

2SK3391

Silicon N Channel MOS FET
UHF Power Amplifier

HITACHI

ADE-208-847 (Z)

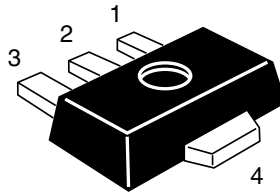
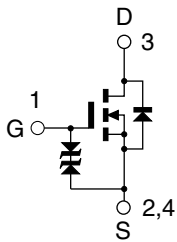
1st. Edition
Aug. 2001

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	Pch ^{Note2}	5	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-45 to +150	°C

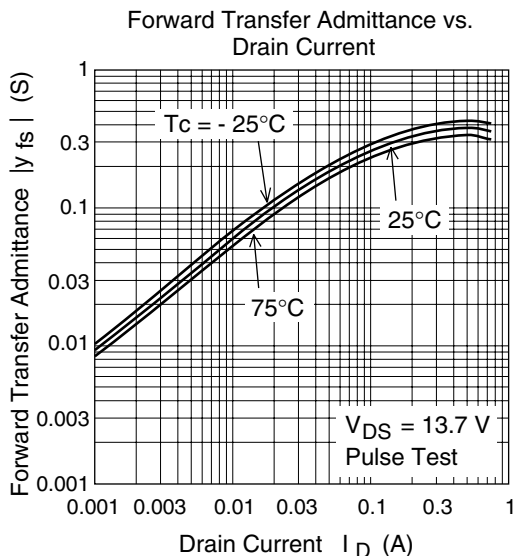
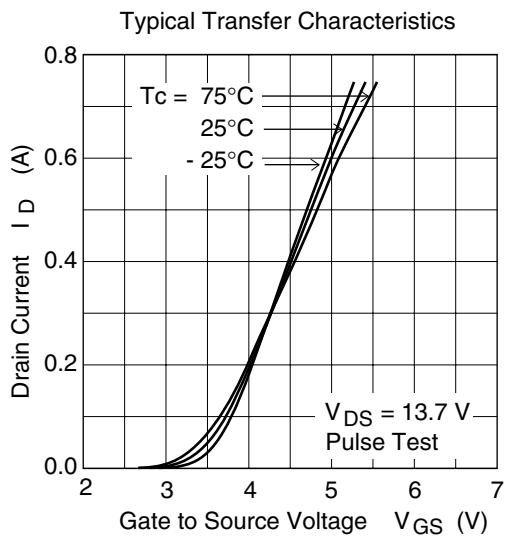
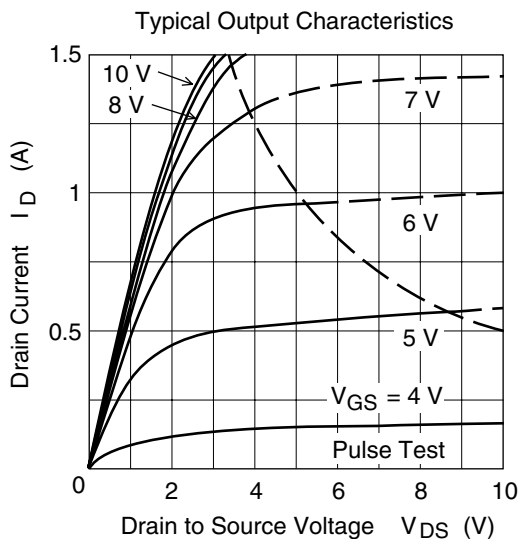
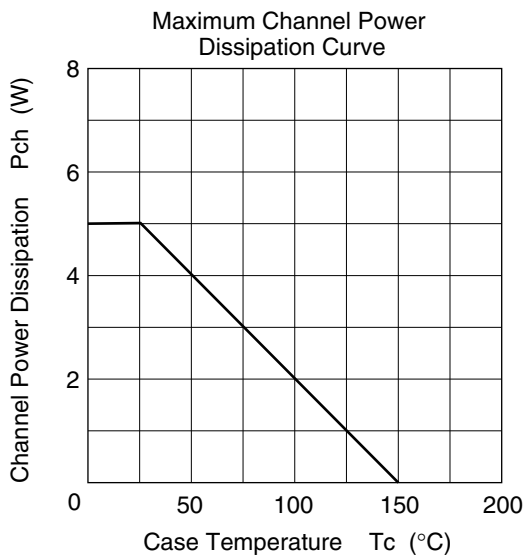
Note: 1. PW < 1sec, Tch < 150 °C
 2. Value at Tc = 25°C, Use the ideal heat sink.

Electrical Characteristics

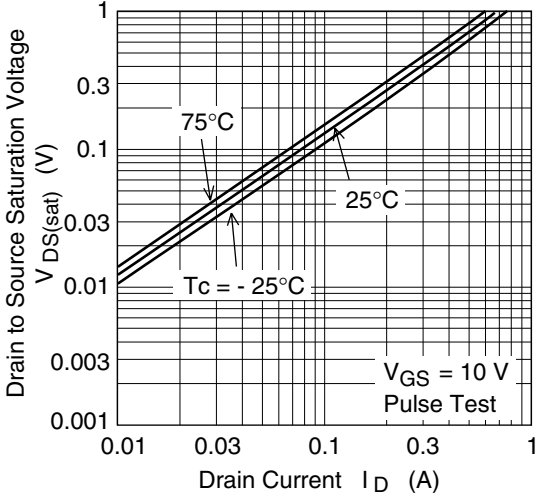
(Tc = 25°C)

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

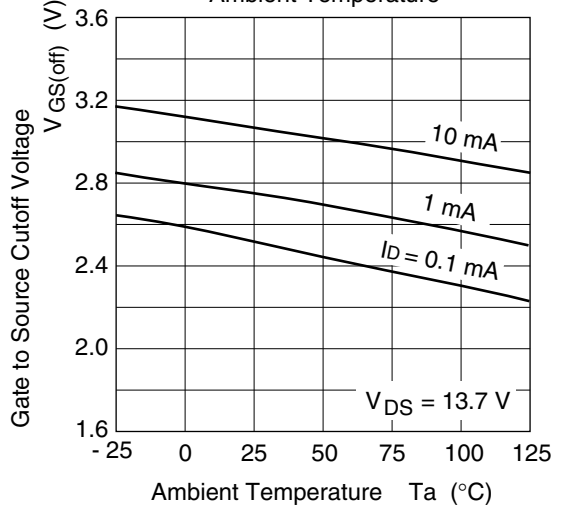
Main Characteristics



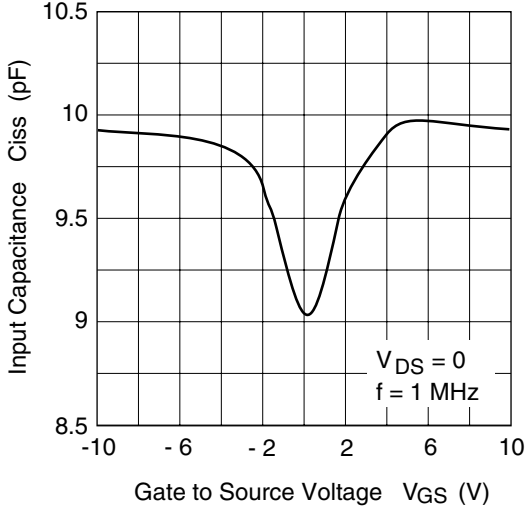
Drain to Source Saturation Voltage vs. Drain Current



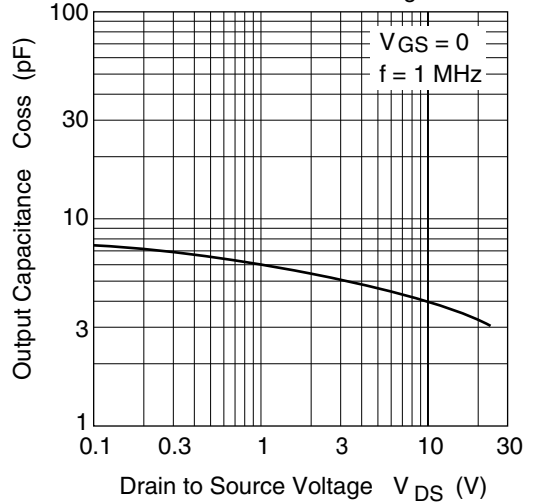
Gate to Source Cutoff Voltage vs. Ambient Temperature



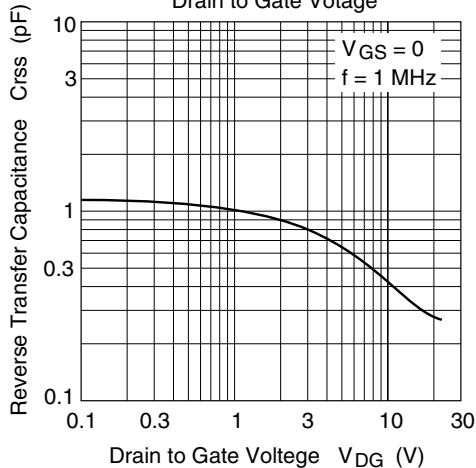
Input Capacitance vs. Gate to Source Voltage



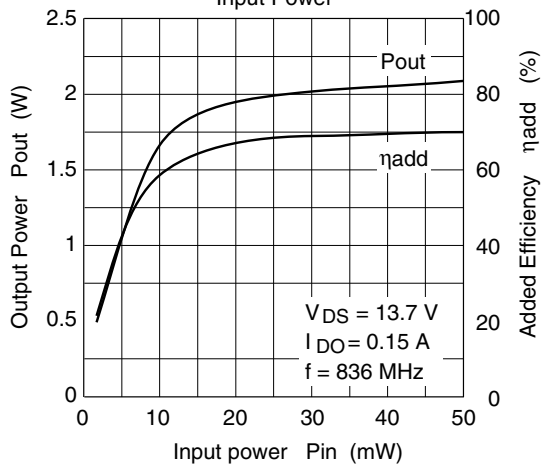
Output Capacitance vs. Drain to Source Voltage



Reverse Transfer Capacitance vs. Drain to Gate Voltage

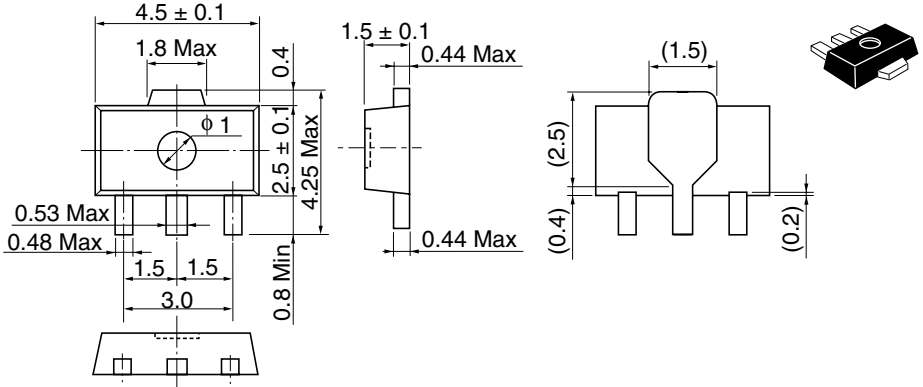


Output Power, Added Efficiency vs. Input Power



Package Dimensions

As of January, 2001
Unit: mm



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

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