Ordering number:EN4336

FC13

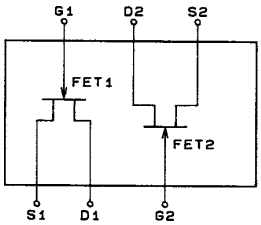
N-Channel Junction Silicon FET

Low-Frequency General-Purpose Amp, Differential Amp, Analog Switch Applications

Features

- Composite type with 2 FETs contained in the CP package currently in use, improving the mounting efficiency greatly.
- The FC13 is formed with two chips, being equivalent to the 2SK303, placed in one package.
- Excellent in thermal equilibrium and pair capability and especially suited for differential amp.

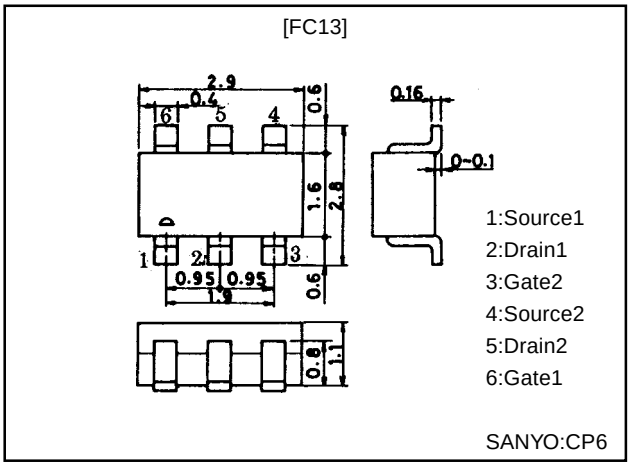
Electrical Connection



Package Dimensions

unit:mm

2095A



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSX}		30	V
Gate-to-Drain Voltage	V_{GDS}		–30	V
Gate Current	I_G		10	mA
Drain Current	I_D		10	mA
Allowable Power Dissipation	P_D	1unit	200	mW
Total Dissipation	P_T		300	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
G-D Breakdown Voltage	$V_{(BR)DGD}$	I_G=–10μA, V_{DS}=0	–30			V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=–20V, V_{DS}=0			–1.0	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=1μA	–0.3	–0.9	–2.5	V
G-S Voltage Drop	ΔV_{GS}	V_{GS}(small/large), V_{DS}=10V, I_D=1mA			50	mV
Drain Current	I_{DSS}	V_{DS}=10V, V_{GS}=0	1.2*		6.0*	mA
Drain Current Ratio		V_{DS}=10V, I_{DSS}(small/large)	0.9			
Forward Transfer Admittance	$\lvert Y_{fs} \rvert$	V_{DS}=10V, V_{GS}=0, f=1kHz	3.0	5.0		mS
Forward Transfer Admittance Ratio		V_{DS}=10V, $\lvert Y_{fs} \rvert$ (small/large)	0.9			
Input Capacitance	Ciss	V_{DS}=10V, V_{GS}=0, f=1MHz		5.0		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, V_{GS}=0, f=1MHz		0.9		pF
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	V_{DS}=10mV, V_{GS}=0		250		Ω

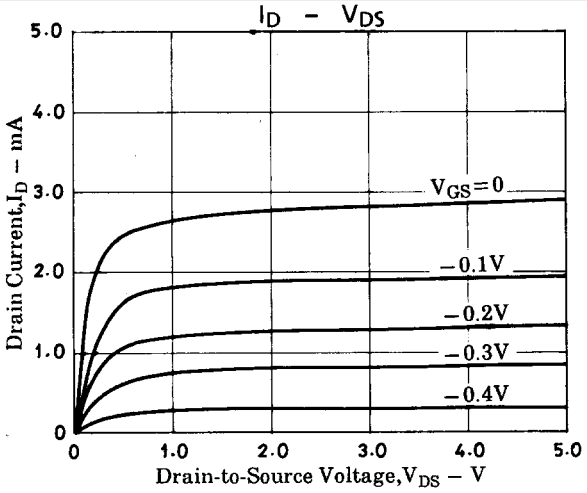
The specifications shown above are for each individual transistor.

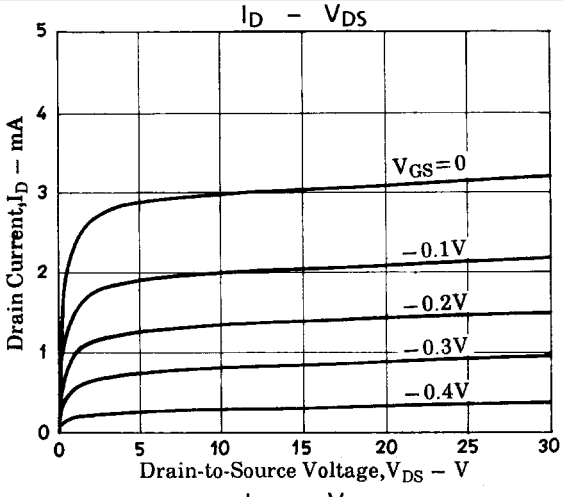
Marking:13

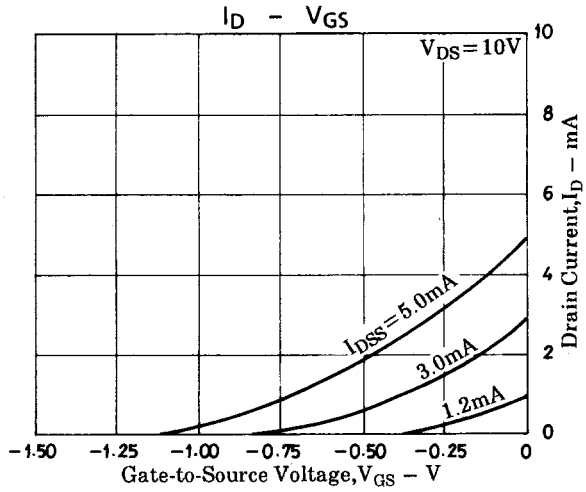
I_{DSS} rank:D,E

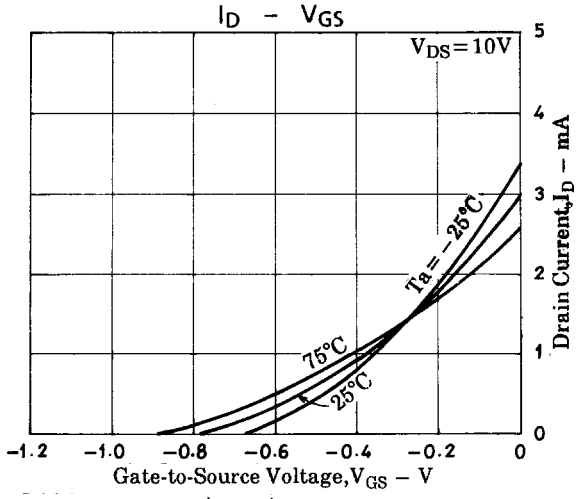
Note*:The FC13 is classified by FET1 I_{DSS} as follows :

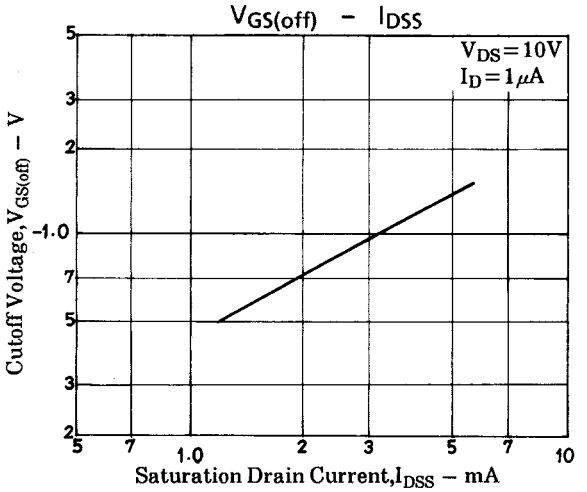
1.2 D 3.0	2.5 E 6.0

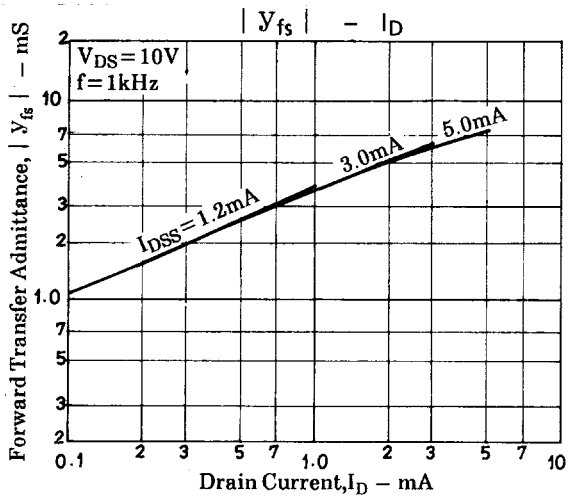

I_D – V_{DS}
Drain Current, I_D – mA
Drain-to-Source Voltage, V_{DS} – V
V_{GS}=0
–0.1V
–0.2V
–0.3V
–0.4V

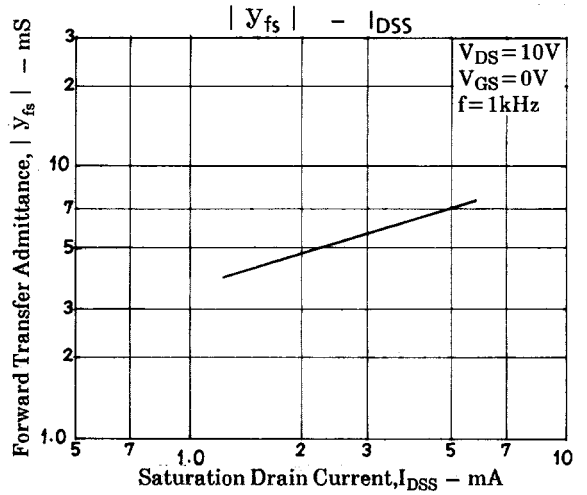

I_D – V_{DS}
Drain Current, I_D – mA
Drain-to-Source Voltage, V_{DS} – V
V_{GS}=0
–0.1V
–0.2V
–0.3V
–0.4V

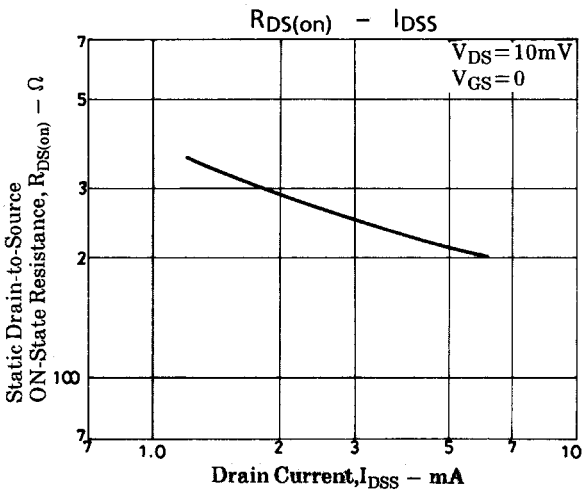

I_D – V_{GS}
V_{DS}=10V
I_{DSS}=5.0mA
3.0mA
1.2mA
Drain Current, I_D – mA
Gate-to-Source Voltage, V_{GS} – V


I_D – V_{GS}
V_{DS}=10V
Ta=–25°C
75°C
25°C
Drain Current, I_D – mA
Gate-to-Source Voltage, V_{GS} – V


$V_{GS(off)}$ – I_{DSS}
V_{DS}=10V
I_D=1μA
Cutoff Voltage, $V_{GS(off)}$ – V
Saturation Drain Current, I_{DSS} – mA


$|y_{fs}|$ – I_D
V_{DS}=10V
f=1kHz
I_{DSS}=1.2mA
3.0mA
5.0mA
Forward Transfer Admittance, $|y_{fs}|$ – mS
Drain Current, I_D – mA


$|y_{fs}|$ – I_{DSS}
V_{DS}=10V
V_{GS}=0V
f=1kHz
Forward Transfer Admittance, $|y_{fs}|$ – mS
Saturation Drain Current, I_{DSS} – mA


$R_{DS(on)}$ – I_{DSS}
V_{DS}=10mV
V_{GS}=0
Static Drain-to-Source ON-State Resistance, $R_{DS(on)}$ – Ω
Drain Current, I_{DSS} – mA