

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

2SK241

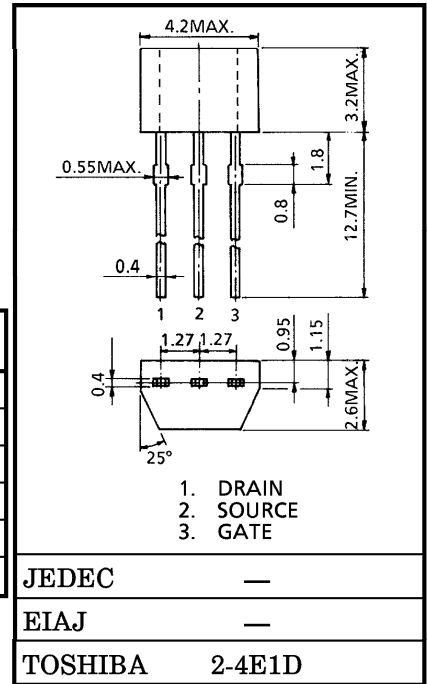
FM TUNER, VHF AND RF AMPLIFIER APPLICATIONS

Unit in mm

- Low Reverse Transfer Capacitance : $C_{RSS} = 0.035 \text{ pF}$ (Typ.)
- Low Noise Figure : $NF = 1.7\text{dB}$ (Typ.)
- High Power Gain : $G_{PS} = 28\text{dB}$ (Typ.)
- Recommend Operation Voltage : $5\sim 15 \text{ V}$

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 5	V
Drain Current	I_D	30	mA
Drain Power Dissipation	P_D	200	mW
Chanel Temperature	T_{ch}	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55\sim 125$	$^\circ\text{C}$

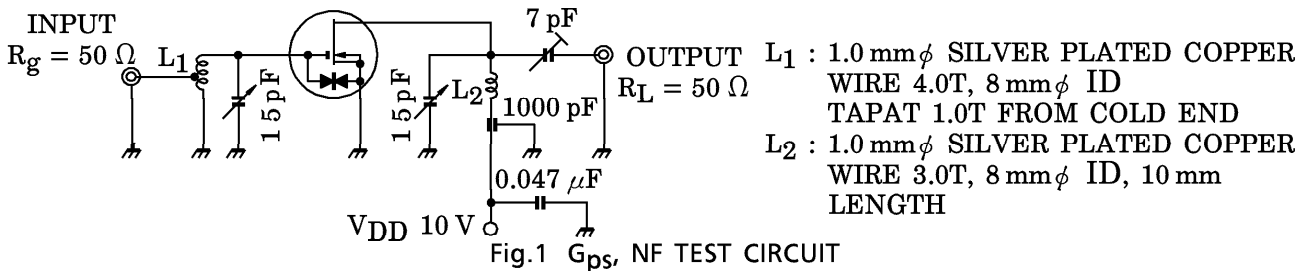


ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Weight : 0.13 g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I_{GSS}	$V_{DS} = 0, V_{GS} = \pm 5 \text{ V}$	—	—	± 50	nA
Drain-Source Voltage	V_{DSX}	$V_{GS} = -4 \text{ V}, I_D = 100 \mu\text{A}$	20	—	—	V
Drain Current	I_{DSS}	$V_{DS} = 10 \text{ V}, V_{GS} = 0$ (Note)	1.5	—	14	mA
Gate-Source Cut-off Voltage	$V_{GS}(\text{OFF})$	$V_{DS} = 10 \text{ V}, I_D = 100 \mu\text{A}$	—	—	-2.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10 \text{ V}, V_{GS} = 0, f = 1 \text{ kHz}$	—	10	—	mS
Input Capacitance	C_{iss}	$V_{DS} = 10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	3.0	—	pF
Reverse Transfer Capacitance	C_{rss}		—	0.035	0.050	pF
Power Gain	G_{ps}	$V_{DS} = 10 \text{ V}, V_{GS} = 0, f = 100 \text{ MHz}$ (Fig.1)	—	28	—	dB
Noise Figure	NF		—	1.7	3.0	dB

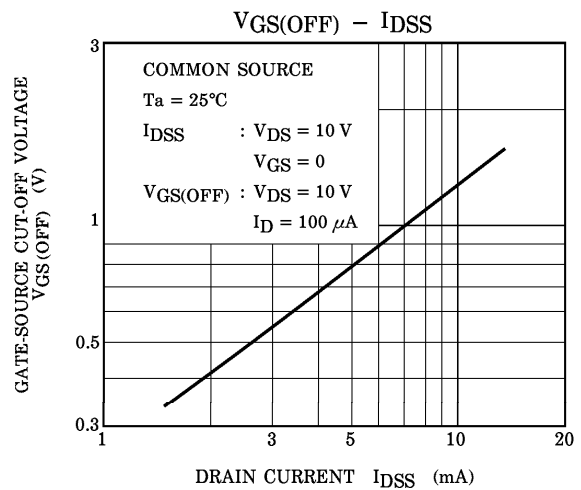
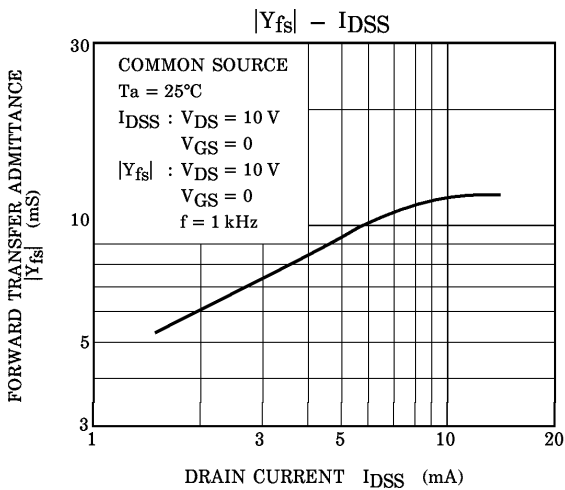
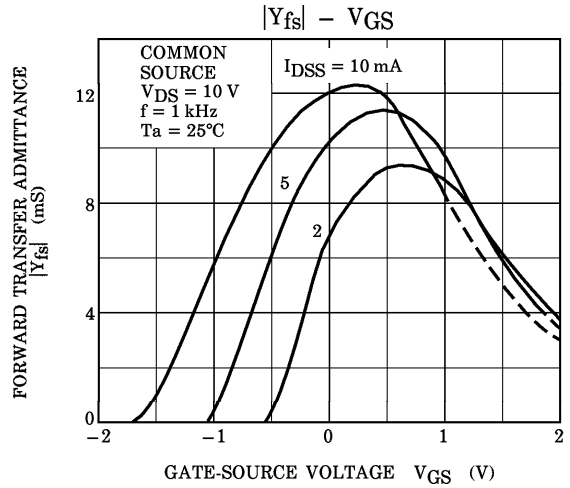
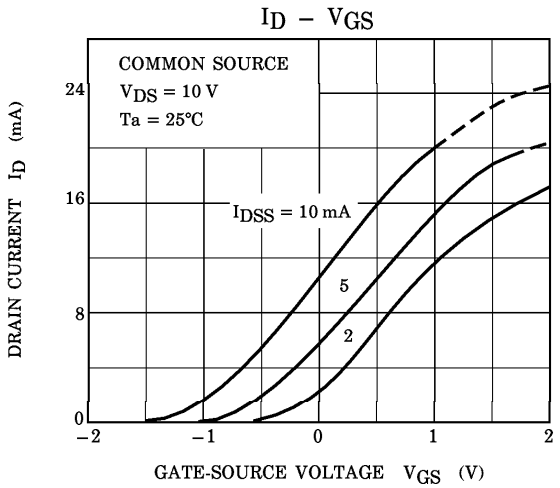
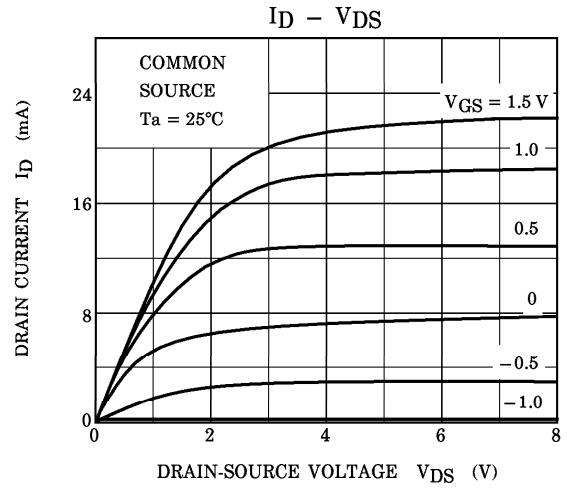
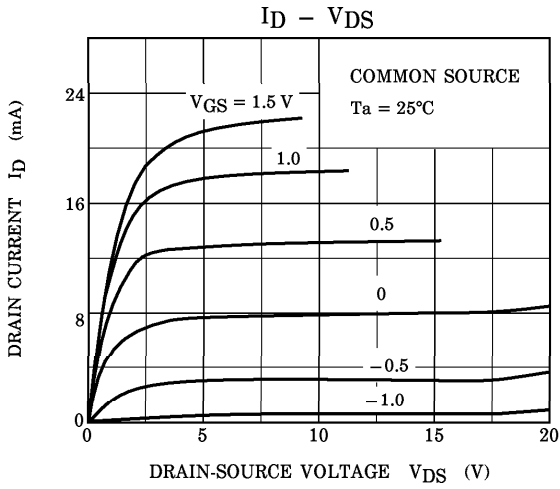
(Note) : I_{DSS} Classification O : 1.5~3.5, Y : 3.0~7.0, GR : 6.0~14.0



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