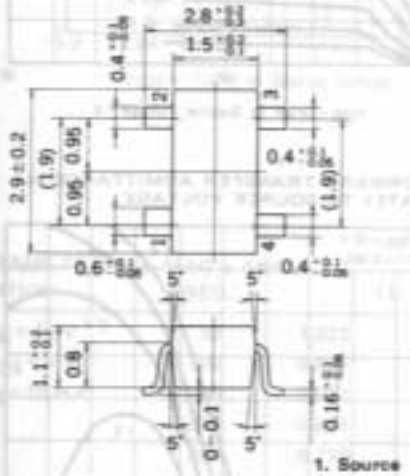
MOS FIELD EFFECT TRANSISTOR

3SK132A

RF AMP. FOR UHF TV TUNER
N-CHANNEL SILICON DUAL-GATE MOS FIELD-EFFECT TRANSISTOR
4PIN MINI MOLD

PACKAGE DIMENSIONS
in millimeters



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

FEATURES

- Suitable for use as RF amplifier in UHF TV tuner. (RF Amp. for half wave length resonator : λ/2)
- Low C_{rss} : 0.02 pF TYP.
- High G_{ps} : 22.0 dB TYP.
- Low NF : 2.8 dB TYP.

ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C)

Drain to Source Voltage	V_{DSX}	20	V
Gate1 to Source Voltage	V_{G1S}*	±10	V
Gate2 to Source Voltage	V_{G2S}*	±10	V
Drain Current	I_D	25	mA
Total Power Dissipation	P_T	200	mW
Channel Temperature	T_{ch}	150	°C
Storage Temperature	T_{stg}	−55 to +150	°C

* $R_L \leq 10\ k\Omega$

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Drain to Source Breakdown Voltage	BV_{DSX}	20	24		V	$V_{G1S}=V_{G2S}=-2$ V, $I_D=10\ \mu A$
Drain Current	I_{DSS}	0.5		8	mA	$V_{DS}=10$ V, $V_{G2S}=4$ V, $V_{G1S}=0$
Gate1 to Source Cutoff Voltage	$V_{G1S(off)}$			−2.0	V	$V_{DS}=10$ V, $V_{G2S}=4$ V, $I_D=10\ \mu A$
Gate2 to Source Cutoff Voltage	$V_{G2S(off)}$			−0.7	V	$V_{DS}=10$ V, $V_{G1S}=4$ V, $I_D=10\ \mu A$
Gate1 Reverse Current	I_{G1SS}			±20	nA	$V_{DS}=0$, $V_{G1S}=\pm 8$ V, $V_{G2S}=0$
Gate2 Reverse Current	I_{G2SS}			±20	nA	$V_{DS}=0$, $V_{G2S}=\pm 8$ V, $V_{G1S}=0$
Forward Transfer Admittance	$\|Y_{fs}\|$	18	22		mS	$V_{DS}=5$ V, $V_{G2S}=4$ V, $I_D=10$ mA, f = 1.0 kHz
Input Capacitance	C_{iss}	1.5	2.5	3.5	pF	$V_{DS}=10$ V, $V_{G2S}=4$ V, $I_D=10$ mA, f = 1 MHz
Output Capacitance	C_{oss}	0.5	1.1	1.5	pF	
Reverse Transfer Capacitance	C_{rss}		0.02	0.03	pF	
Power Gain	G_{ps}	20.0	22.0	22	dB	$V_{DS}=10$ V, $V_{G2S}=4$ V, $I_D=10$ mA, f = 900 MHz
Noise Figure	NF		2.8	4.5	dB	

I_{DSS} Classification

Marking	U35	U36
I_{DSS}	0.5 to 5	3 to 8

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