

RF AMPLIFIER FOR UHF TV TUNER  
 N-CHANNEL Si DUAL GATE MOS FIELD-EFFECT TRANSISTOR  
 4 PINS MINI MOLD

FEATURES

- Low Noise Figure: NF = 1.8 dB TYP. (f = 900 MHz)
- High Power Gain: G<sub>PS</sub> = 17 dB TYP. (f = 900 MHz)
- Suitable for use as RF amplifier in UHF TV tuner.
- Automatically Mounting: Embossed Type Taping
- Small Package: 4 Pins Mini Mold

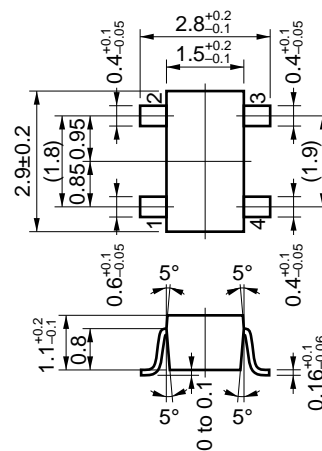
ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25 °C)

Drain to Source Voltage	V <sub>DSX</sub>	18	V
Gate1 to Source Voltage	V <sub>G1S</sub>	±8 (±10)*1	V
Gate2 to Source Voltage	V <sub>G2S</sub>	±8 (±10)*1	V
Gate1 to Drain Voltage	V <sub>G1D</sub>	18	V
Gate2 to Drain Voltage	V <sub>G2D</sub>	18	V
Drain Current	I <sub>D</sub>	25	mA
Total Power Dissipation	P <sub>D</sub>	200	mW
Channel Temperature	T <sub>ch</sub>	125	°C
Storage Temperature	T <sub>stg</sub>	-55 to +125	°C

\*1 R<sub>L</sub> ≥ 10 kΩ

PACKAGE DIMENSIONS

(Unit: mm)



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

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C)**

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Drain to Source Breakdown Voltage	BV <sub>DSX</sub>	18			V	V <sub>G1S</sub> = V <sub>G2S</sub> = -2 V, I <sub>D</sub> = 10 μA
Drain Current	I <sub>DSX</sub>	0.5		15.0	mA	V <sub>DS</sub> = 6 V, V <sub>G2S</sub> = 3 V, V <sub>G1S</sub> = 0.5 V
Gate1 to Source Cutoff Voltage	V <sub>G1S(off)</sub>	-1.5		+0.5	V	V <sub>DS</sub> = 6 V, V <sub>G2S</sub> = 3 V, I <sub>D</sub> = 10 μA
Gate2 to Source Cutoff Voltage	V <sub>G2S(off)</sub>	-1.0		+1.0	V	V <sub>DS</sub> = 6 V, V <sub>G1S</sub> = 3 V, I <sub>D</sub> = 10 μA
Gate1 Reverse Current	I <sub>G1SS</sub>			±20	nA	V <sub>DS</sub> = 0, V <sub>G2S</sub> = 0, V <sub>G1S</sub> = ±8 V
Gate2 Reverse Current	I <sub>G2SS</sub>			±20	nA	V <sub>DS</sub> = 0, V <sub>G1S</sub> = 0, V <sub>G2S</sub> = ±8 V
Forward Transfer Admittance	y <sub>fs</sub>	18	22		mS	V <sub>DS</sub> = 5 V, V <sub>G2S</sub> = 4 V, I <sub>D</sub> = 10 mA f = 1 kHz
Input Capacitance	C <sub>iss</sub>	1.2	1.7	2.2	pF	V <sub>DS</sub> = 6 V, V <sub>G2S</sub> = 3 V, I <sub>D</sub> = 10 mA f = 1 MHz
Output Capacitance	C <sub>DSS</sub>	0.5	0.9	1.2	pF	
Reverse Transfer Capacitance	C <sub>rss</sub>		0.015	0.025	pF	
Power Gain	G <sub>PS</sub>	15.0	17.0		dB	V <sub>DS</sub> = 6 V, V <sub>G2S</sub> = 3 V, I <sub>D</sub> = 10 mA
Noise Figure	NF		1.8	2.5	dB	f = 900 MHz

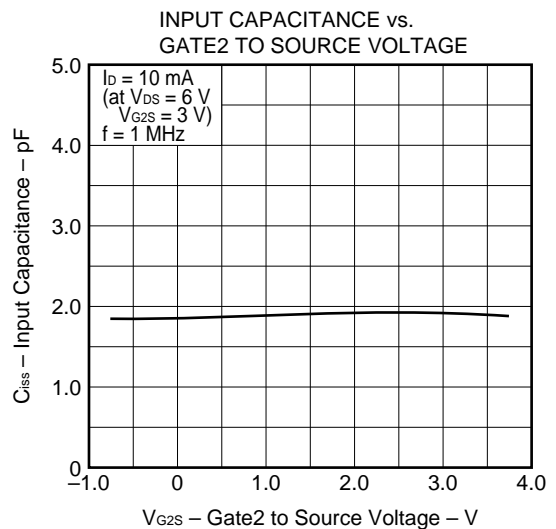
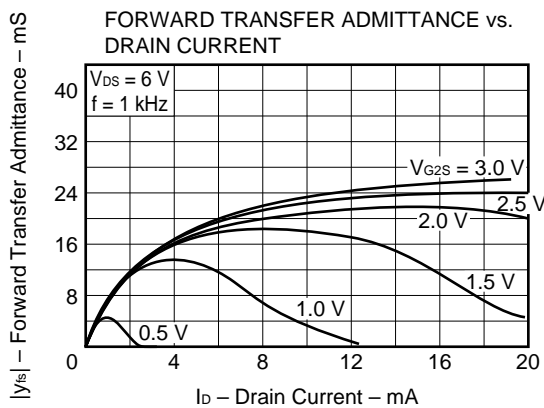
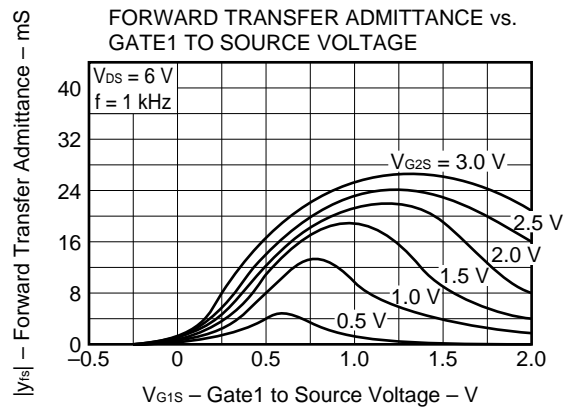
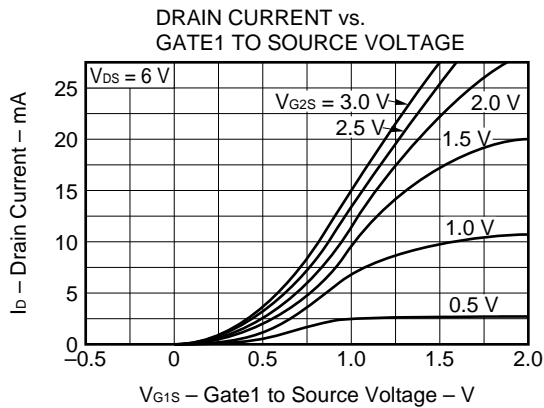
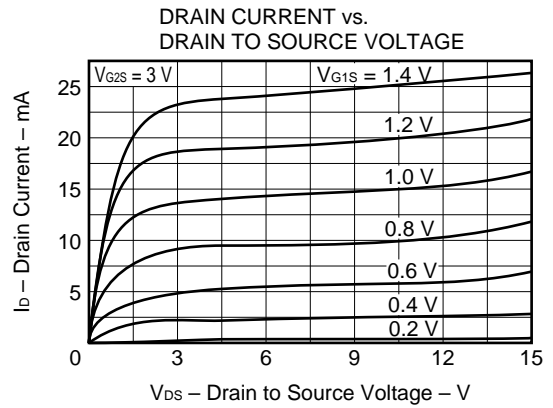
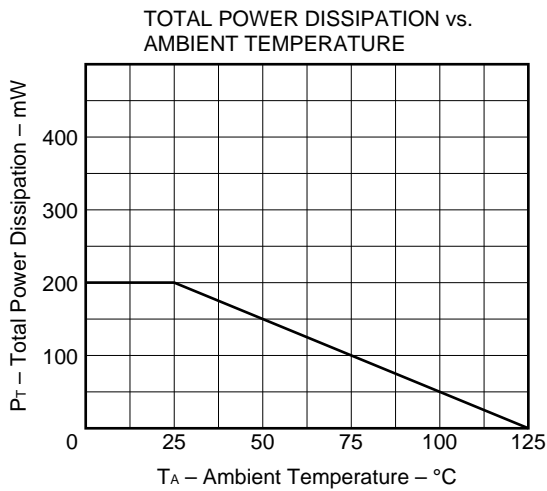
**I<sub>DSX</sub> Classification**

Class	U94/UID*	U95/UIE*
Marking	U94	U95
I <sub>DSX</sub> (mA)	0.5 to 7.0	5.0 to 15.0

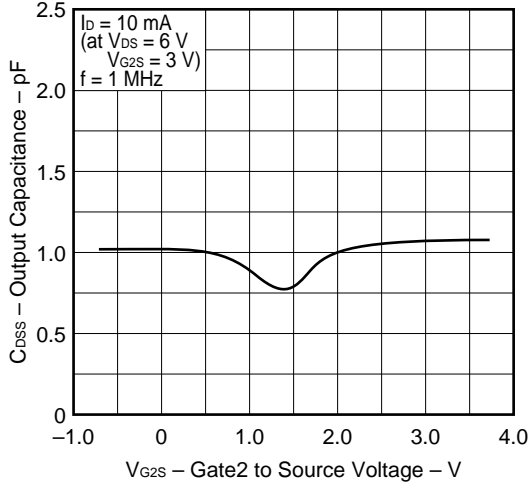
\* Old Specification/New Specification

**PRECAUTION:** Avoid high static voltages or electric fields so that this device would not suffer from any damage due to those voltage or fields.

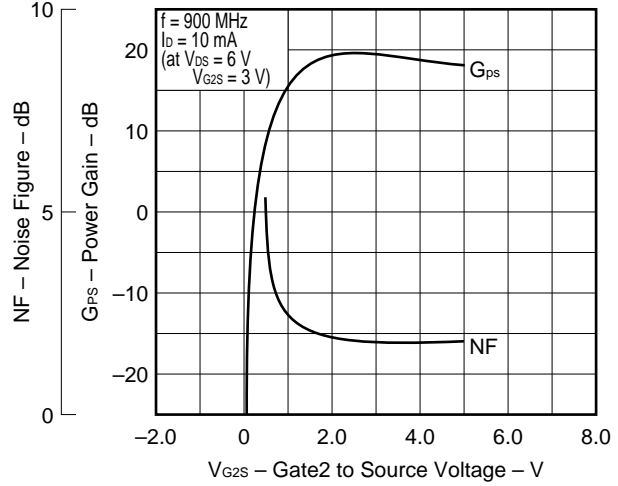
TYPICAL CHARACTERISTICS (TA = 25 °C)



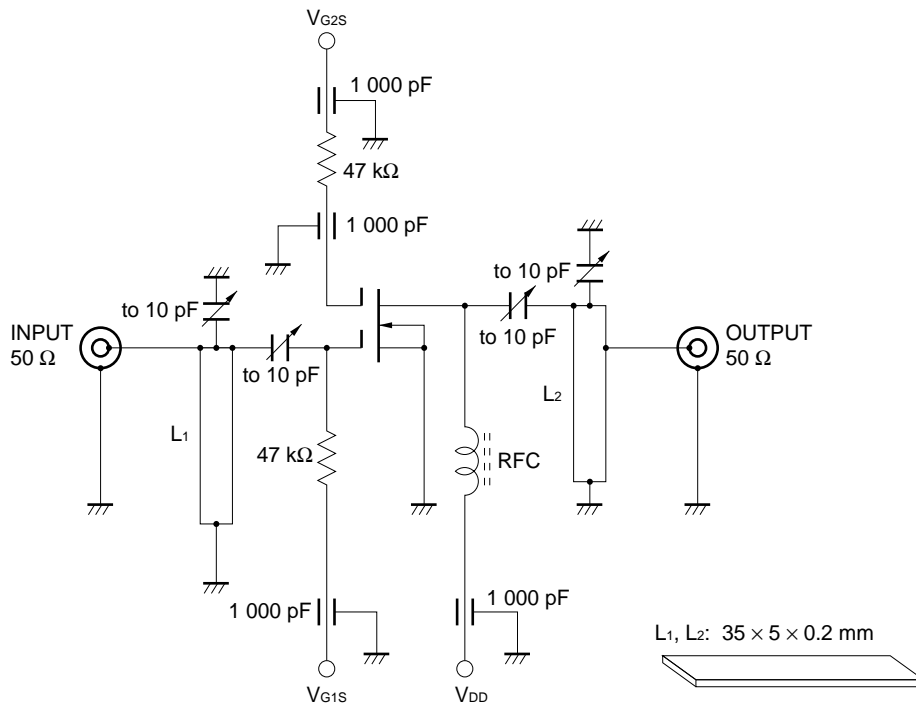
OUTPUT CAPACITANCE vs. GATE2 TO SOURCE VOLTAGE



POWER GAIN AND NOISE FIGURE vs. GATE2 TO SOURCE VOLTAGE



900 MHz Gps & NF TEST CIRCUIT



[MEMO]

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Anti-radioactive design is not implemented in this product.