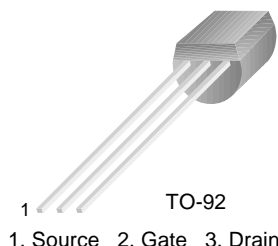


## KSK30

### Low Noise PRE-AMP. Use

- High Input Impedance:  $I_{GSS}=1nA$  (MAX)
- Low Noise:  $NF=0.5dB$  (TYP)
- High Voltage:  $V_{GDS}=-50V$



### Silicon N-channel Junction Fet

#### Absolute Maximum Ratings $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Ratings	Units
$V_{GDS}$	Gate-Drain Voltage	-50	V
$I_G$	Gate-Current	10	mA
$P_D$	Collector Dissipation	100	mW
$T_J$	Junction Temperature	125	$^\circ C$
$T_{STG}$	Storage Temperature	-55 ~ 125	$^\circ C$

#### Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{GDS}$	Gate-Drain Breakdown Voltage	$V_{DS}=0, I_G=-100\mu A$	-50			V
$I_{GSS}$	Gate Leak Current	$V_{GS}=-30V, V_{DS}=0$			-1	nA
$I_{DSS}$	Drain Leak Current	$V_{DS}=10V, V_{GS}=0$	0.3		6.5	mA
$V_{GS}$ (off)	Gate-Source Voltage	$V_{DS}=10V, I_D=0.1\mu A$	-0.4		-5	V
$ Y_{FS} $	Forward Transfer Admittance	$V_{DS}=10V, V_{GS}=0, f=1KHz$	1.2			mS
$C_{ISS}$	Input Capacitance	$V_{DS}=0, V_{GS}=0, f=1MHz$		8.2		pF
$C_{RSS}$	Feedback Capacitance	$V_{GD}=10V, V_{DS}=0, f=1MHz$		2.6		pF
NF	Noise Figure	$V_{DS}=15V, V_{GS}=0, R_G=100K\Omega, f=120Hz$		0.5	5	dB

### $I_{DSS}$ Classification

Classification	R	O	Y	G
$I_{DSS}(mA)$	0.30 ~ 0.75	0.60 ~ 1.40	1.20 ~ 3.00	2.60 ~ 6.50

# Typical Characteristics

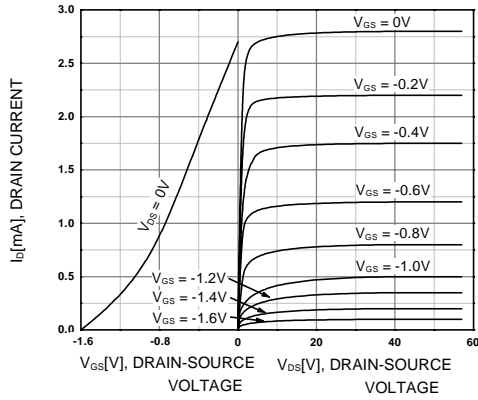


Figure 1. Static Characteristic

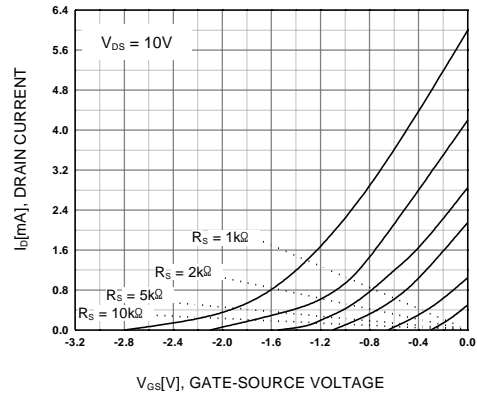


Figure 2.  $I_D$ - $V_{GS}$

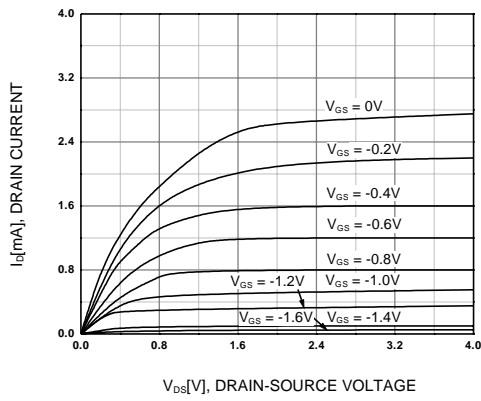


Figure 3.  $I_D$ - $V_{DS}$

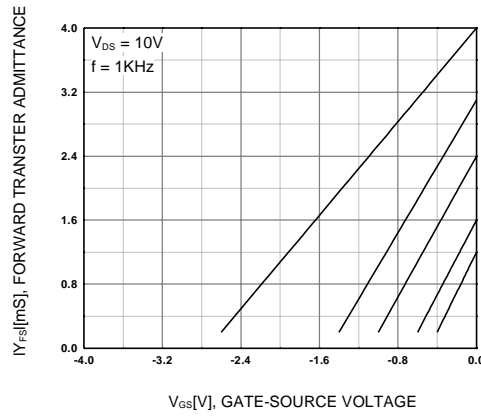


Figure 4.  $|Y_{fs}|$ - $V_{GS}$

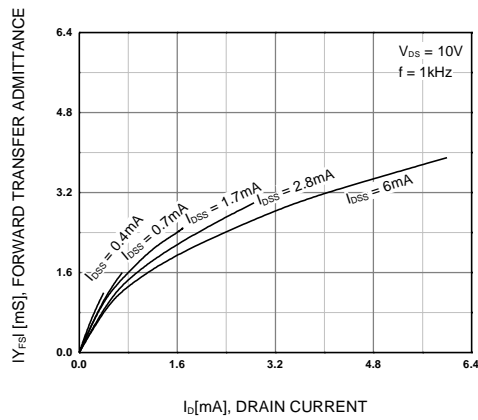


Figure 5.  $|Y_{fs}|$ - $I_D$

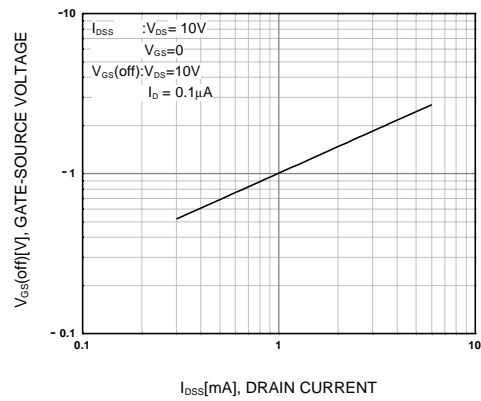


Figure 6.  $V_{GS(off)}$ - $I_{DSS}$

# Typical Characteristics (Continued)

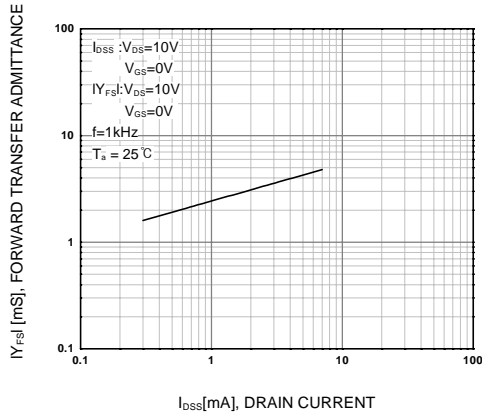


Figure 7.  $|Y_{fs}| - I_{DSS}$

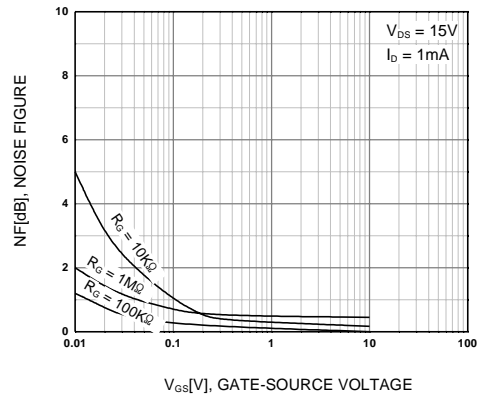


Figure 8. NF-f

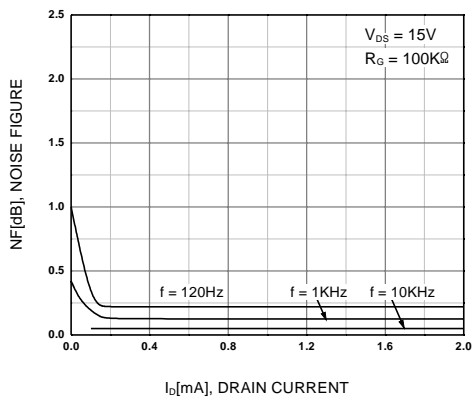


Figure 9. NF- $I_D$

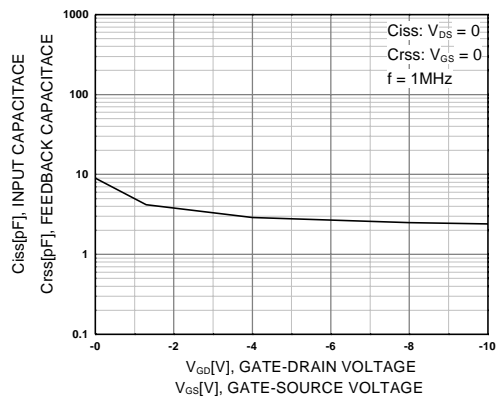


Figure 10.  $C_{iss} - V_{GS}$ ,  $C_{rss} - V_{GD}$

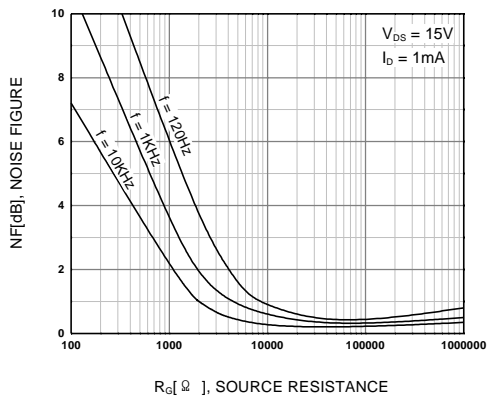


Figure 11. NF- $R_G$

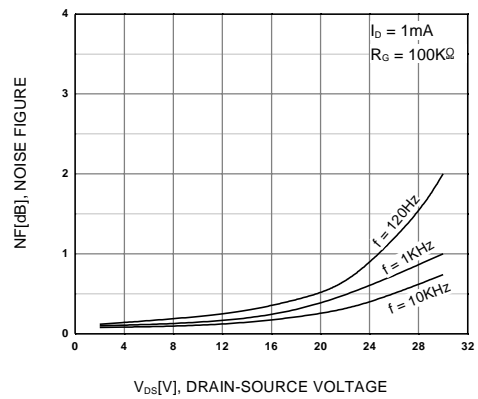


Figure 12. NF- $V_{DS}$

### Typical Characteristics (Continued)

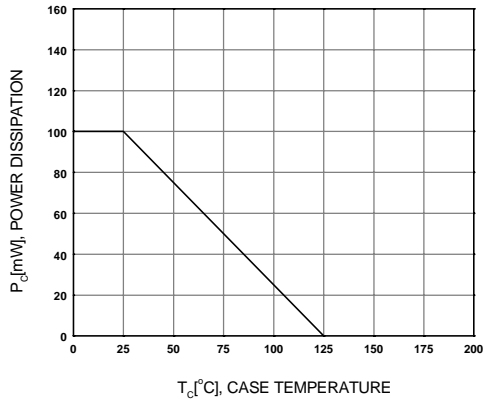
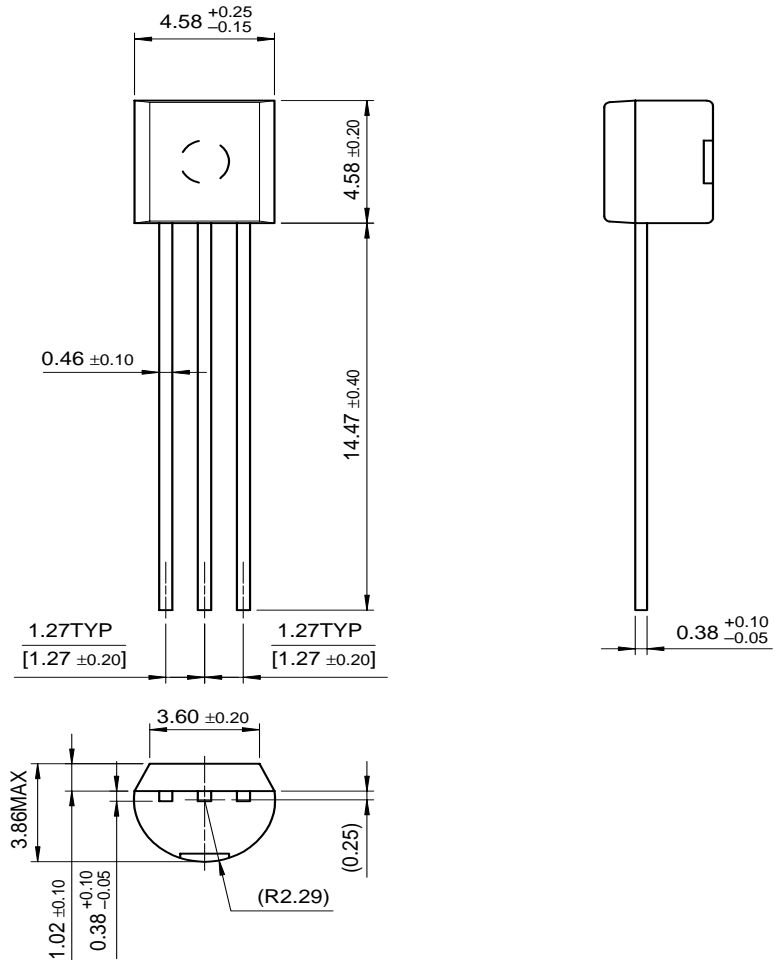


Figure 13. Power Derating

# Package Dimensions

KSK30

## TO-92



Dimensions in Millimeters

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Datasheet Identification	Product Status	Definition
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Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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**KSK30**  
Silicon N-Channel Junction Fet

Contents

[Features](#) | [Applications](#) | [Product status/pricing/packageing](#)

Features

- High Input Impedance :  $I_{GSS} = 1nA$  (MAX)
- Low Noise :  $NF = 0.5dB$  (TYP)
- High Voltage:  $V_{GDS} = -50V$

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Applications

**Low Noise PRE-AMP. Use**

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Product status/pricing/packageing

Product	Product status	Pricing*	Package type	Leads	Packing method
KSK30YTA	Full Production	\$0.06	<a href="#">TO-92</a>	3	TAPE REEL
KSK30GTA	Full Production	\$0.06	<a href="#">TO-92</a>	3	TAPE REEL
KSK30YBU	Full Production	\$0.06	<a href="#">TO-92</a>	3	BULK
KSK30OBU	Full Production	\$0.06	<a href="#">TO-92</a>	3	BULK
KSK30GBU	Full Production	\$0.06	<a href="#">TO-92</a>	3	BULK
KSK30RBU	Full Production	\$0.06	<a href="#">TO-92</a>	3	BULK

\* 1,000 piece Budgetary Pricing

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