

3SK146

SILICON N CHANNEL DUAL GATE MOS TYPE FIELD EFFECT TRANSISTOR

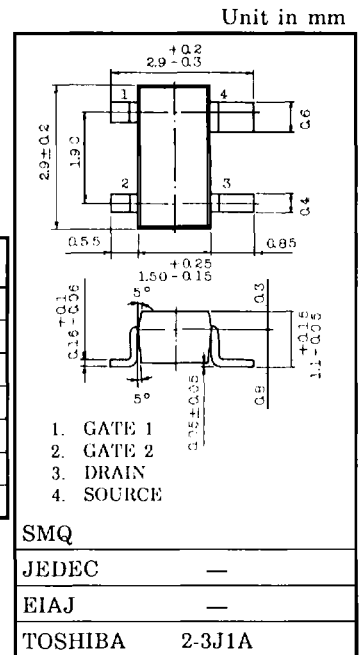
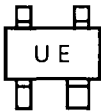
TV TUNER, UHF RF AMPLIFIER APPLICATIONS.
TV TUNER UHF MIXER APPLICATIONS.

- Superior Cross Modulation Performance.
- Low Reverse Transfer Capacitance : $C_{rss} = 0.02\text{pF}$ (Typ.)
- Low Noise Figure : $NF = 2.6\text{dB}$ (Typ.)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DS}	13.5	V
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	P_D	150	mW
Channel Temperature	T_{ch}	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim 125$	$^\circ\text{C}$

Marking

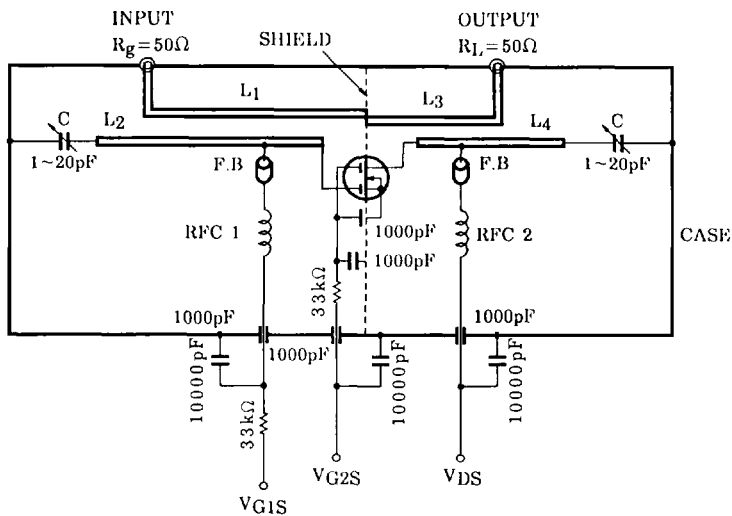


Weight : 0.013g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate 1 Leakage Current	I_{G1SS}	$V_{DS} = 0, V_{G1S} = \pm 6\text{V}, V_{G2S} = 0$	—	—	± 50	nA
Gate 2 Leakage Current	I_{G2SS}	$V_{DS} = 0, V_{G1S} = 0, V_{G2S} = \pm 6\text{V}$	—	—	± 50	nA
Drain-Source Voltage	$V_{(BR)DSX}$	$V_{G1S} = -4\text{V}, V_{G2S} = -4\text{V}, I_D = 100\mu\text{A}$	13.5	—	—	V
Drain Current	I_{DSS} (Note)	$V_{DS} = 6\text{V}, V_{G1S} = 0, V_{G2S} = 3\text{V}$	0	—	2	mA
Gate 1-Source Cut-off Voltage	V_{G1S} (OFF)	$V_{DS} = 6\text{V}, V_{G2S} = 3\text{V}, I_D = 100\mu\text{A}$	-1.5	—	1	V
Gate 2-Source Cut-off Voltage	V_{G2S} (OFF)	$V_{DS} = 6\text{V}, V_{G1S} = 3\text{V}, I_D = 100\mu\text{A}$	-0.8	—	1.2	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 6\text{V}, V_{G2S} = 3\text{V}, I_D = 10\text{mA}, f = 1\text{kHz}$	—	16	—	mS
Input Capacitance	C_{iss}	$V_{DS} = 6\text{V}, V_{G2S} = 3\text{V}, I_D = 10\text{mA}, f = 1\text{MHz}$	1.3	2.0	2.8	pF
Reverse Transfer Capacitance	C_{rss}		—	0.02	0.03	pF
Power Gain	G_{ps}	$V_{DS} = 6\text{V}, V_{G2S} = 3\text{V}, I_D = 10\text{mA}, f = 800\text{MHz}$ (Fig.1)	14	17.5	—	dB
Noise Figure	NF		—	2.6	4.0	dB

Note : I_{DSS} Classification 0 : 0~2mA



L₁~L₄ : φ0.8mm SILVER PLATED COPPER WIRE
 C : AIR TRIMMER TTA25A200A (MURATA MFG. Co., LTD.)
 RFC 1 : φ0.35mm COPPER WIRE 3mm ID, 7T
 RFC 2 : φ0.35mm COPPER WIRE 3mm ID, 10T

Fig.1 800MHz G_{ps}, NF TEST CIRCUIT

