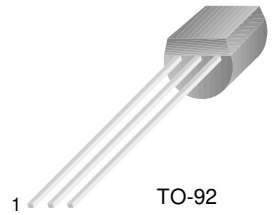
FAIRCHILD
SEMICONDUCTOR®

KSK30

Low Noise PRE-AMP. Use

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



TO-92

1. Source 2. Gate 3. Drain

Silicon N-channel Junction Fet

Absolute Maximum Ratings T_a=25°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	°C
T_{STG}	Storage Temperature	-55 ~ 125	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{GDS}	Gate-Drain Breakdown Voltage	V_{DS}=0, I_G= -100μA	-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=0.1μA	-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=100KΩ 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

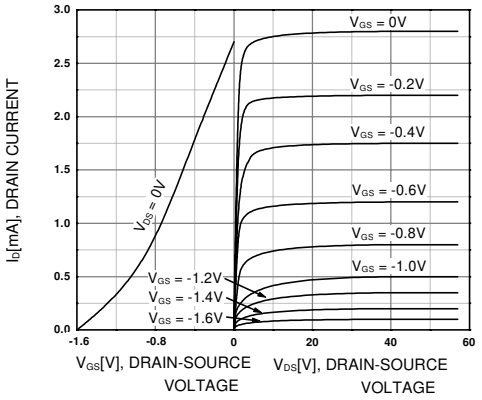


Figure 1. Static Characteristic

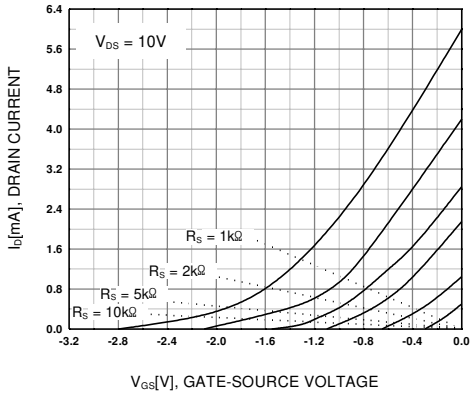


Figure 2. I_D-V_{GS}

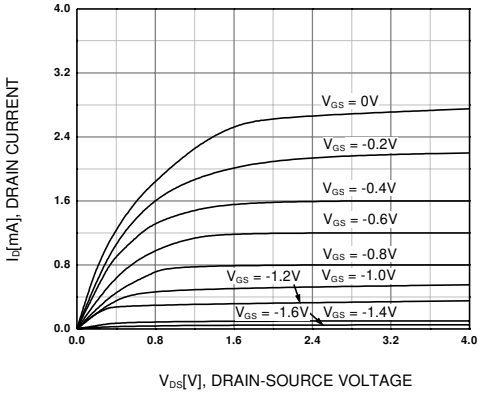


Figure 3. I_D-V_{DS}

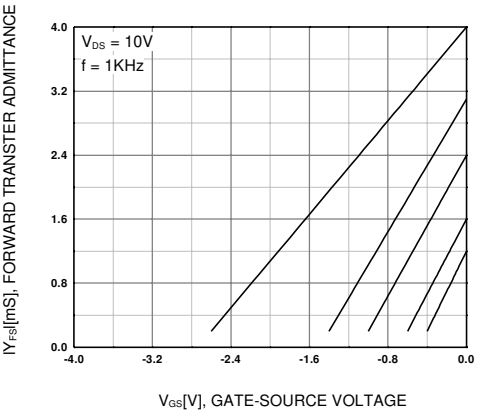


Figure 4. $|Yfs|$-V_{GS}

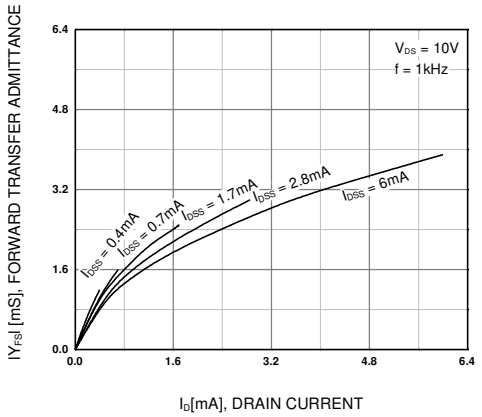


Figure 5. $|Yfs|$-I_D

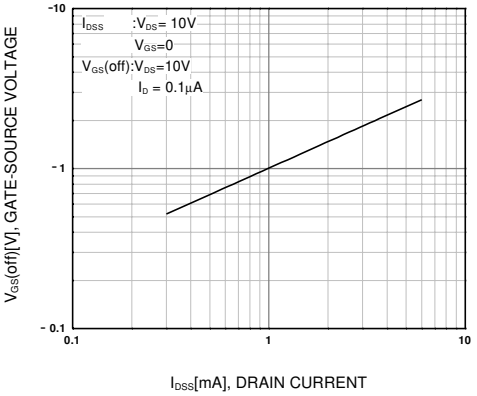


Figure 6. $V_{GS}(off)$-I_{DSS}

Typical Characteristics (Continued)

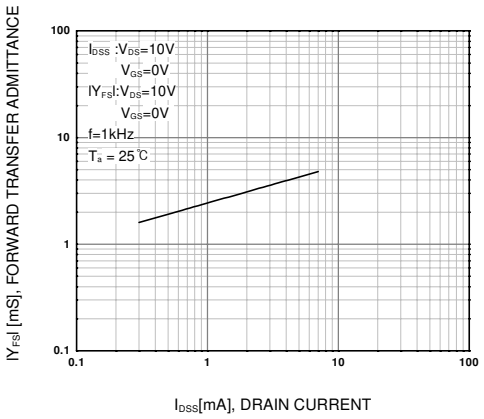


Figure 7. $|Yfs|$-I_{DSS}

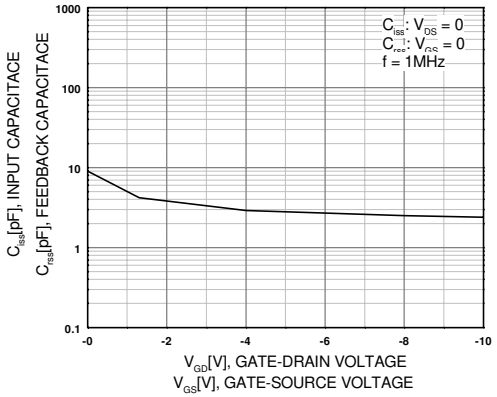


Figure 8. Ciss-V_{GS}, Crss-V_{GD}

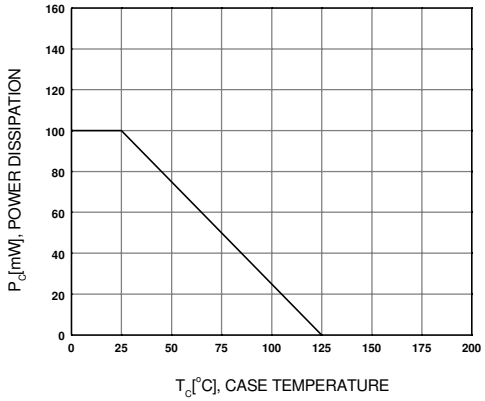


Figure 9. Power Derating

Package Dimensions

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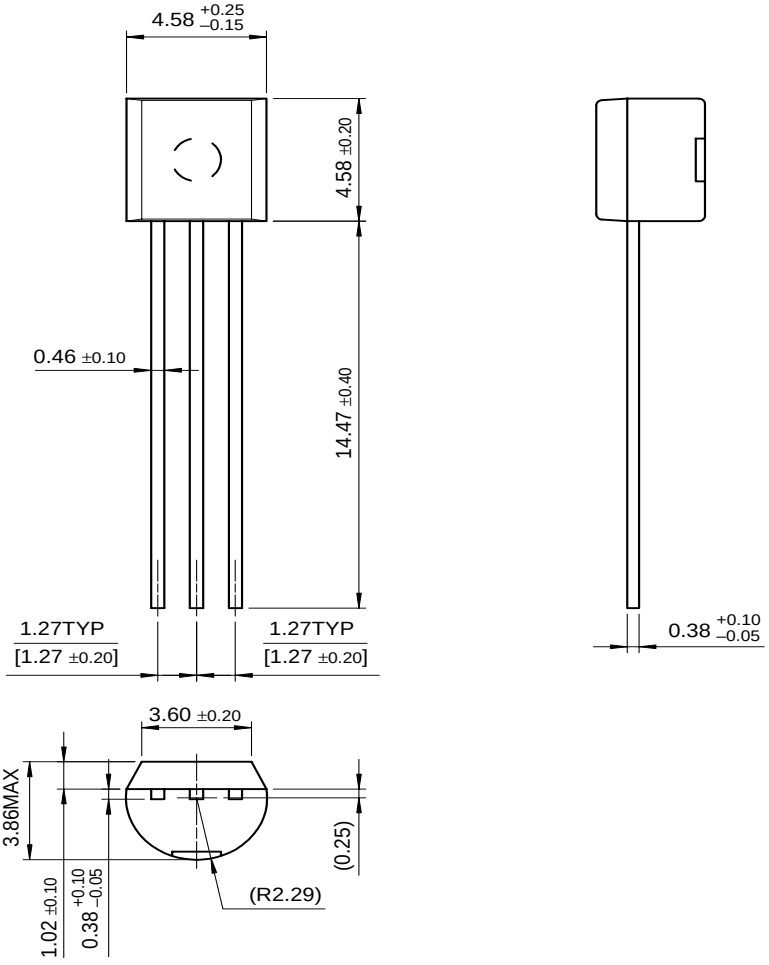

Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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