

2SK3175A

Silicon N Channel MOS FET
UHF Power Amplifier

HITACHI

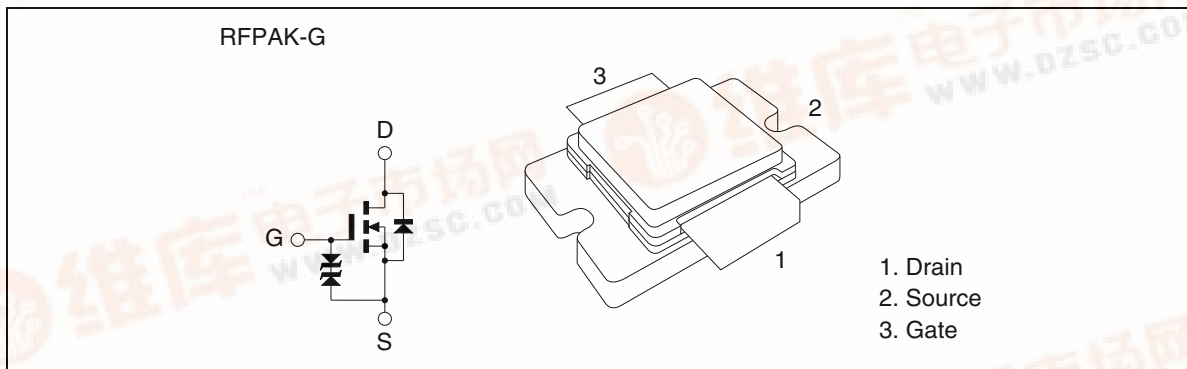
ADE-208-1452 (Z)

1st. Edition
September 2001

Features

- High power output, High gain, High efficiency
 $P_{1dB} = 110 \text{ W}$, $PG = 16.0 \text{ dB}$, $\eta_D = 60 \%$ (at P_{1dB}) typ. ($f = 860\text{MHz}$)
- Compact package

Outline



This Device is sensitive to Electro Static Discharge. An Adequate handling procedure is requested.
In AC testing , the part should be mounted on heat sink with thermal compound.

2SK3175A

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS} ^{Note1}	60	V
Gate to source voltage	V_{GSS}	±10	V
Drain current	I_D	8	A
Drain peak current	$I_{D(pulse)}$ ^{Note2}	16	A
Channel dissipation	P_{ch} ^{Note3}	126	W
Channel temperature	Tch	175	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. Pin = 0, PW ≤ 0.1 sec
2. PW ≤ 10 ms, duty cycle ≤ 50 %
3. Value at Tc = 25°C

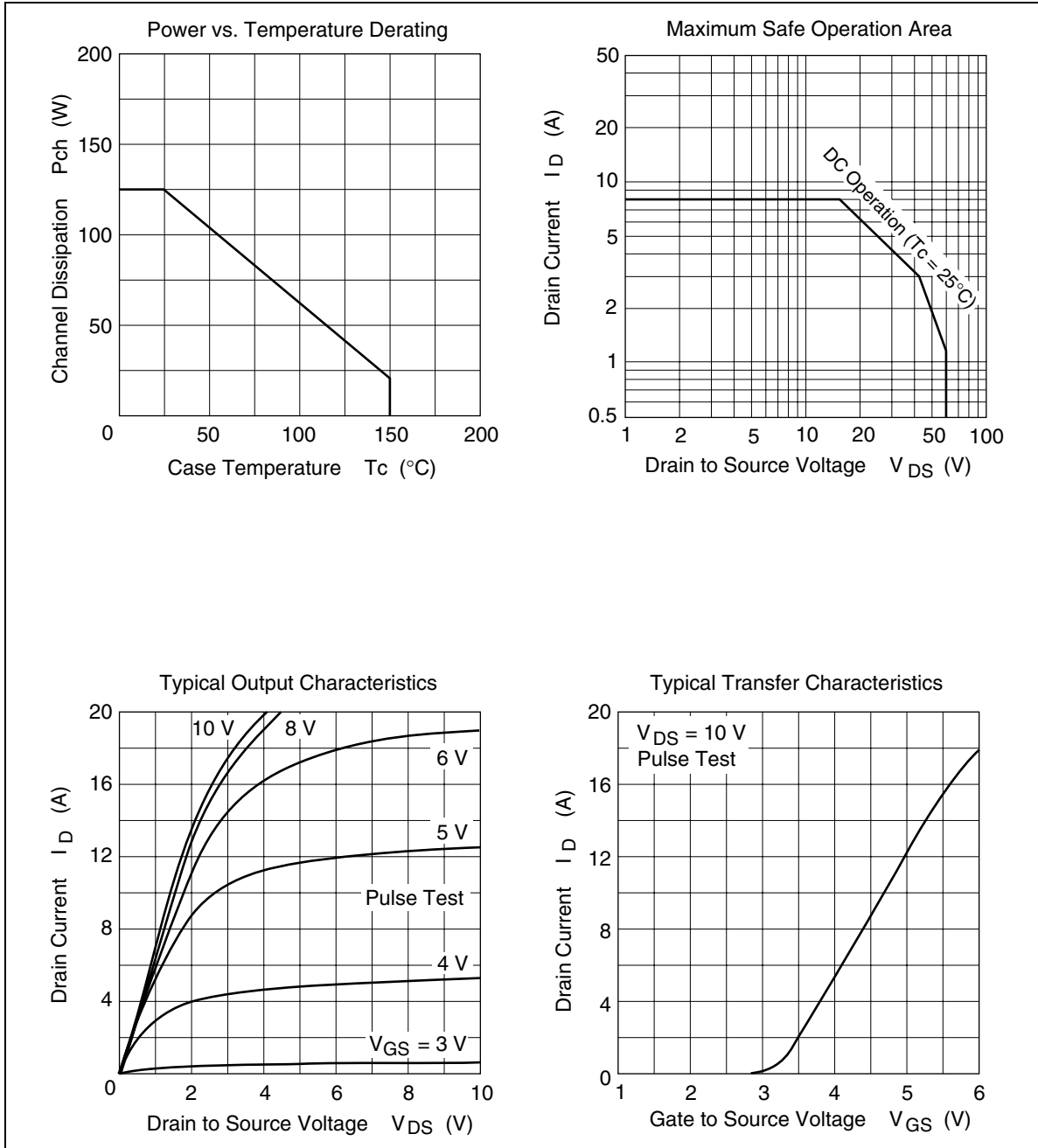
Electrical Characteristics

(Tc = 25°C)

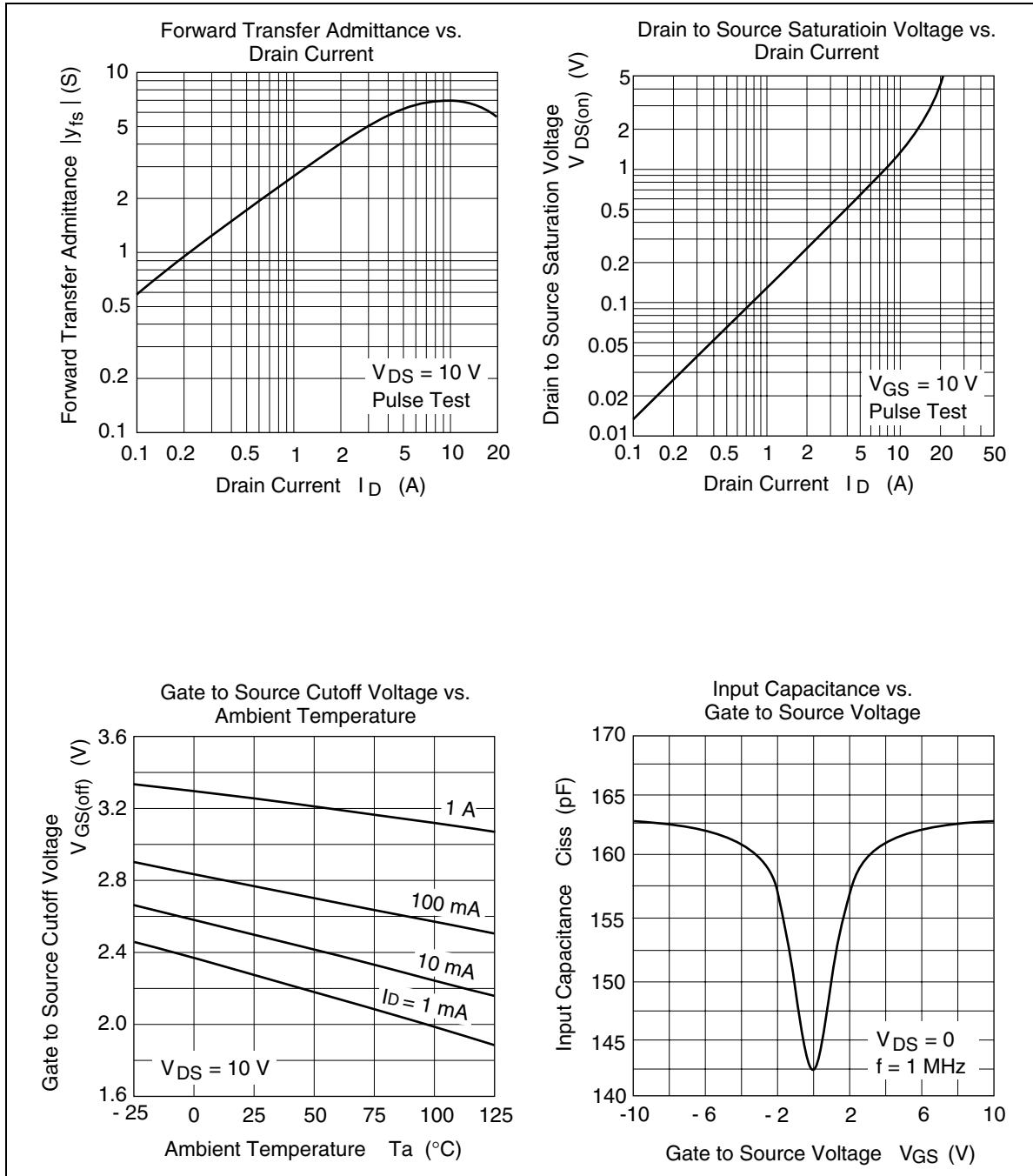
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Zero gate voltage drain current	I_{DSS}	—	—	1	mA	$V_{DS} = 60V, V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	±3	μA	$V_{GS} = ±10V, V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	1.0	2.2	3.0	V	$I_D = 1mA, V_{DS} = 10V$
Forward transfer admittance	$ y_{fs} $	4.0	6.7	—	S	$V_{DS} = 10V, I_D = 5A$ ^{Note4}
Input capacitance	Ciss	—	165	—	pF	$V_{GS} = 5V, V_{DS} = 0$ f = 1MHz
Reverse transfer capacitance	Crss	—	4	—	pF	$V_{DG} = 10V, V_{GS} = 0$ f = 1MHz
Output Power	Pout	100	135	—	W	$V_{DS} = 28V, I_{D0} = 0.6A$ f = 860 MHz Pin = 7 W
Drain Rational	η_D	—	65	—	%	$V_{DS} = 28V, I_{D0} = 0.6A$ f = 860 MHz Pin = 7 W

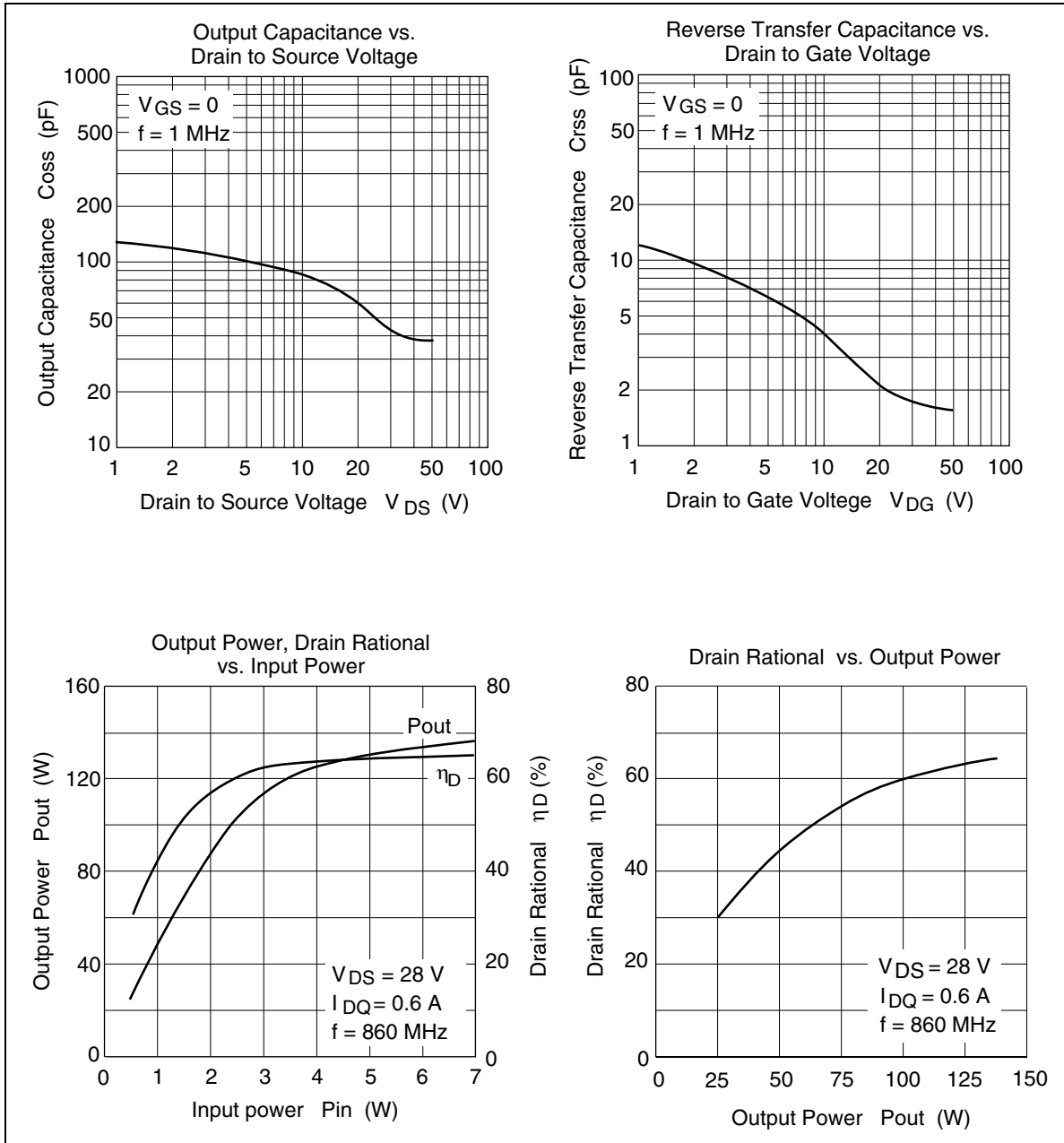
Note: 4. Pulse Test

Main Characteristics

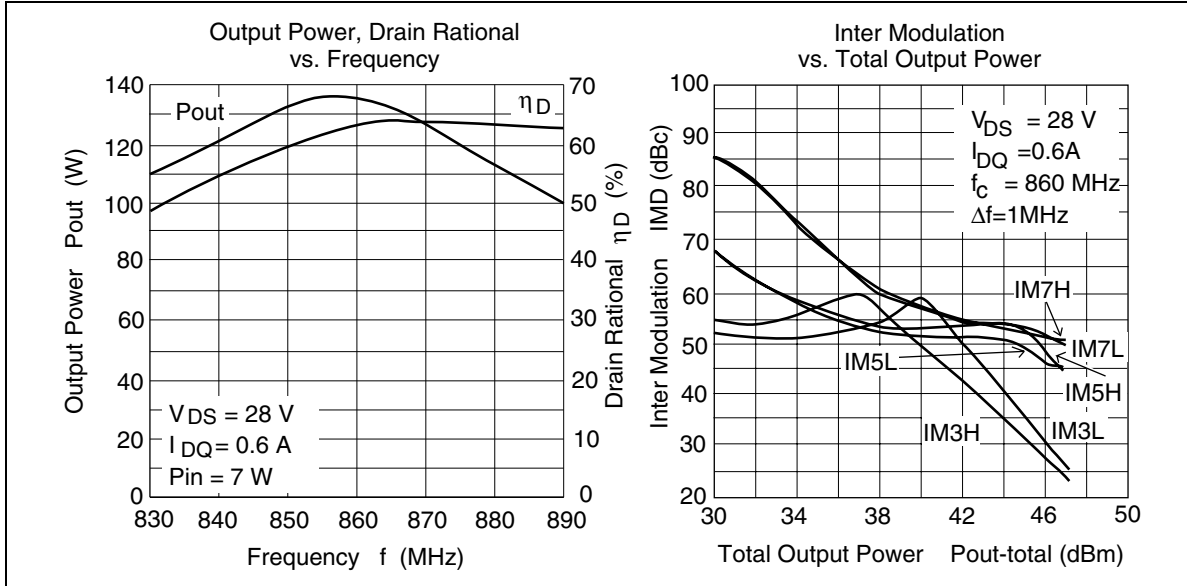


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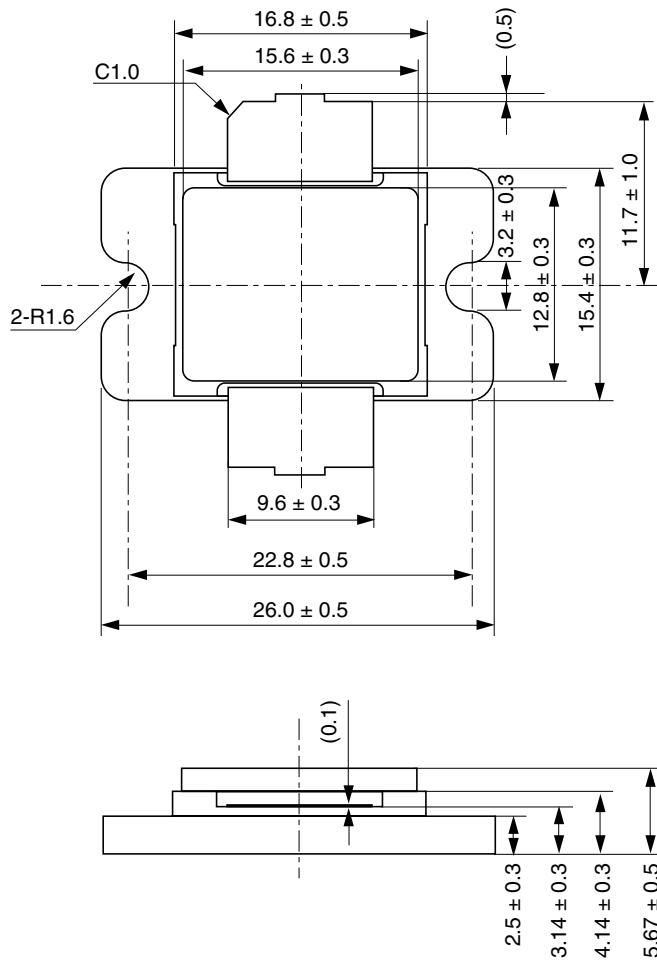


2SK3175A



Package Dimensions

As of July, 2001
Unit: mm



Hitachi Code	RFPAK-G
JEDEC	-
JEITA	-
Mass (reference value)	11.0 g

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