Ordering number:EN1420A

N-Channel Junction Silicon FET

2SK444

Video Camera Applications

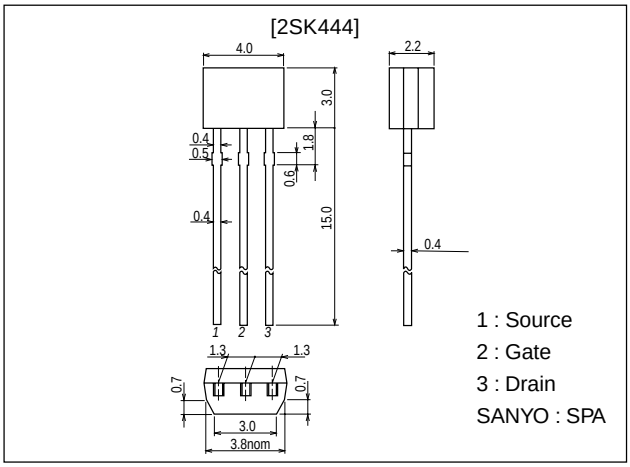
Features

- Large $|y_{fs}|$.
- Small Ciss.
- Ultralow noise figure.
- High frequency, low noise amplifier.

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		200	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}=0V	–15			V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=–10V, V_{DS}=0V			–1.0	nA
Zero-Gate Voltage Drain Current	I_{DSS}*	V_{DS}=5V, V_{GS}=0V	5.0*		38.0*	mA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=5V, I_D=100μA		–0.9	–2.0	V
Forward Transfer Admittance	| yfs |	V_{DS}=5V, V_{GS}=0V, f=1kHz	20	30		mS
Input Capacitance	Ciss	V_{DS}=5V, V_{GS}=0V, f=1MHz		9.0		pF
Reverse Transfer Capacitance	Crss	V_{DS}=5V, V_{GS}=0V, f=1MHz		2.8		pF
Noise Figure	NF	V_{DS}=5V, Rg=1kΩ, I_D=1mA, f=1kHz		1.5		dB

* : The 2SK444 is classified by V_{DS}=5V as follows (unit : mA) :

5.0 F 12.0	10.0 G 24.0	16.0 H 38.0

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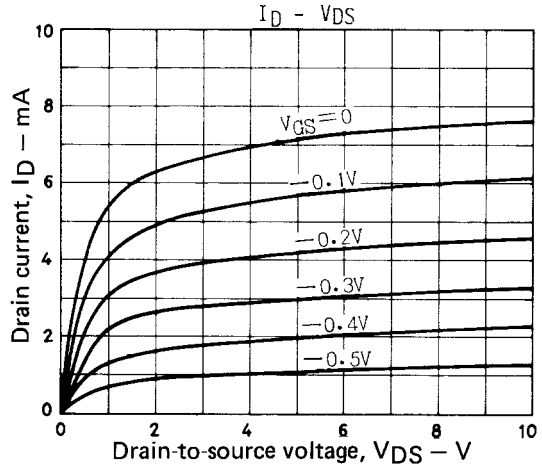
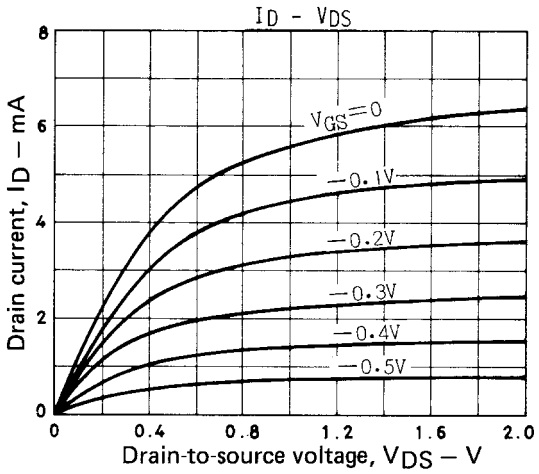
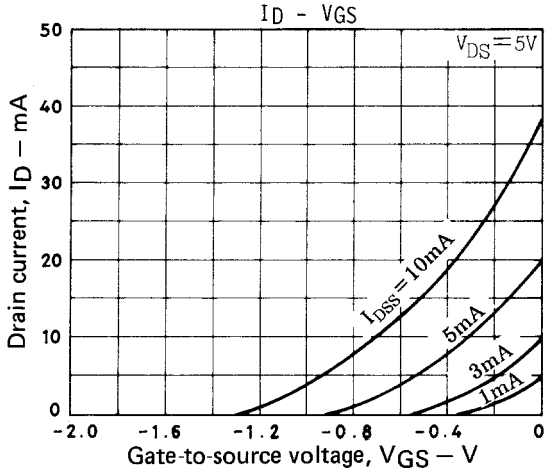
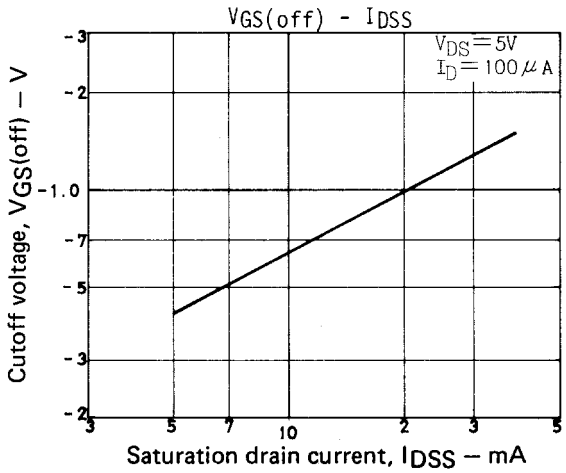
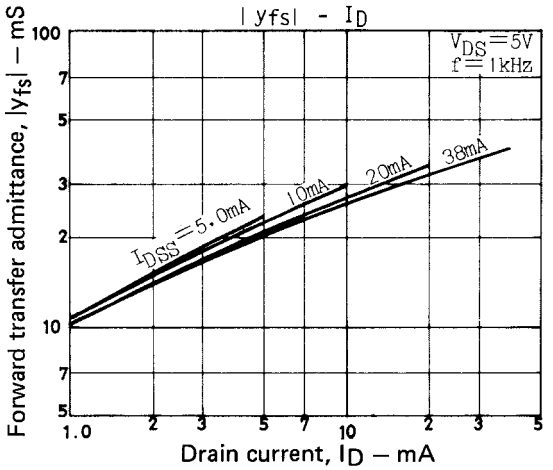
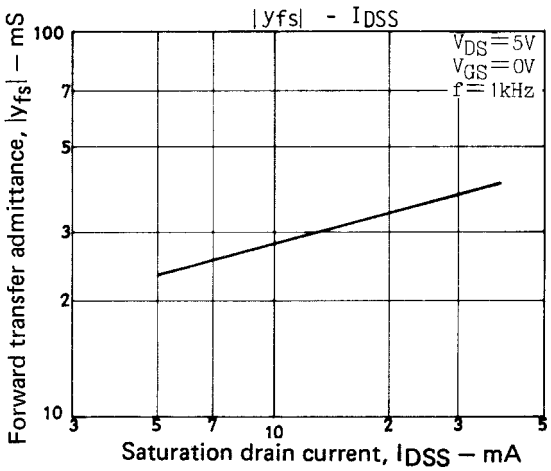

ID - VDS
Drain current, ID – mA
VGS=0
–0.1V
–0.2V
–0.3V
–0.4V
–0.5V
Drain-to-source voltage, VDS – V

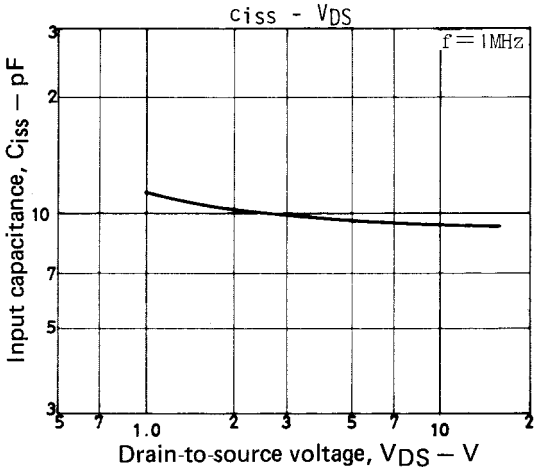

ID - VDS
Drain current, ID – mA
VGS=0
–0.1V
–0.2V
–0.3V
–0.4V
–0.5V
Drain-to-source voltage, VDS – V

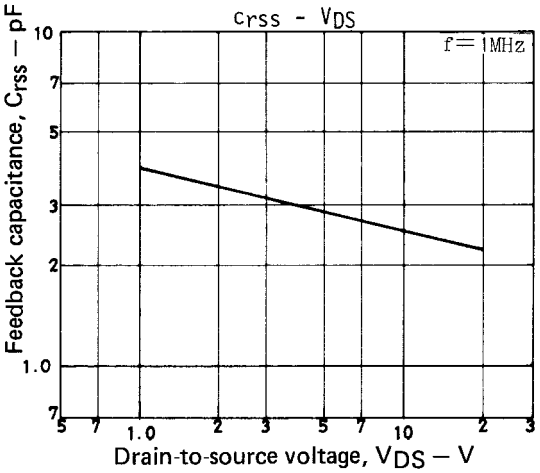

ID - VGS
VDS=5V
Drain current, ID – mA
IDSS=10mA
5mA
3mA
1mA
Gate-to-source voltage, VGS – V


VGS(off) - IDSS
VDS=5V
ID=100μA
Cutoff voltage, VGS(off) – V
Saturation drain current, IDSS – mA


|yfs| - ID
VDS=5V
f=1kHz
Forward transfer admittance, |yfs| – mS
IDSS=5.0mA
10mA
20mA
38mA
Drain current, ID – mA


|yfs| - IDSS
VDS=5V
VGS=0V
f=1kHz
Forward transfer admittance, |yfs| – mS
Saturation drain current, IDSS – mA


Ciss - VDS
f=1MHz
Input capacitance, Ciss – pF
Drain-to-source voltage, VDS – V


Crss - VDS
f=1MHz
Feedback capacitance, Crss – pF
Drain-to-source voltage, VDS – V