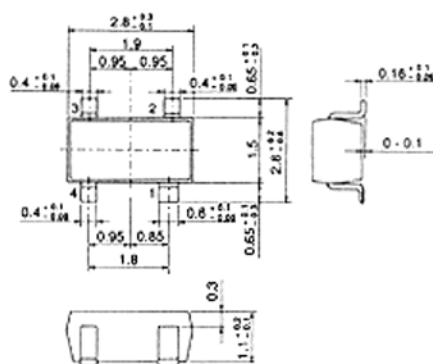


## 3SK138

SILICON N-CHANNEL DUAL GATE MOS FET

UHF TV TUNER RF AMPLIFIER



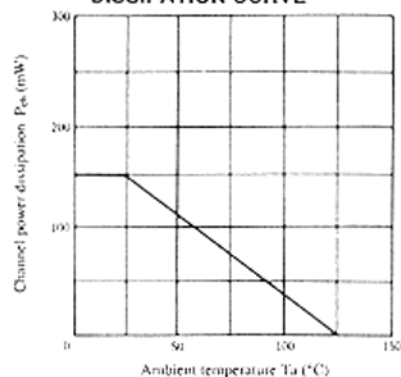
1. Source
  2. Gate 1
  3. Gate 2
  4. Drain
- (Dimensions in mm)

(MPAK-4)

### ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item*	Symbol	3SK138	Unit
Drain to source voltage	$V_{DS}$	15	V
Gate 1 to source voltage	$V_{G1S}$	±10	V
Gate 2 to source voltage	$V_{G2S}$	±10	V
Drain current	$I_D$	35	mA
Channel power dissipation	$P_{ch}$	150	mW
Channel temperature	$T_{ch}$	125	°C
Storage temperature	$T_{stg}$	-55 to +125	°C

### MAXIMUM CHANNEL POWER DISSIPATION CURVE



### ■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain to source breakdown voltage	$V_{(BR)DSX}$	$V_{G1S} = V_{G2S} = -5V, I_D = 200\mu A$	15	—	—	V
Gate 1 to source breakdown voltage	$V_{(BR)G1SS}$	$I_{G1} = \pm 10\mu A, V_{G2S} = V_{DS} = 0$	±10	—	—	V
Gate 2 to source breakdown voltage	$V_{(BR)G2SS}$	$I_{G2} = \pm 10\mu A, V_{G1S} = V_{DS} = 0$	±10	—	—	V
Gate 1 cutoff current	$I_{G1SS}$	$V_{G1S} = \pm 8V, V_{G2S} = V_{DS} = 0$	—	—	±100	nA
Gate 2 cutoff current	$I_{G2SS}$	$V_{G2S} = \pm 8V, V_{G1S} = V_{DS} = 0$	—	—	±100	nA
Gate 1 to source cutoff voltage	$V_{G1S(off)}$	$V_{DS} = 10V, V_{G2S} = 3V, I_D = 100\mu A$	+0.7	—	-1.0	V
Gate 2 to source cutoff voltage	$V_{G2S(off)}$	$V_{DS} = 10V, V_{G1S} = 3V, I_D = 100\mu A$	+0.7	—	-1.0	V
Drain current	$I_{DSS}$	$V_{DS} = 6V, V_{G2S} = 3V, V_{G1S} = 0$	—	—	10	mA
Forward transfer admittance	$ y_{fs} $	$V_{DS} = 6V, V_{G2S} = 3V, I_D = 10mA, f = 1kHz$	10	15	—	mS
Input capacitance	$C_{iss}$	$V_{DS} = 6V, V_{G2S} = 3V, I_D = 10mA, f = 1MHz$	—	2.0	—	pF
Output capacitance	$C_{oss}$		—	1.0	—	pF
Reverse transfer capacitance	$C_{rss}$		—	0.02	—	pF
Power gain	PG	$V_{DS} = 6V, V_{G2S} = 3V, I_D = 10mA, f = 900MHz$	10	—	—	dB
Noise figure	NF		—	—	5.0	dB

\* Marking is [IX-].

■ See characteristic curves of 3SK103.