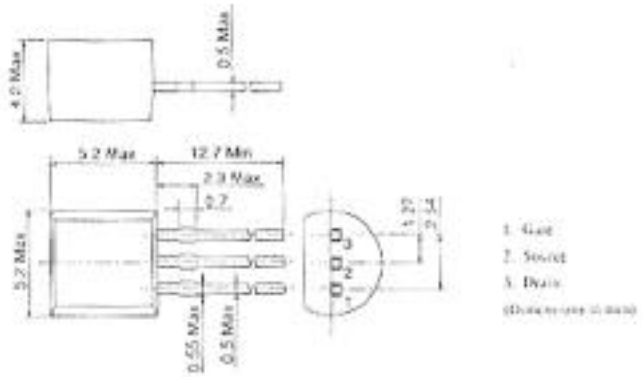
HITACHI

2SK359

SILICON N-CHANNEL MOS FET

VHF AMPLIFIER



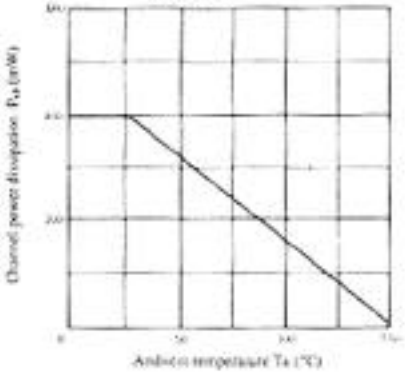
(JEDEC TO-92)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SK359	Unit
Drain to source voltage	V_{DSX}*	20	V
Gate to source voltage	V_{GSS}	±5	V
Drain current	I_D	30	mA
Gate current	I_G	±1	mA
Channel power dissipation	P_{ch}	400	mW
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

* V_{GS} = −4V

MAXIMUM CHANNEL DISSIPATION CURVE



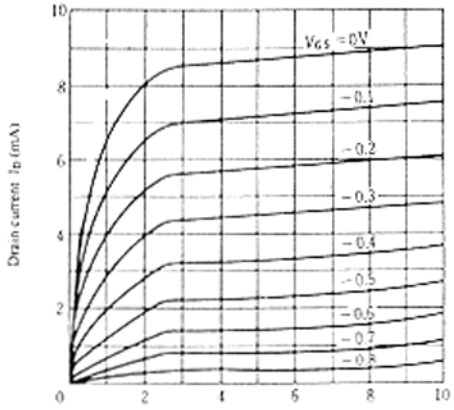
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain to source breakdown voltage	$V_{(BR)DSX}$	I_D = 100μA, V_{GS} = −4V	20	—	—	V
Gate cutoff current	I_{GSS}	V_{GS} = ±5V, V_{DS} = 0	—	—	±20	nA
Drain current	I_{DSS}*	V_{DS} = 10V, V_{GS} = 0	4	—	12	mA
Gate to source cutoff voltage	$V_{GS(off)}$	V_{DS} = 10V, I_D = 10μA	0	—	−2.0	V
Forward transfer admittance	$\|y_{fs}\|$	V_{DS} = 10V, V_{GS} = 0, f = 1kHz	8	14	—	mS
Input capacitance	C_{iss}	V_{DS} = 10V, V_{GS} = 0, f = 1MHz	—	2.5	—	pF
Output capacitance	C_{oss}		—	1.6	—	pF
Reverse transfer capacitance	C_{rss}		—	0.03	—	pF
Power gain	PG	V_{DS} = 10V, V_{GS} = 0, f = 100MHz	—	30	—	dB
Noise figure	NF		—	2	—	dB

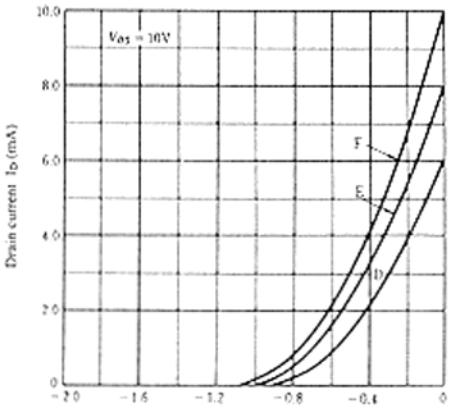
* The 2SK359 is grouped by I_{DSS} as follows.

D	E	F
4 to 8	6 to 10	8 to 12

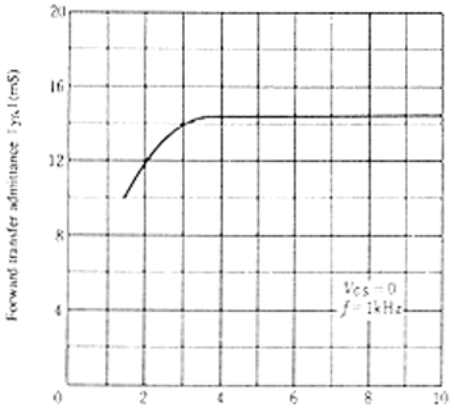
TYPICAL OUTPUT CHARACTERISTICS



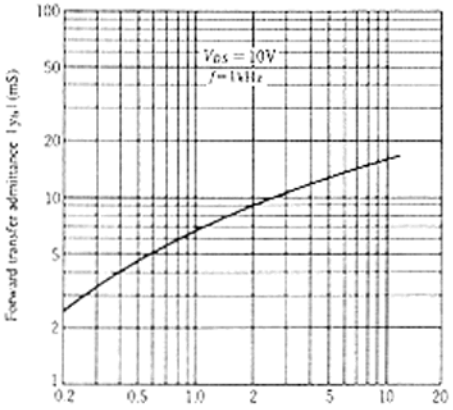
TYPICAL TRANSFER CHARACTERISTICS



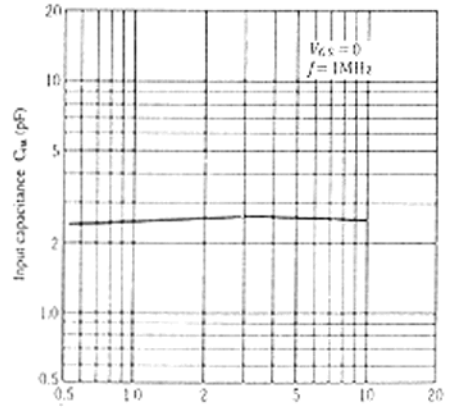
FORWARD TRANSFER ADMITTANCE VS. DRAIN TO SOURCE VOLTAGE



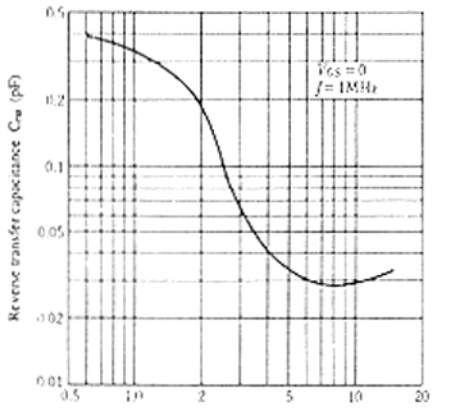
FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT



INPUT CAPACITANCE VS. DRAIN TO SOURCE VOLTAGE

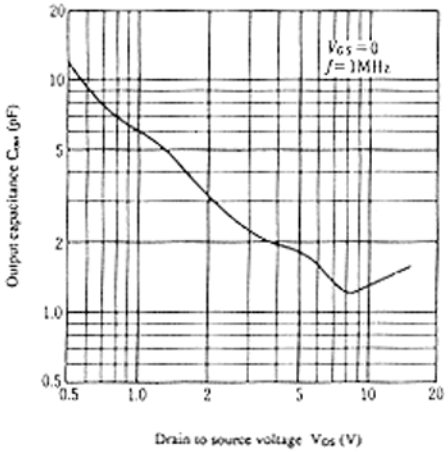


REVERSE TRANSFER CAPACITANCE VS. DRAIN TO SOURCE VOLTAGE



2SK359

OUTPUT CAPACITANCE VS.
DRAIN TO SOURCE VOLTAGE



POWER GAIN, NOISE FIGURE VS.
DRAIN TO SOURCE VOLTAGE