



SANYO Semiconductors

DATA SHEET

MCH3914 — High-Frequency Amplifier, Analog Switch Applications

N-Channel Junction Silicon FET

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 ² ×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

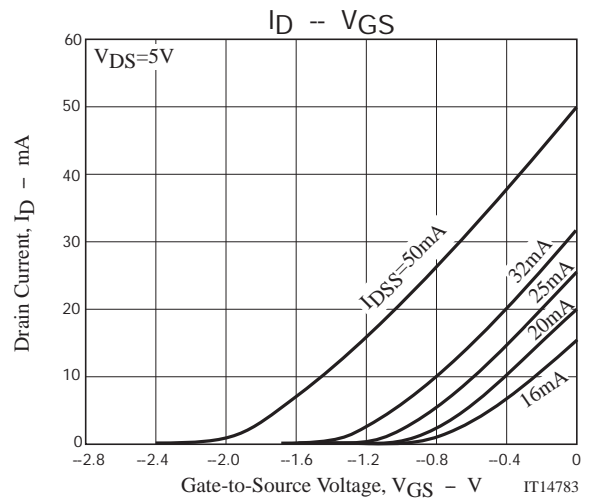
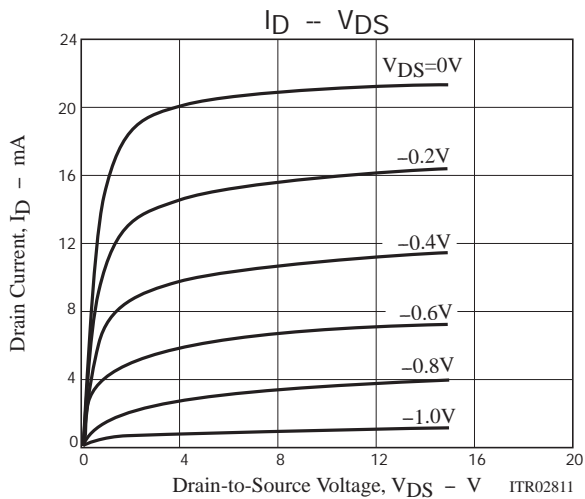
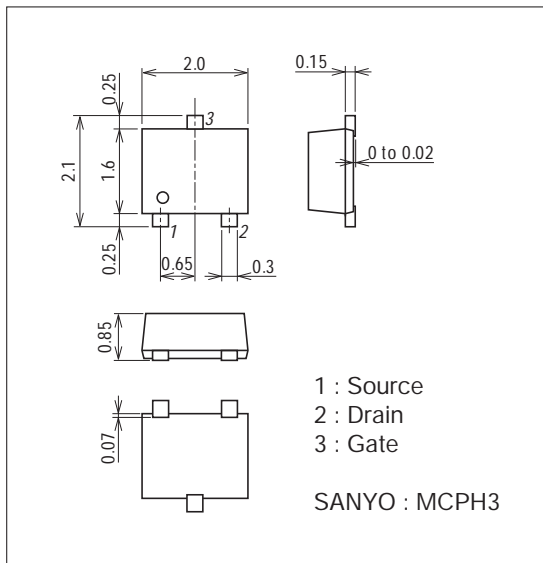
* : The MCH3914 is classified by I_{DSS} as follows : (unit : mA)

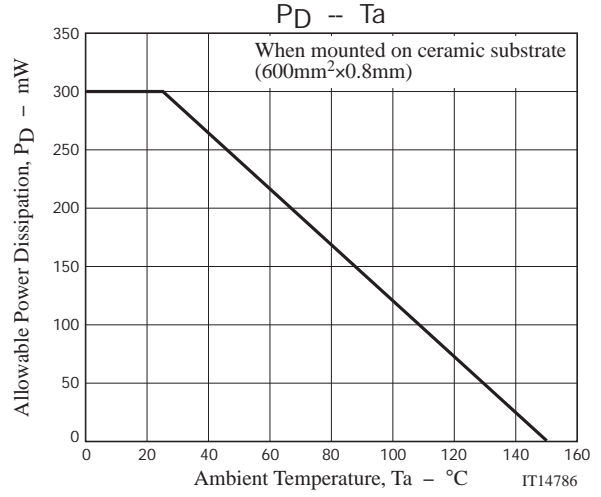
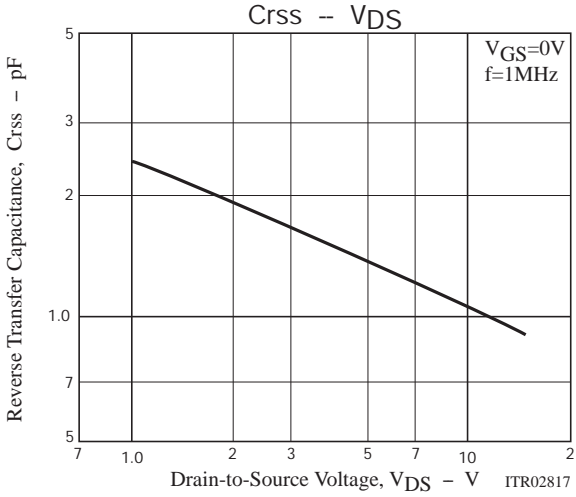
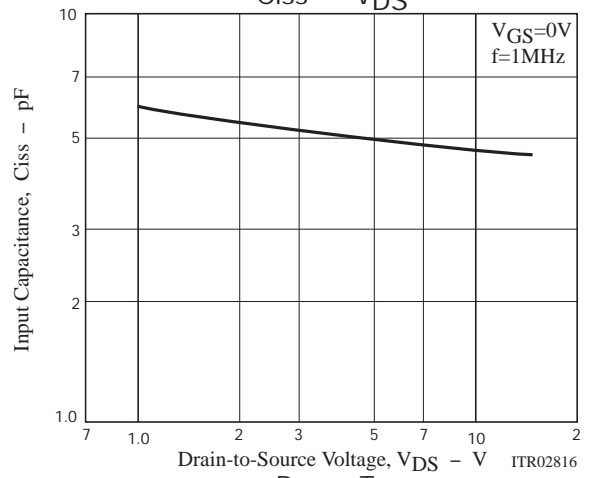
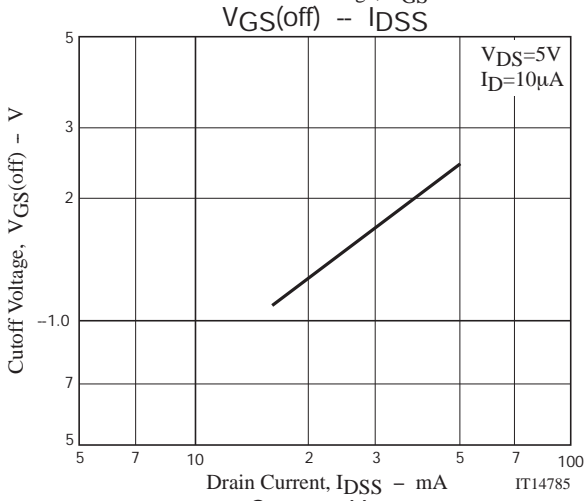
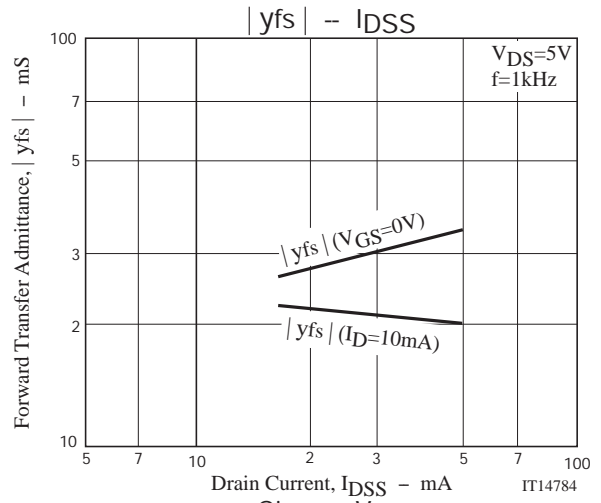
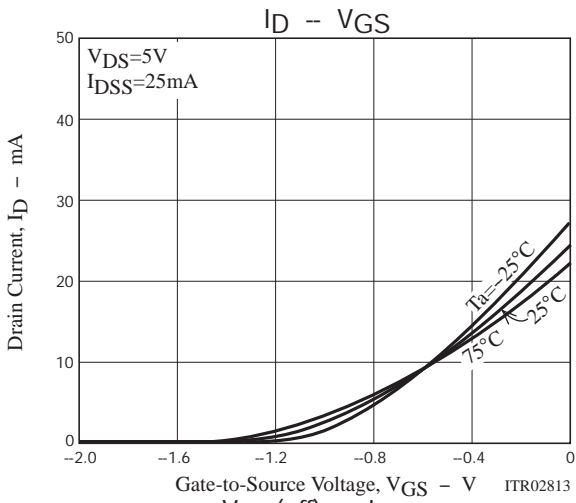
Marking	J7	J8
Rank	7	8
I_{DSS}	16.0 to 32.0	25.0 to 50.0

Package Dimensions

unit : mm (typ)

7019A-006





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