Ordering number: EN 1420A

SANYO No.1420A

2SK444

N-Channel Junction Silicon FET

Video Camera Applications

Features

- Large $|y_{fs}|$
- Small c_{iss}
- Very low noise figure
- High frequency, low noise amp

Absolute Maximum Ratings/T_a = 25°C

			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
Power dissipation	P_D	200	mW
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	−55 to +125	°C

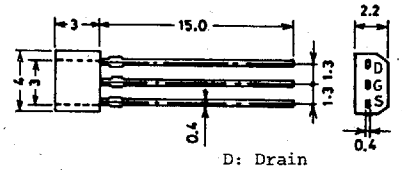
Electrical Characteristics/T_a = 25°C

			min	typ	max	unit
Gate to drain breakdown voltage	$V_{(BR)GDS}$	I_G = −10μA, V_{DS} = 0V	−15			V
Common source gate cutoff current	I_{GSS}	V_{GS} = −10V, V_{DS} = 0V			−1.0	nA
Gate to source cutoff voltage	$V_{GS(off)}$	V_{DS} = 5V, I_D = 100μA		−0.9	−2.0	V
Drain current (gate-source shorted)	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	5.0*		38.0*	mA
Forward transfer admittance	$\|y_{fs}\|$	V_{DS} = 5V, V_{GS} = 0V, f = 1kHz	20	30		mS
Input capacitance	c_{iss}	V_{DS} = 5V, V_{GS} = 0V, f = 1MHz		9.0		pF
Feedback capacitance	c_{rss}	V_{DS} = 5V, V_{GS} = 0V, f = 1MHz		2.8		pF
Noise figure	NF	V_{DS} = 5V, R_g = 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

Case Outline 2034
(unit: mm)



D: Drain
G: Gate
S: Source

SANYO: SPA

Specifications and information herein are subject to change without notice.

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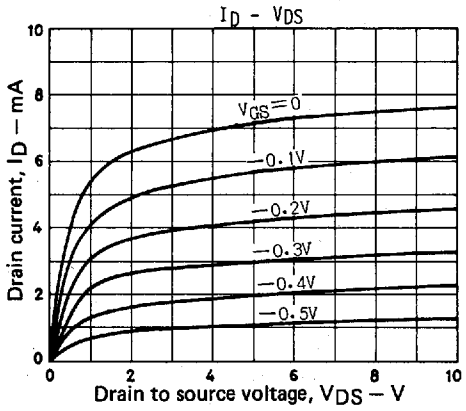
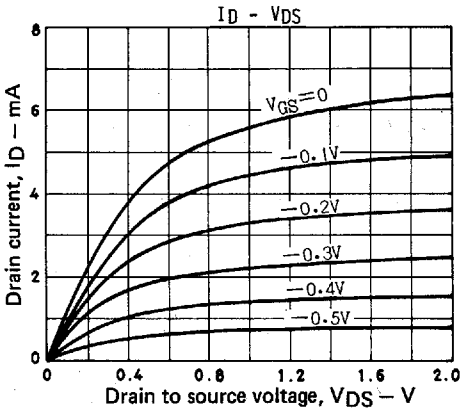
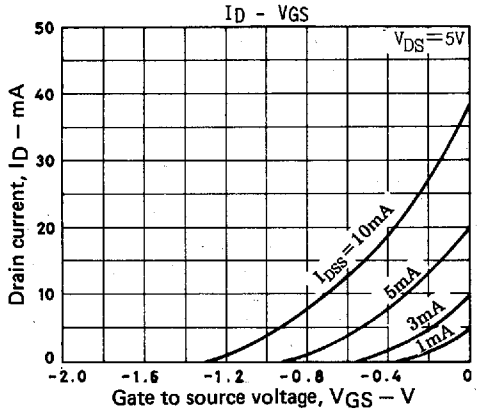
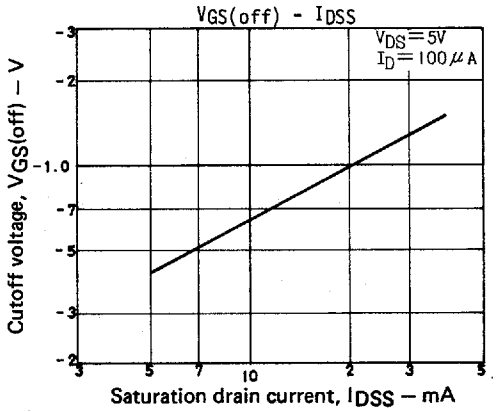
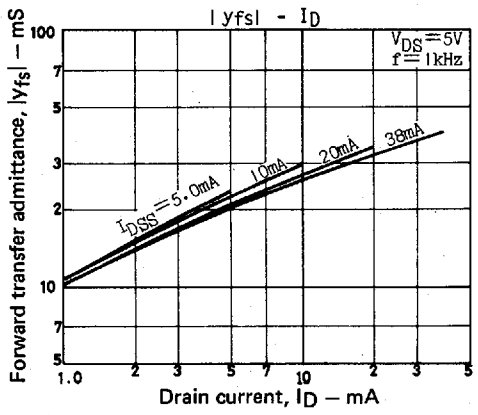
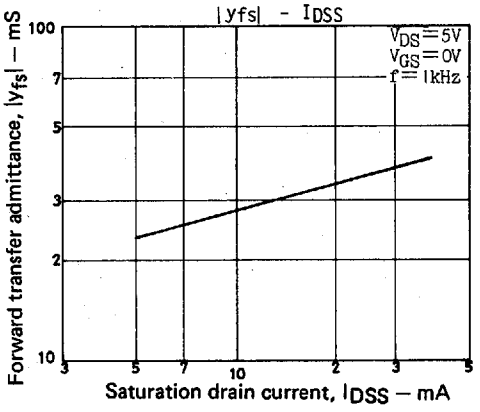

I_D - V_{DS}
Drain current, I_D – mA
V_{GS}=0
–0.1V
–0.2V
–0.3V
–0.4V
–0.5V
Drain to source voltage, V_{DS} – V

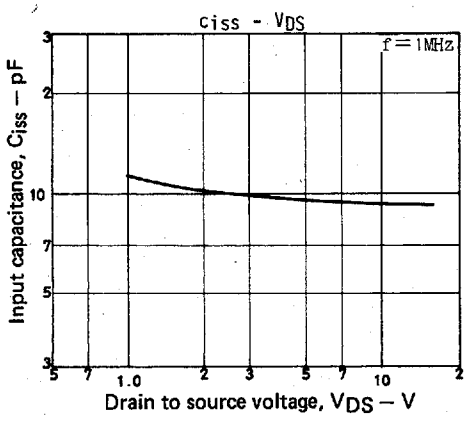

I_D - V_{DS}
Drain current, I_D – mA
V_{GS}=0
–0.1V
–0.2V
–0.3V
–0.4V
–0.5V
Drain to source voltage, V_{DS} – V

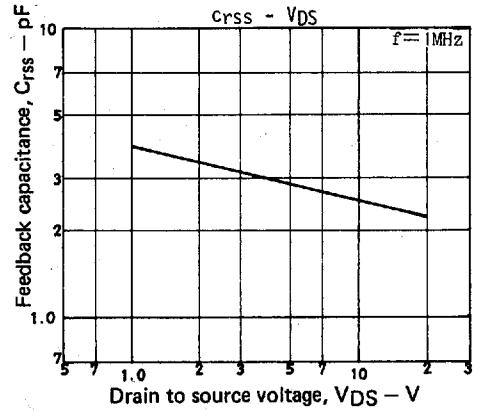

I_D - V_{GS}
V_{DS}=5V
Drain current, I_D – mA
I_{DSS}=10mA
5mA
3mA
1mA
Gate to source voltage, V_{GS} – V

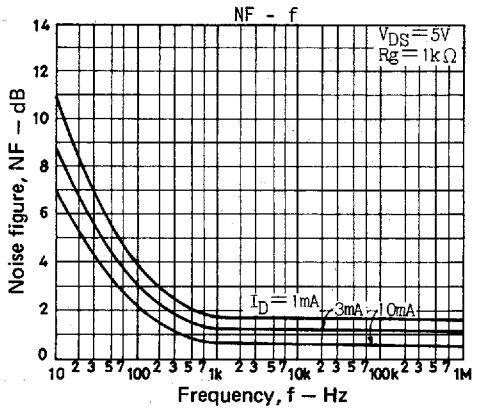

$V_{GS(off)}$ - I_{DSS}
V_{DS}=5V
I_D=100μA
Cutoff voltage, $V_{GS(off)}$ – V
Saturation drain current, I_{DSS} – mA

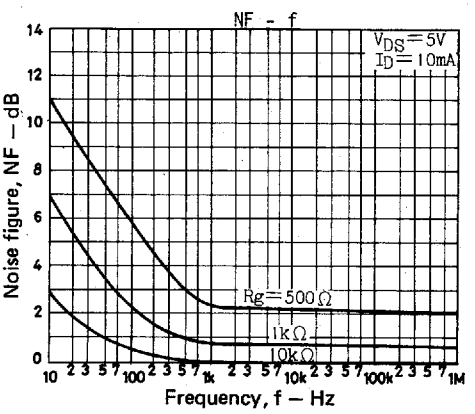

|yfs| - I_D
V_{DS}=5V
f=1kHz
Forward transfer admittance, |yfs| – mS
I_{DSS}=5.0mA
10mA
20mA
38mA
Drain current, I_D – mA

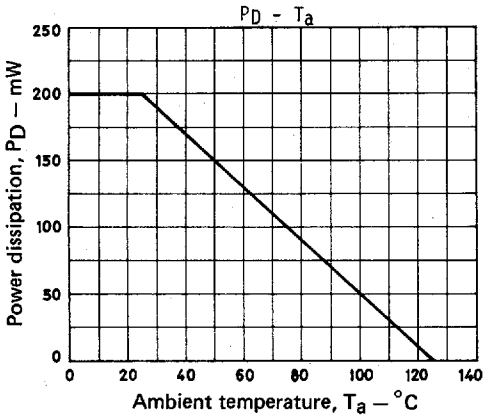

|yfs| - I_{DSS}
V_{DS}=5V
V_{GS}=0V
f=1kHz
Forward transfer admittance, |yfs| – mS
Saturation drain current, I_{DSS} – mA


ciss - V_{DS}
f=1MHz
Input capacitance, C_{iss} – pF
Drain to source voltage, V_{DS} – V


crss - V_{DS}
f=1MHz
Feedback capacitance, C_{rss} – pF
Drain to source voltage, V_{DS} – V


NF - f
V_{DS} = 5V
Rg = 1kΩ
I_D = 1mA
3mA
10mA
Noise figure, NF – dB
Frequency, f – Hz

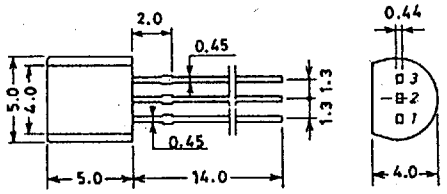

NF - f
V_{DS} = 5V
I_D = 10mA
Rg = 500Ω
1kΩ
10kΩ
Noise figure, NF – dB
Frequency, f – Hz


P_D - T_a
Power dissipation, P_D – mW
Ambient temperature, T_a – °C

CASE OUTLINES OF LEAD FORMED SMALL SIGNAL TRANSISTORS

- All of Sanyo lead formed small signal transistor case outlines are illustrated below.
- All dimensions are in mm, and dimensions which are not followed by min. or max. are represented by typical values.
- No marking is indicated.

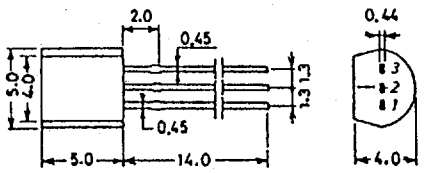
Case Outline 2003A/2003B (unit : mm)



JEDEC : TO-92
EIAJ : SC-43
SANYO : NP

1 : Emitter
2 : Collector
3 : Base

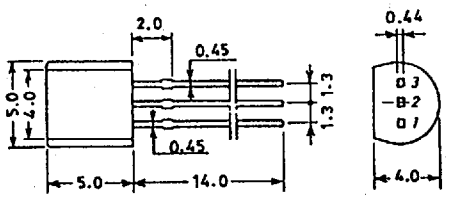
Case Outline 2019A/2019B (unit : mm)



JEDEC : TO-92
EIAJ : SC-43
SANYO : NP

1 : Source
2 : Gate
3 : Drain

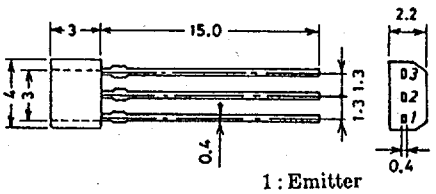
Case Outline 2004A (unit : mm)



JEDEC : TO-92
EIAJ : SC-43
SANYO : NP

1 : Base
2 : Emitter
3 : Collector

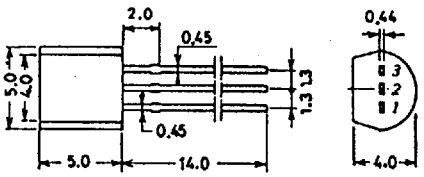
Case Outline 2033 (unit : mm)



1 : Emitter
2 : Collector
3 : Base

SANYO : SPA

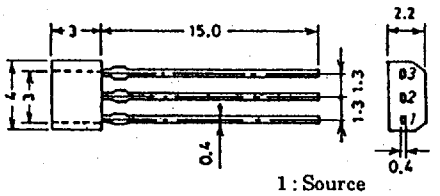
Case Outline 2005A (unit : mm)



JEDEC : TO-92
EIAJ : SC-43
SANYO : NP

1 : Drain
2 : Source
3 : Gate

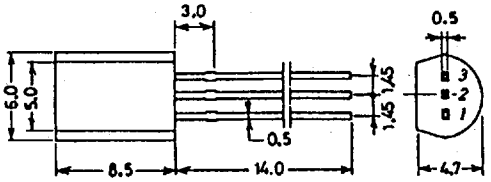
Case Outline 2034/2034A (unit : mm)



1 : Source
2 : Gate
3 : Drain

SANYO : SPA

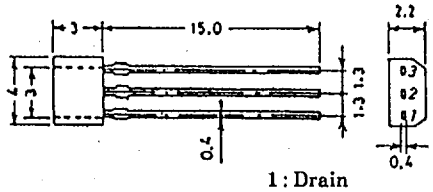
Case Outline 2006A (unit : mm)



EIAJ : SC-51
SANYO : MP

1 : Emitter
2 : Collector
3 : Base

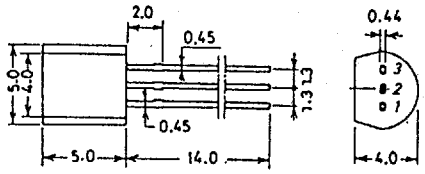
Case Outline 2040 (unit : mm)



1 : Drain
2 : Source
3 : Gate

SANYO : SPA

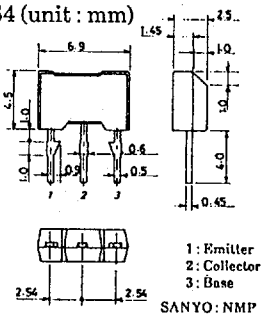
Case Outline 2061 (unit : mm)



JEDEC : TO-92
EIAJ : SC-43
SANYO : NP

1 : Emitter
2 : Base
3 : Collector

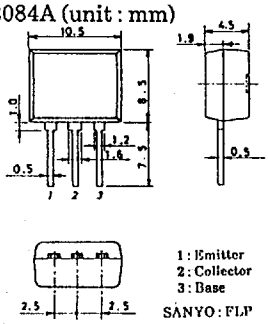
Case Outline 2064 (unit : mm)



1 : Emitter
2 : Collector
3 : Base

SANYO : NMP

Case Outline 2084A (unit : mm)



1 : Emitter
2 : Collector
3 : Base

SANYO : FLP