

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_{PS} = 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

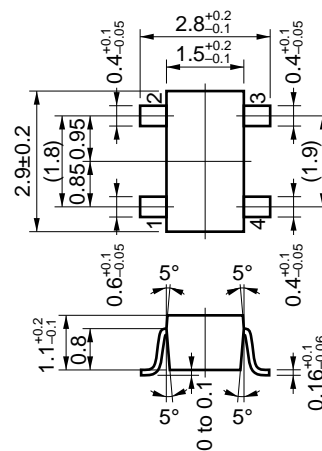
ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

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

*1 R_L ≥ 10 kΩ

PACKAGE DIMENSIONS

(Unit: mm)



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

ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

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

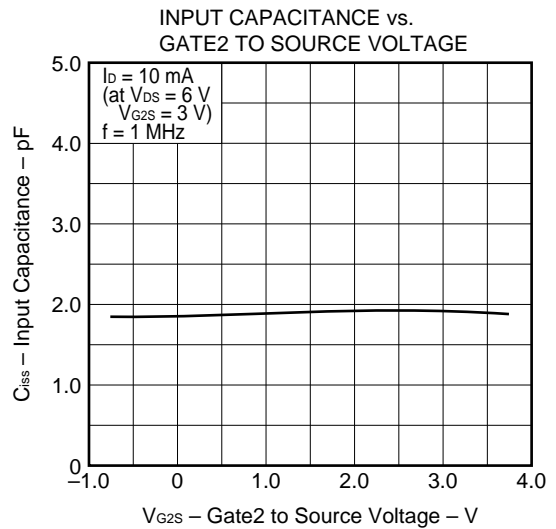
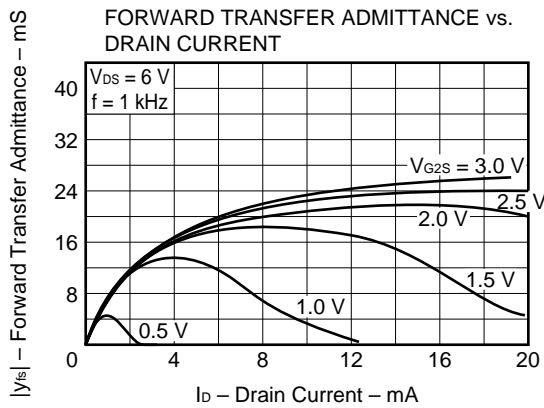
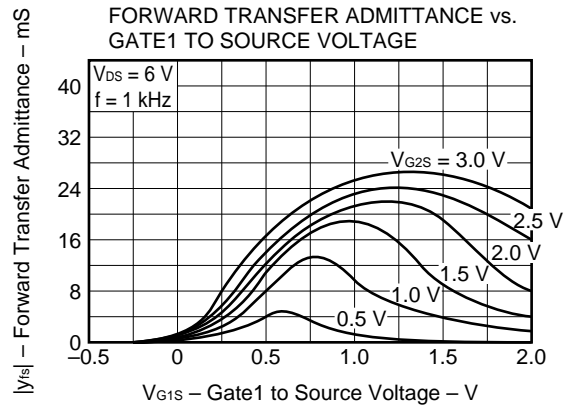
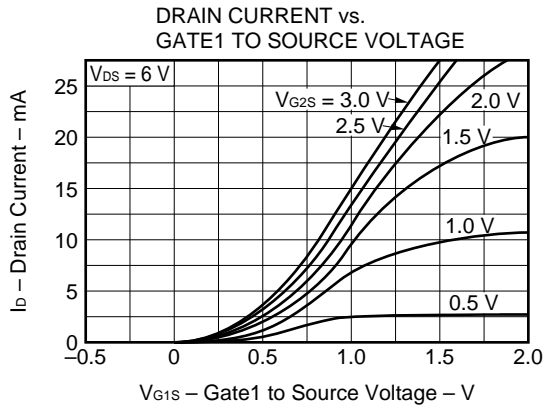
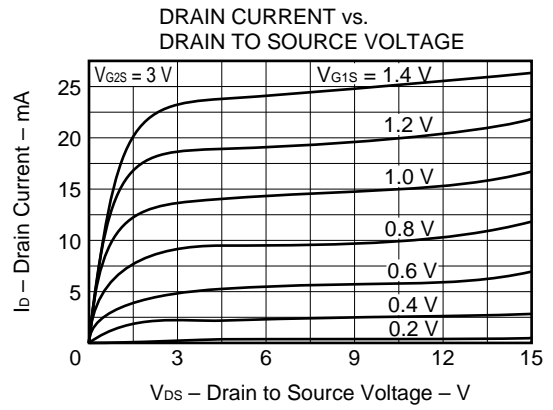
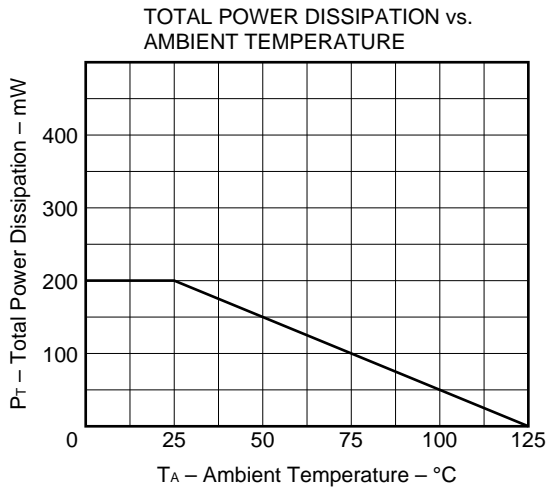
I_{DSX} Classification

Class	U94/UID*	U95/UIE*
Marking	U94	U95
I _{DSX} (mA)	0.5 to 7.0	5.0 to 15.0

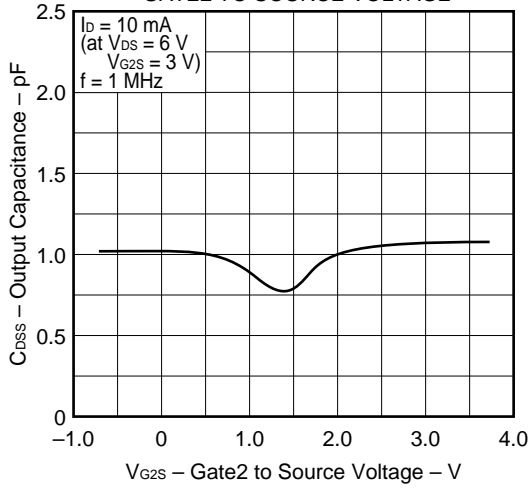
* Old Specification/New Specification

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

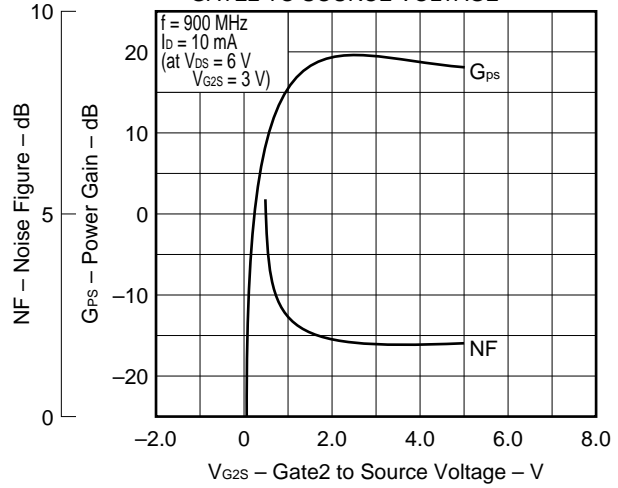
TYPICAL CHARACTERISTICS (TA = 25 °C)



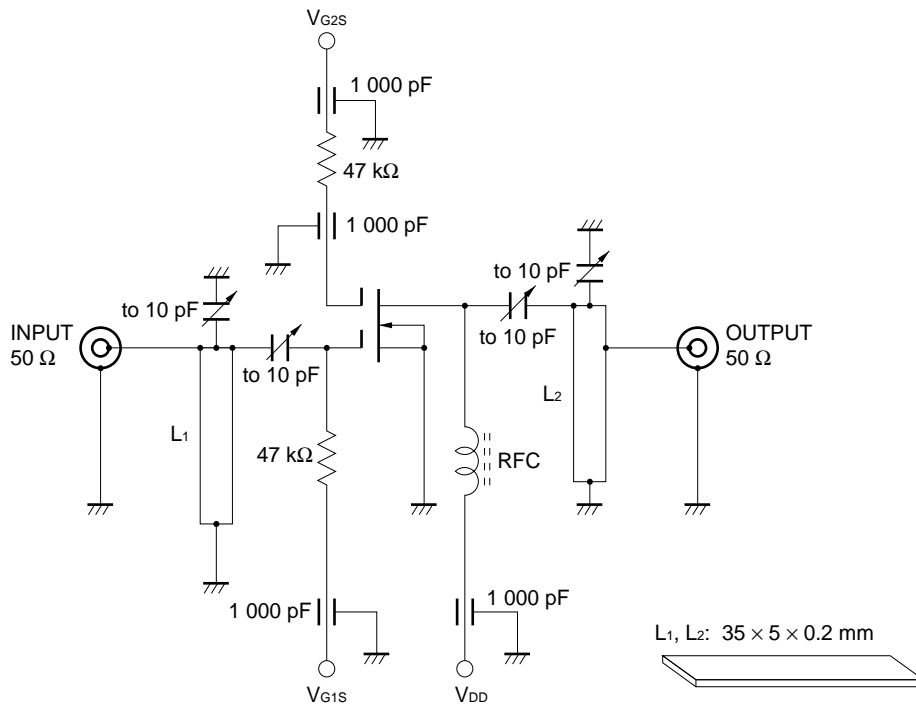
OUTPUT CAPACITANCE vs. GATE2 TO SOURCE VOLTAGE



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.