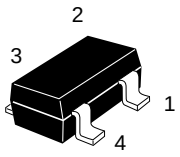
3SK229

GaAs Dual Gate MES FET
UHF TV Tuner RF Amplifier

Table 1 Absolute Maximum Ratings
(Ta = 25°C)

Item	Symbol	Rating	Unit
Drain to source voltage	V_{DS}	12	V
Gate 1 to source voltage	V_{G1S}	–6	V
Gate 2 to source voltage	V_{G2S}	–6	V
Drain current	I_D	50	mA
Channel power dissipation	Pch	150	mW
Channel temperature	Tch	125	°C
Storage temperature	Tstg	–55 to +125	°C

MPAK-4



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

Table 2 Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Drain to source cutoff current	I_{DSX}	—	—	50	µA	V_{DS} = 12 V, V_{G1S} = –4 V, V_{G2S} = 0
Gate 1 to source breakdown voltage	$V_{(BR)G1SS}$	–6	—	—	V	I_{G1} = –10 µA, V_{G2S} = V_{DS} = 0
Gate 2 to source breakdown voltage	$V_{(BR)G2SS}$	–6	—	—	V	I_{G2} = –10 µA, V_{G1S} = V_{DS} = 0
Gate 1 cutoff current	I_{G1SS}	—	—	–5	µA	V_{G1S} = –5 V, V_{G2S} = V_{DS} = 0
Gate 2 cutoff current	I_{G2SS}	—	—	–5	µA	V_{G2S} = –5 V, V_{G1S} = V_{DS} = 0
Drain current	I_{DSS}	15	25	40	mA	V_{DS} = 5 V, V_{G1S} = V_{G2S} = 0
Gate 1 to source cutoff voltage	$V_{G1S(off)}$	—	–1.3	–3.5	V	V_{DS} = 5 V, V_{G2S} = 0, I_D = 100 µA
Gate 2 to source cutoff voltage	$V_{G2S(off)}$	—	–1.3	–3.5	V	V_{DS} = 5 V, V_{G1S} = 0, I_D = 100 µA

Table 2 Electrical Characteristics (Ta = 25°C) (cont)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Forward transfer admittance	$\|y_{fs}\|$	20	34	—	mS	V_{DS} = 5 V, V_{G2S} = 1 V, I_D = 10 mA, f = 1 kHz
Input capacitance	Ciss	—	0.56	1.0	pF	V_{DS} = 5 V, V_{G1S} = V_{G2S} = –4 V, f = 1 MHz
Output capacitance	Coss	—	0.36	0.6	pF	
Reverse transfer capacitance	Crss	—	0.027	0.05	pF	
Power gain	PG	17	20	—	dB	V_{DS} = 5 V, V_{G2S} = 1 V, I_D = 10 mA, f = 900 MHz
Noise figure	NF	—	1.3	2.0	dB	

- Marking is “XS-”.
- See characteristic curve of 3SK228.