



SANYO Semiconductors

DATA SHEET

1HP04CH — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-100	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-80	mA
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-320	mA
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)	0.6	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =-1mA, V _{GS} =0V	-100			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-100V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-100μA	-1.2		-2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-40mA	85	145		mS
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-40mA, V _{GS} =-10V		13.5	18	Ω
	R _{DS(on)2}	I _D =-20mA, V _{GS} =-4V		15	21	Ω
Input Capacitance	C _{iss}	V _{DS} =-20V, f=1MHz		14.5		pF
Output Capacitance	C _{oss}	V _{DS} =-20V, f=1MHz		2.5		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-20V, f=1MHz		1.0		pF

Marking : WB

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1HP04CH

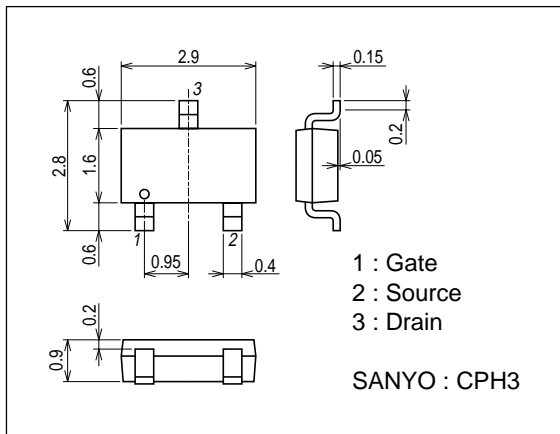
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		34		ns
Rise Time	t_r	See specified Test Circuit.		28		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		490		ns
Fall Time	t_f	See specified Test Circuit.		160		ns
Total Gate Charge	Q_g	$V_{DS}=-50V, V_{GS}=-10V, I_D=-80mA$		1.7		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-50V, V_{GS}=-10V, I_D=-80mA$		0.42		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-50V, V_{GS}=-10V, I_D=-80mA$		0.20		nC
Diode Forward Voltage	V_{SD}	$I_S=-80mA, V_{GS}=0V$		-0.84	-1.2	V

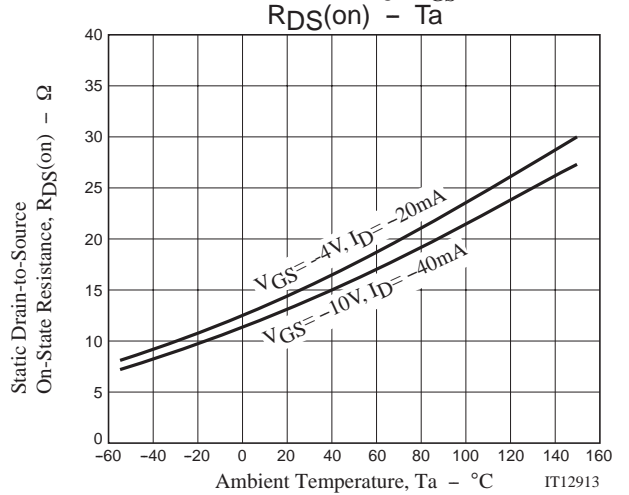
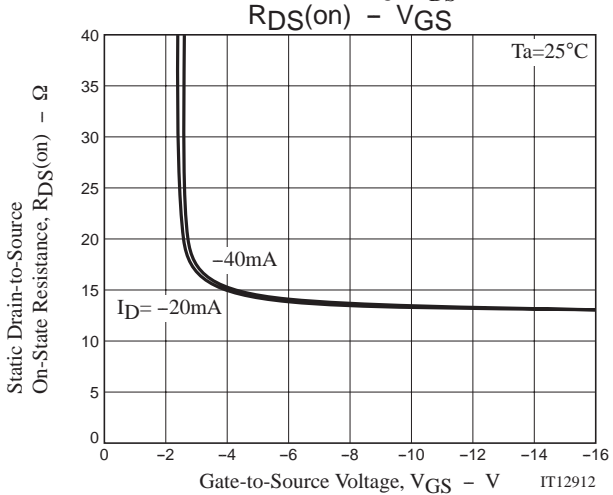
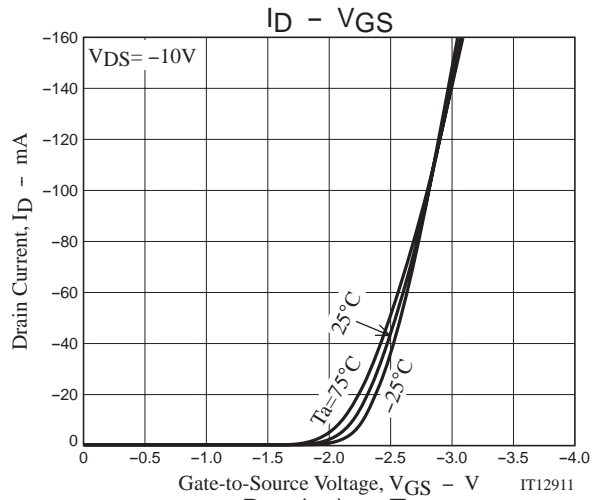
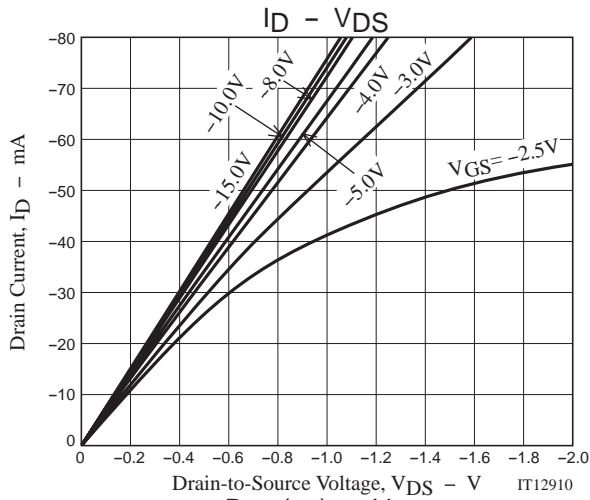
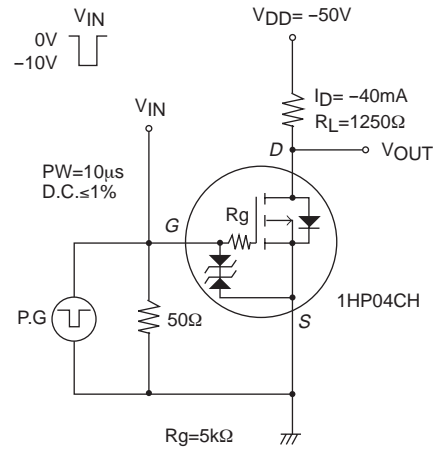
Package Dimensions

unit : mm (typ)

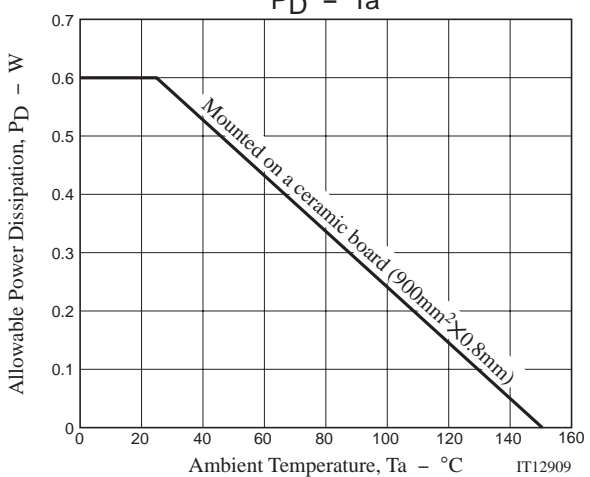
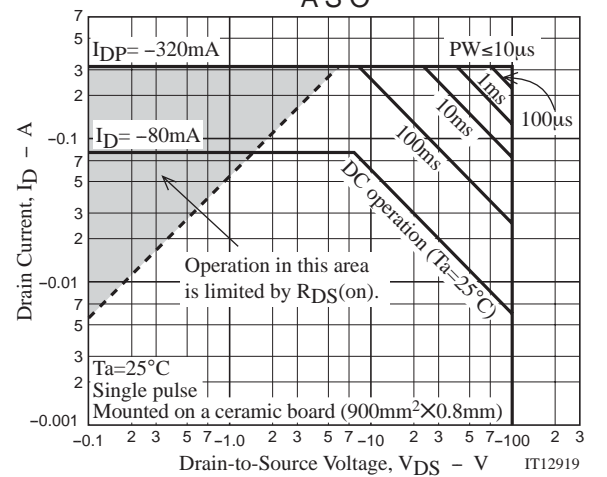
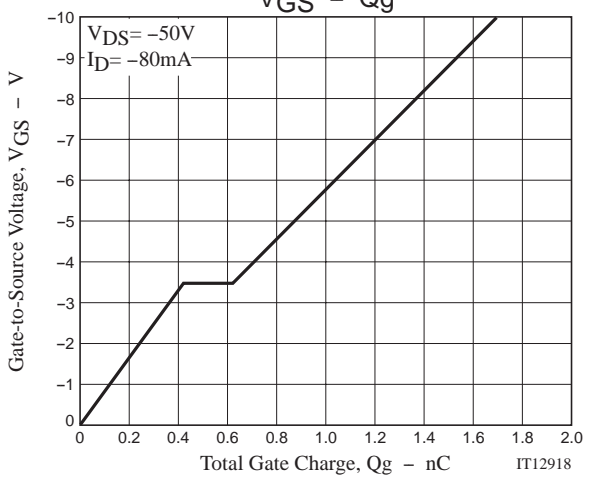
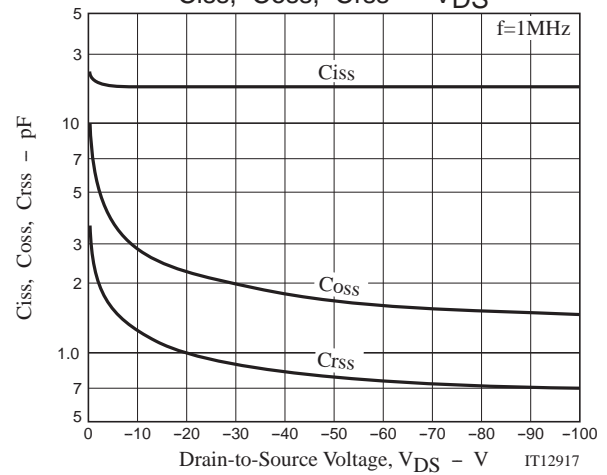
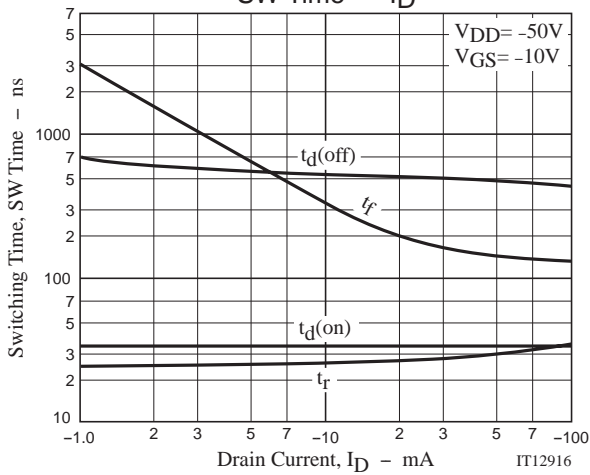
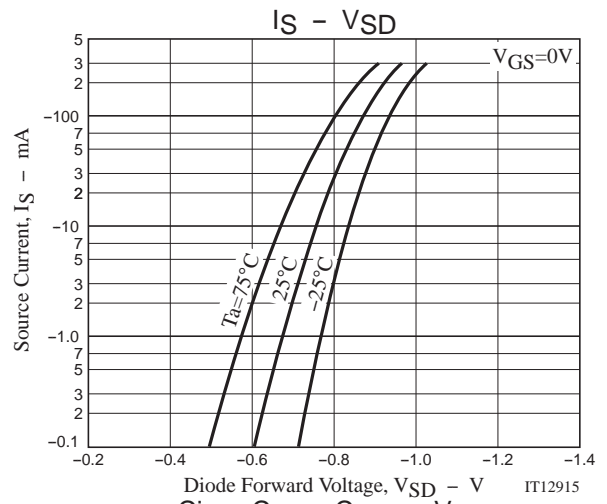
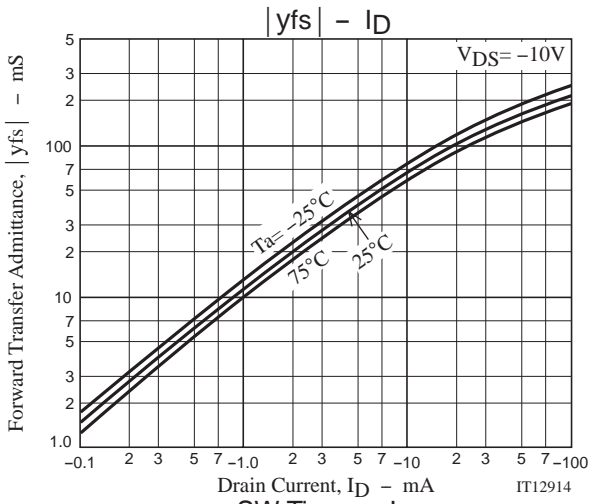
7015A-004



Switching Time Test Circuit



1HP04CH



Note on usage : Since the 1HP04CH is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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