TOSHIBA Field Effect Transistor Silicon N Channel Dual Gate MOS Type

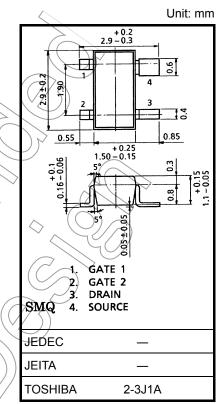
3SK195

TV Tuner, VHF RF Amplifier Applications FM Tuner Applications

- Superior cross modulation performance.
- Low reverse transfer capacitance: $C_{rss} = 0.015 \text{ pF}$ (typ.)
- Low noise figure: NF = 1.1dB (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Drain-source voltage	V _{DS}	13.5	$(\checkmark \checkmark \uparrow)$
Gate 1-source voltage	V _{G1S}	±8	V
Gate 2-source voltage	V _{G2S}	±8	V
Drain current	I _D	30	🔿 mA
Drain power dissipation	PD	150	mW
Channel temperature	T _{ch}	125	°C
Storage temperature range	T _{stg} <	-55~125	°C



Weight: 0.013 g (typ.)

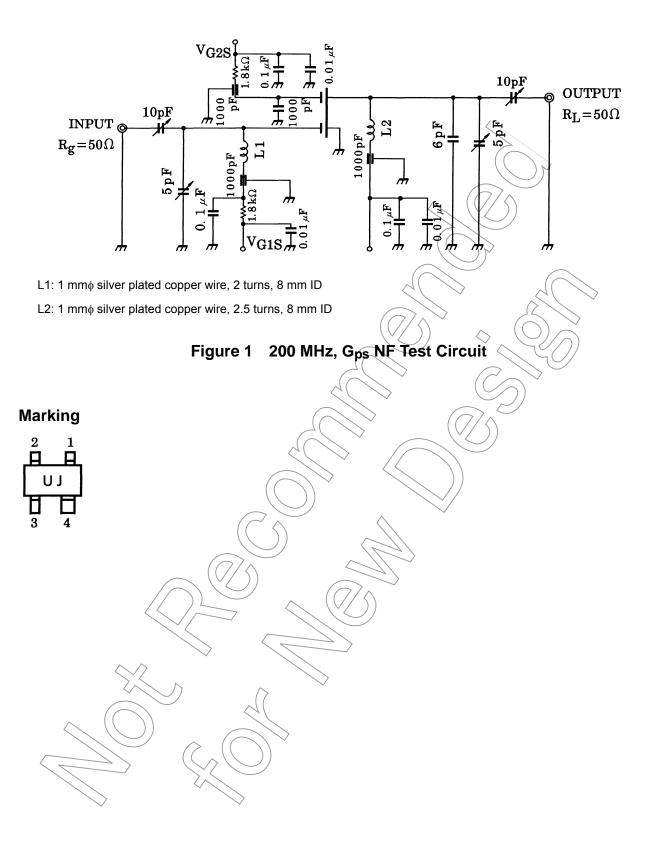
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions")"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

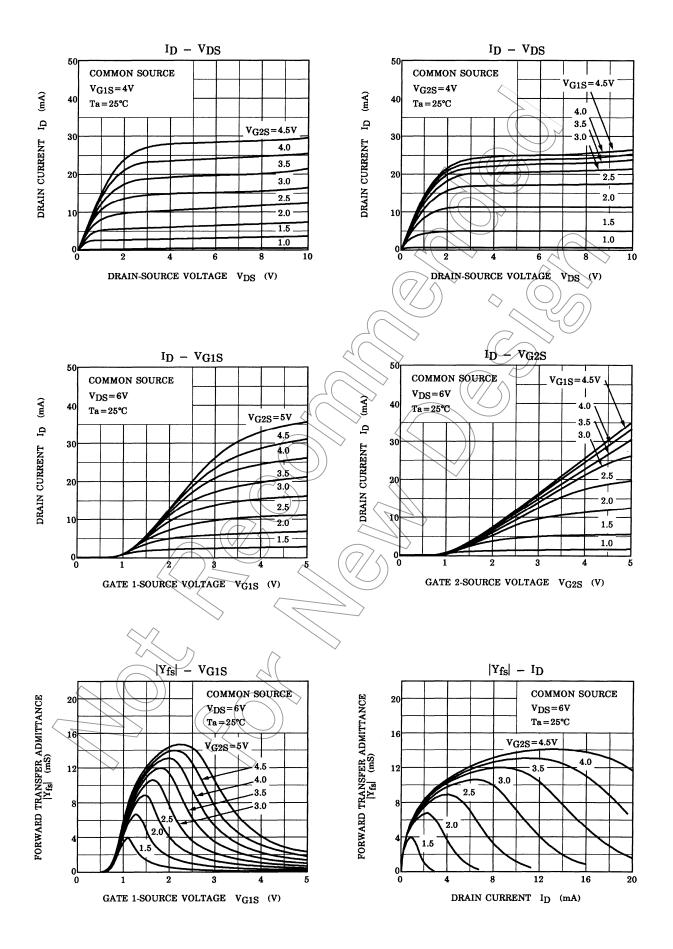
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Gate 1 leakage current	Giss	$V_{DS} = 0, V_{G1S} = \pm 4 V, V_{G2S} = 0$	_	_	±50	nA
Gate 2 leakage current	tg2SS	$V_{DS} = 0, V_{G1S} = 0, V_{G2S} = \pm 4 V$	_	_	±50	nA
Drain-source voltage	V (BR) DSX	$V_{G1S} = -4 \ V, \ V_{G2S} = -4 \ V, \ I_D = 100 \ \mu A$	13.5	_	_	V
Drain current	HDSS	$V_{DS} = 6 V, V_{G1S} = 0, V_{G2S} = 4 V$	0	_	0.1	mA
Gate 1-source cut-off voltage	VG1S (OFF)	$V_{DS} = 6 \text{ V}, V_{G2S} = 4 \text{ V}, I_D = 100 \ \mu\text{A}$	0	_	1.0	V
Gate 2-source cut-off voltage	V _{G2S (OFF)}	$V_{DS} = 6 \text{ V}, V_{G1S} = 4 \text{ V}, I_D = 100 \ \mu\text{A}$	0	_	1.2	V
Forward transfer admittance	Y _{fs}	V_{DS} = 6 V, V_{G2S} = 4 V, I_{D} = 10 mA, f = 1 kHz	—	13		mS
Input capacitance	C _{iss}	V _{DS} = 6 V, V _{G2S} = 4 V, I _D = 10 mA,	2.0	2.7	3.4	pF
Reverse transfer capacitance	C _{rss}	f = 1 MHz	_	0.015	0.03	pF
Power gain	G _{ps}	V _{DS} = 6 V, V _{G2S} = 4 V, I _D = 10 mA,	22	27	_	dB
Noise figure	NF	f = 200 MHz (Figure 1)	_	1.1	2.2	dB

Electrical Characteristics (Ta = 25°C)

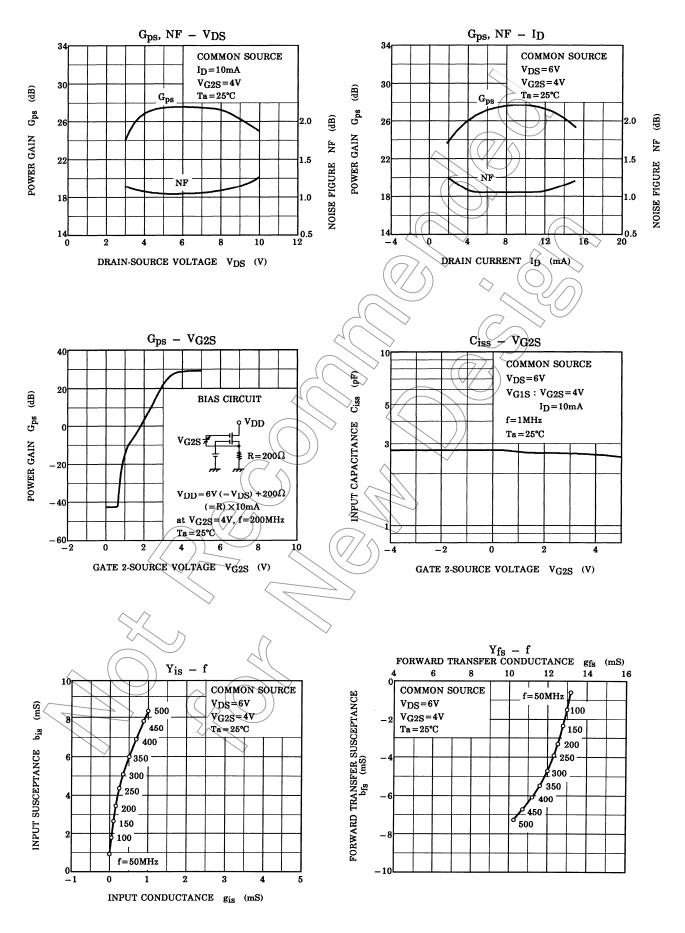
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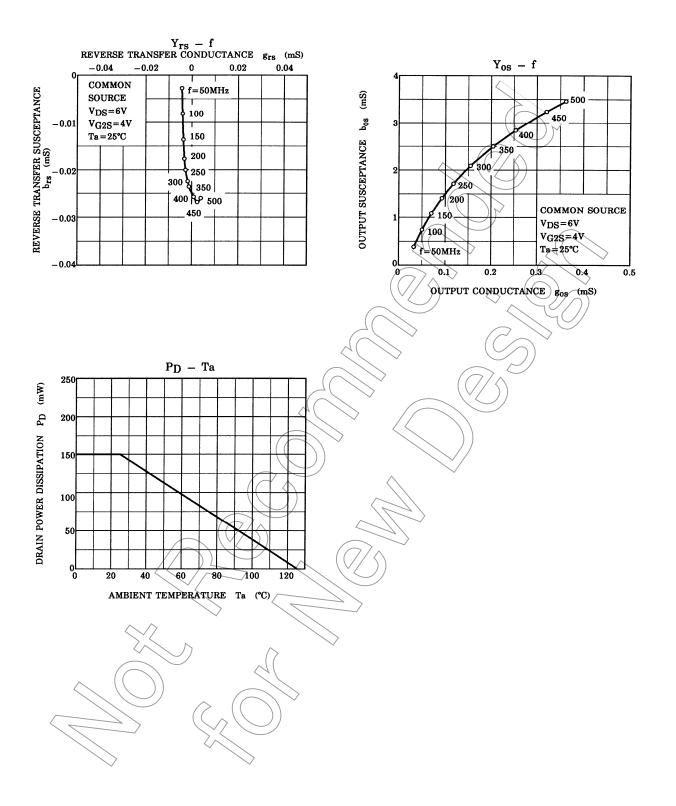


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