Ordering number:EN2543

N-Channel Junction Silicon FET

2SK715

AM Tuner, RF Amplifier Applications

Applications

· AM tuner RF amp, low-noise amp.
· HF low-noise amp.

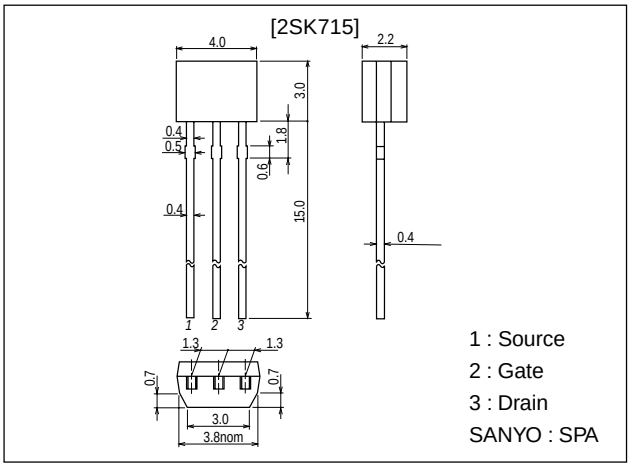
Features

· Adoption of FBET process.
· Large $|y_{fs}|$.
· Small Ciss.
· Very low noise figure.

Package Dimensions

unit:mm

2034A



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		15	V
Gate-to-Drain Voltage	V_{GDS}		–15	V
Gate Current	I_G		10	mA
Drain Current	I_D		50	mA
Allowable Power Dissipation	P_D		300	mW
Junction Temperature	Tj		125	˚C
Storage Temperature	Tstg		–55 to +125	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G=–10μA, V_{DS}=0	–15			V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=–10V, V_{DS}=0			–1.0	nA
Zero-Gate Voltage Drain Current	I_{DSS}*	V_{DS}=5V, V_{GS}=0	5.0*		24.0*	mA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=5V, I_D=100μA		–0.6	–1.4	V
Forward Transfer Admittance	| yfs |	V_{DS}=5V, V_{GS}=0, f=1kHz	25	50		mS
Input Capacitance	Ciss	V_{DS}=5V, V_{GS}=0, f=1kHz		10		pF
Reverse Transfer Capacitance	Crss	V_{DS}=5V, V_{GS}=0, f=1kHz		3.0		pF
Noise Figure	NF	V_{DS}=5V, Rg=1kΩ, I_D=1mA, f=1kHz		1.5		dB

* : The 2SK715 is classified by I_{DSS} as follows : (unit : mA).

5.0	T	8.5	7.3	U	12.0	10.0	V	17.0	14.5	W	24.0

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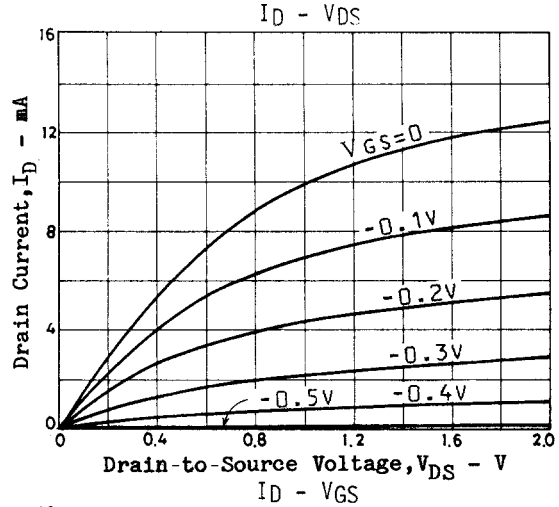
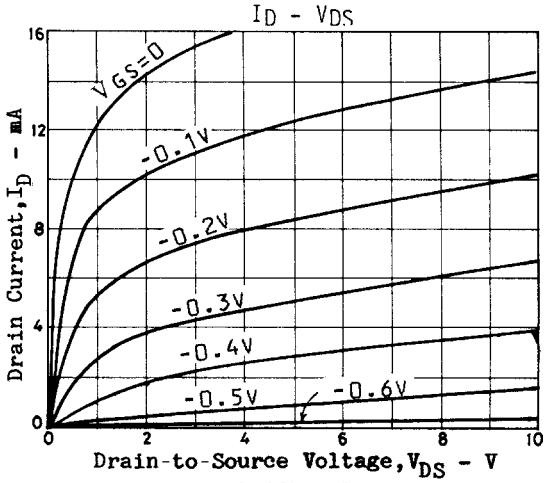
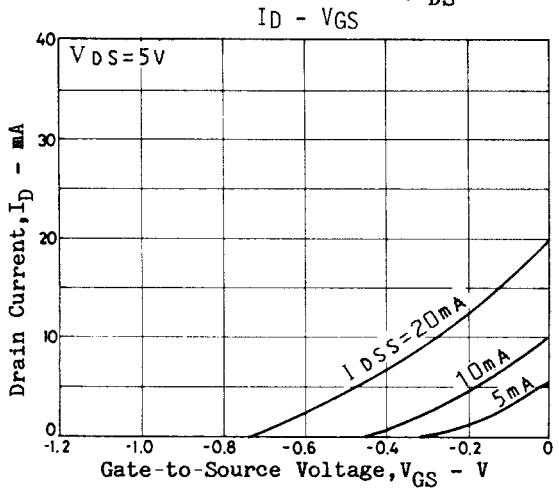
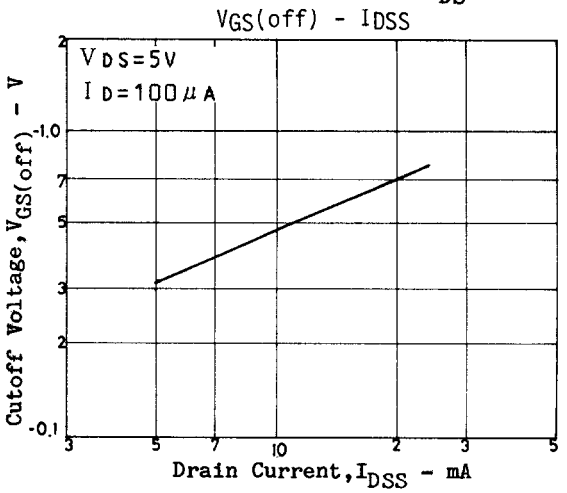
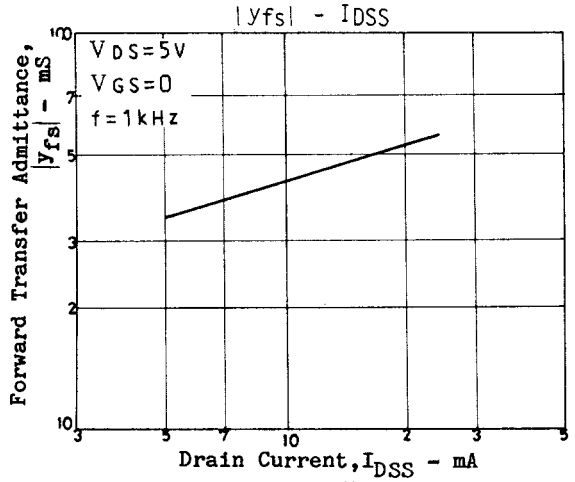
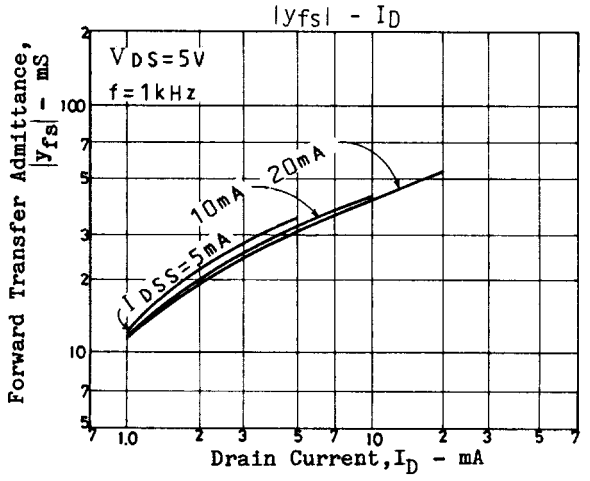

ID - VDS
Drain Current, ID - mA
VGS=0
-0.1V
-0.2V
-0.3V
-0.4V
-0.5V
Drain-to-Source Voltage, VDS - V

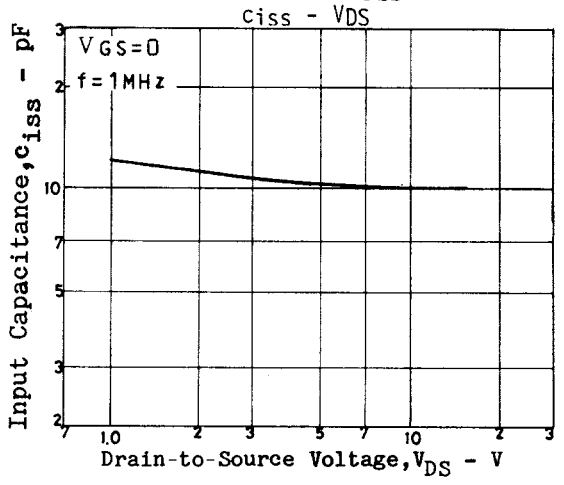

ID - VDS
Drain Current, ID - mA
VGS=0
-0.1V
-0.2V
-0.3V
-0.4V
-0.5V
-0.6V
Drain-to-Source Voltage, VDS - V

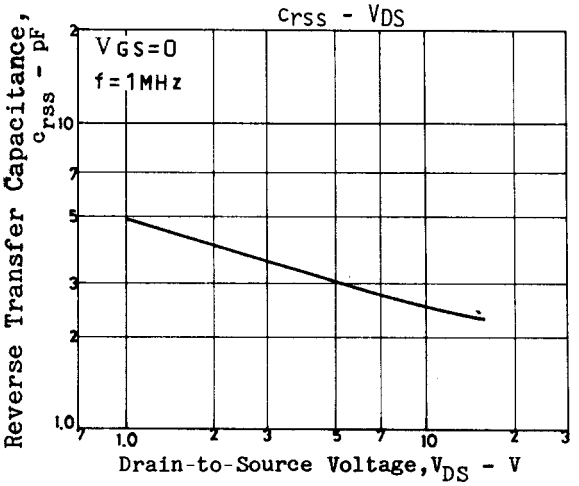

ID - VGS
VDS=5V
Drain Current, ID - mA
IDSS=20mA
10mA
5mA
Gate-to-Source Voltage, VGS - V


VGS(off) - IDSS
VDS=5V
ID=100μA
Cutoff Voltage, VGS(off) - V
Drain Current, IDSS - mA


|yfs| - IDSS
VDS=5V
VGS=0
f=1kHz
Forward Transfer Admittance, |yfs| - mS
Drain Current, IDSS - mA


|yfs| - ID
VDS=5V
f=1kHz
Forward Transfer Admittance, |yfs| - mS
20mA
10mA
IDSS=5mA
Drain Current, ID - mA


Ciss - VDS
VGS=0
f=1MHz
Input Capacitance, Ciss - pF
Drain-to-Source Voltage, VDS - V


Crss - VDS
VGS=0
f=1MHz
Reverse Transfer Capacitance, Crss - pF
Drain-to-Source Voltage, VDS - V