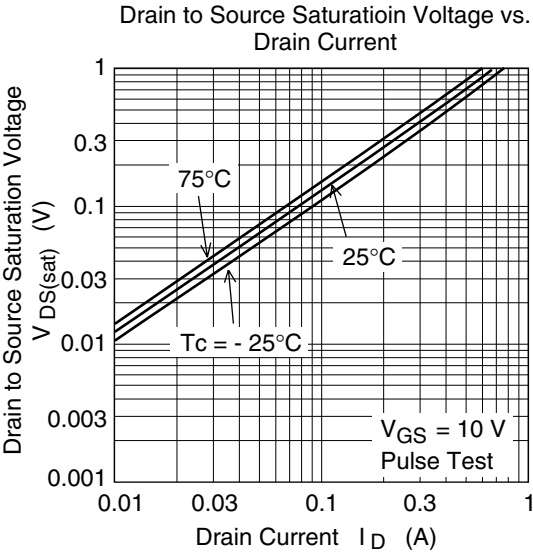


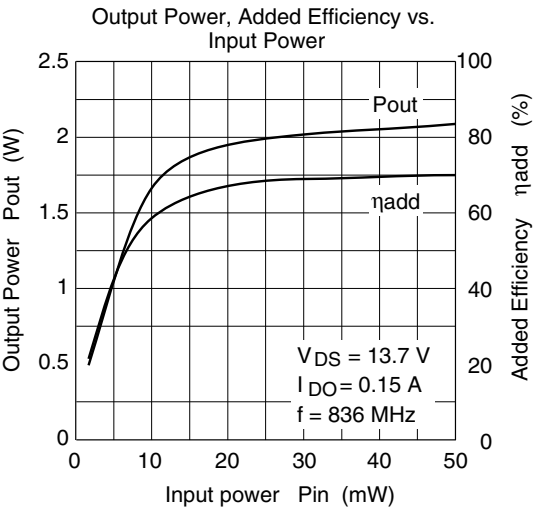
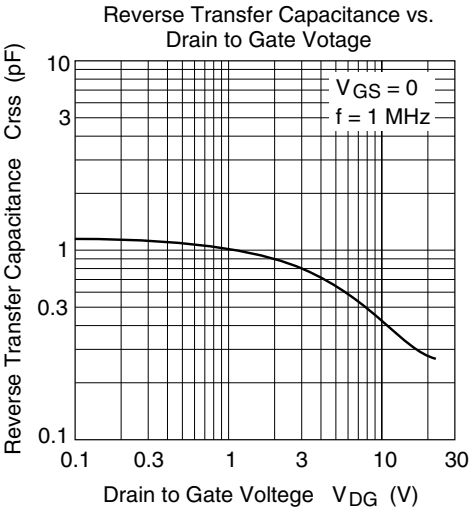
Typical Transfer Characteristics



Forward Transfer Admittance vs.
Drain Current

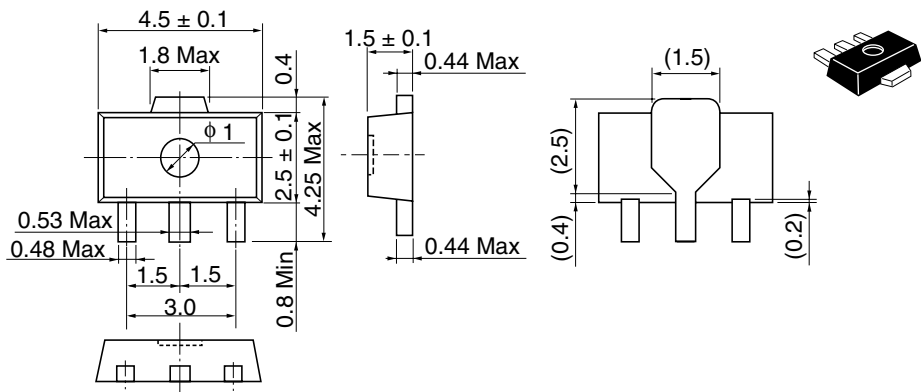






Package Dimensions

As of January, 2001
Unit: mm



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

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