



# MCH3914 — N-Channel Junction Silicon FET High-Frequency Amplifier, Analog Switch Applications

## Features

- $|y_{fs}|$  is large.
- $C_{iss}$  is small.
- Small package.
- FBET process.
- Halogen free compliance.

## Specifications

Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSX}$		15	V
Gate-to-Drain Voltage	$V_{GDS}$		-15	V
Gate Current	$I_G$		5	mA
Drain Current	$I_D$		50	mA
Allowable Power Dissipation	$P_D$	When mounted on ceramic substrate (600mm <sup>2</sup> ×0.8mm)	300	mW
Junction Temperature	$T_j$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

Electrical Characteristics at  $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G=-10\mu\text{A}$ , $V_{DS}=0\text{V}$	-15			V
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=-10\text{V}$ , $V_{DS}=0\text{V}$			-1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=5\text{V}$ , $I_D=10\mu\text{A}$	-0.6	-1.4	-3.0	V

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# MCH3914

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=5V, V_{GS}=0V$	16.0*		50.0*	mA
Forward Transfer Admittance	$ y_{fs} 1$	$V_{DS}=5V, I_D=10mA, f=1kHz$	14	21		mS
	$ y_{fs} 2$	$V_{DS}=5V, V_{GS}=0V, f=1kHz$	14	29		mS
Input Capacitance	$C_{iss}$	$V_{DS}=5V, V_{GS}=0V, f=1MHz$		4.9		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=5V, V_{GS}=0V, f=1MHz$		1.4		pF

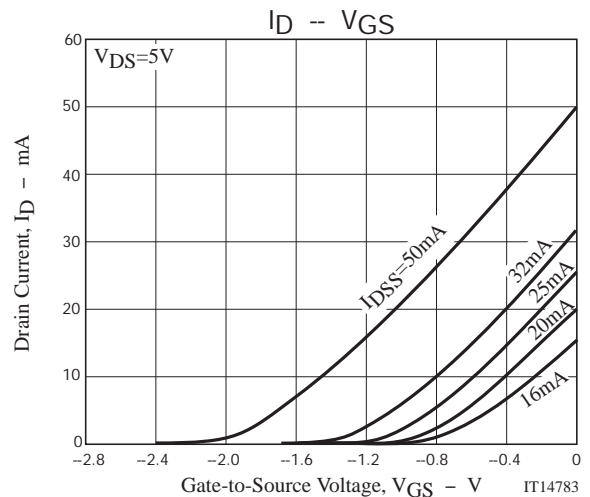
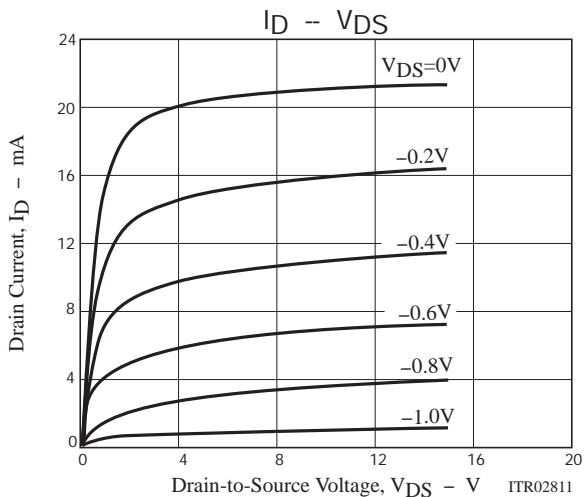
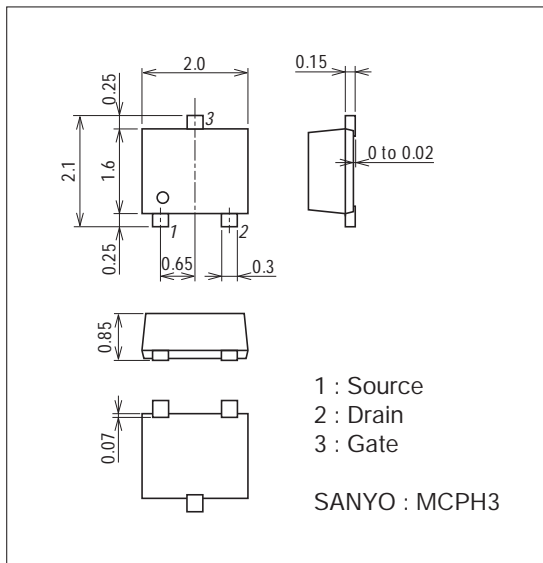
\* : The MCH3914 is classified by  $I_{DSS}$  as follows : (unit : mA)

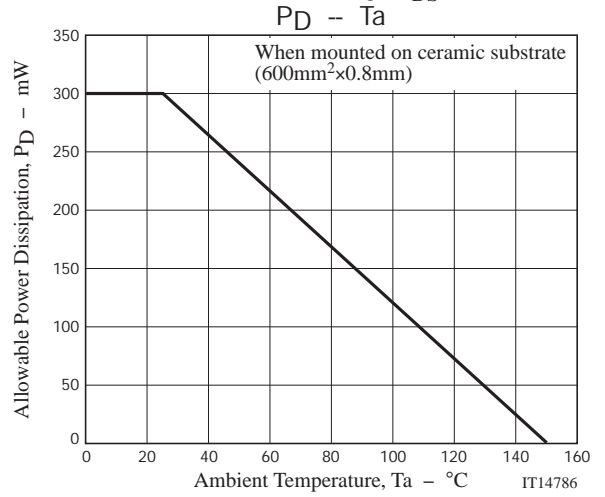
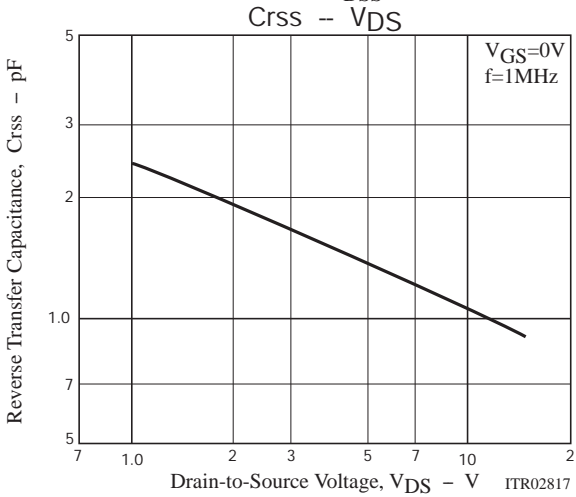
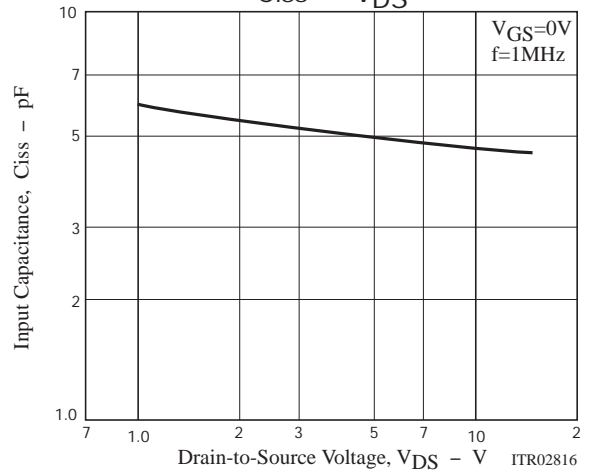
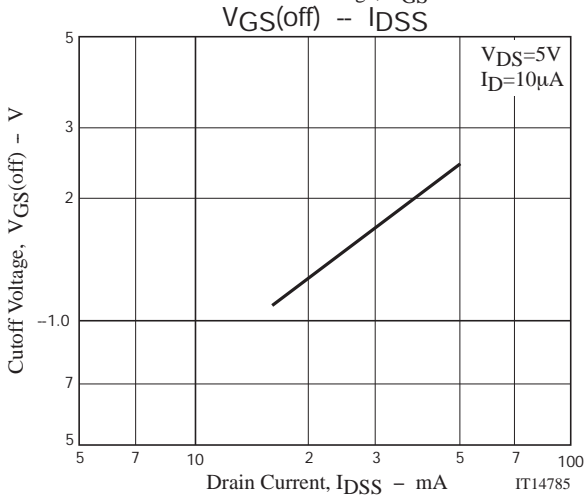
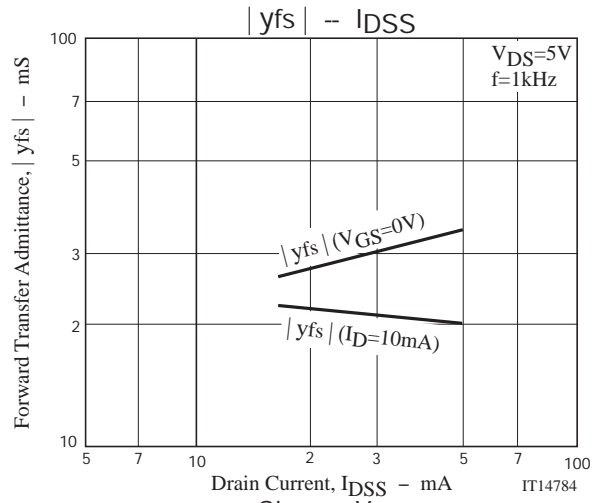
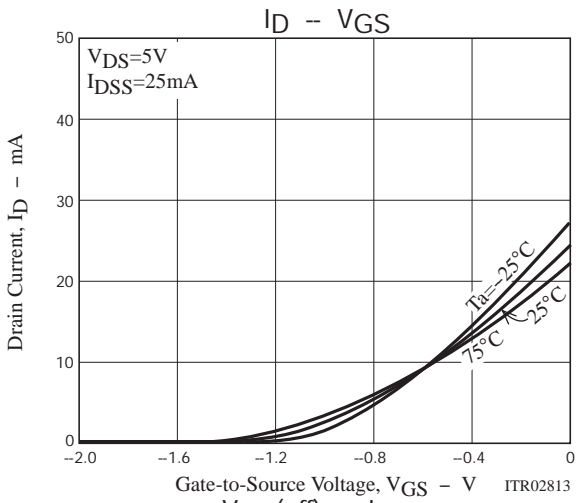
Marking	J7	J8
Rank	7	8
$I_{DSS}$	16.0 to 32.0	25.0 to 50.0

## Package Dimensions

unit : mm (typ)

7019A-006





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