



SANYO Semiconductors

DATA SHEET

1HN04CH — N-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		120	mA
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	480	mA
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm²×0.8mm)	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 =60mA	100	175		mS
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =60mA, V _{GS} =10V		6.1	8.0	Ω
	R _{DS(on)2}	I _D =30mA, V _{GS} =4V		7	9.8	Ω
Input Capacitance	C _{iss}	V _{DS} =20V, f=1MHz		19		pF
Output Capacitance	C _{oss}	V _{DS} =20V, f=1MHz		2.6		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =20V, f=1MHz		1.3		pF

Marking : LB

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SANYO Semiconductor Co., Ltd.

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

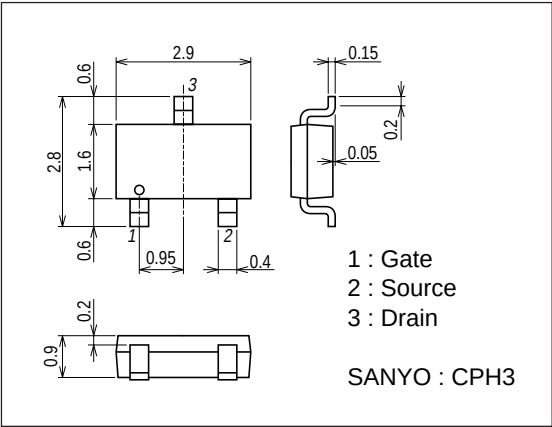
1HN04CH

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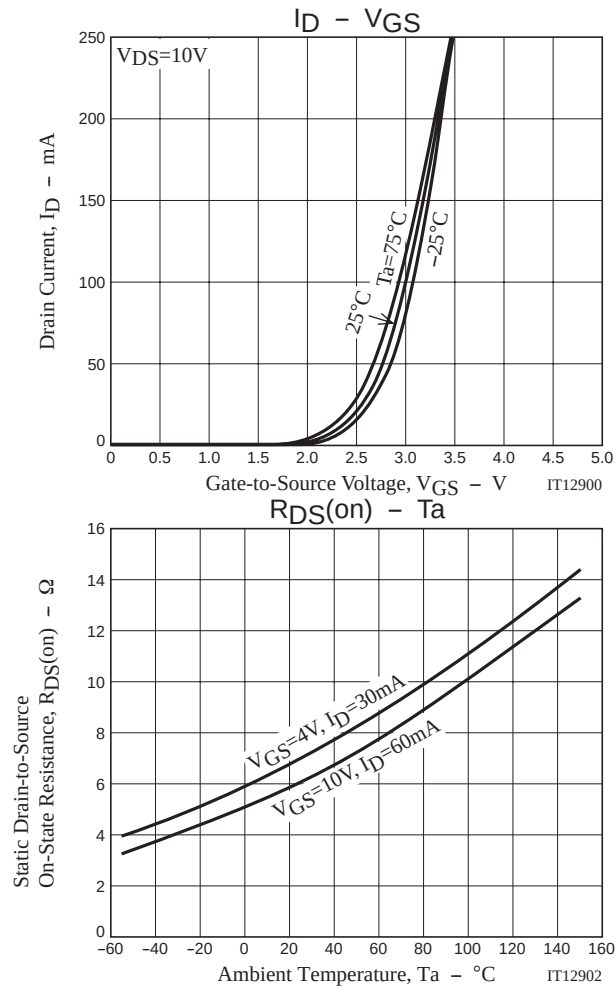
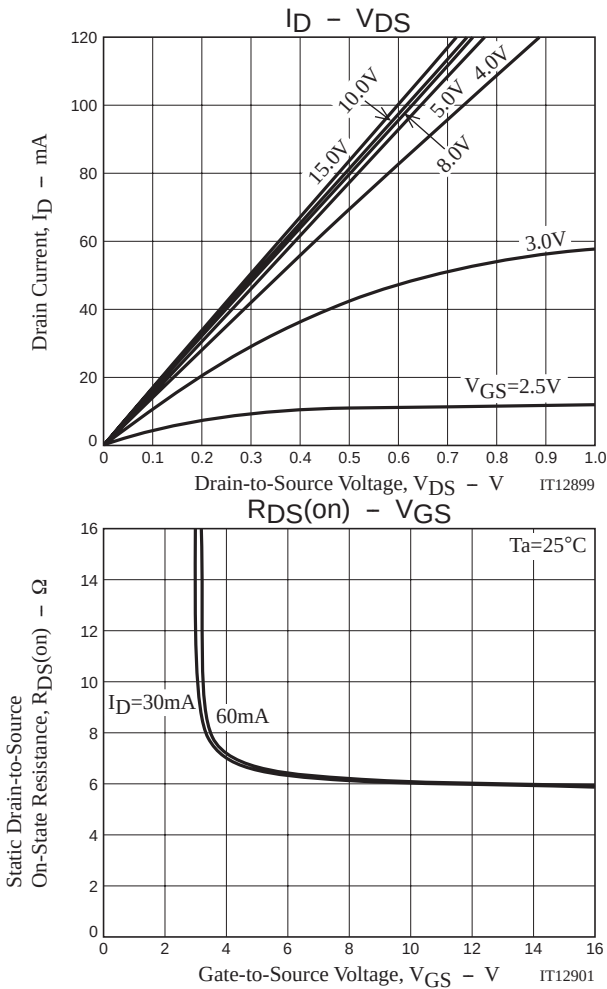
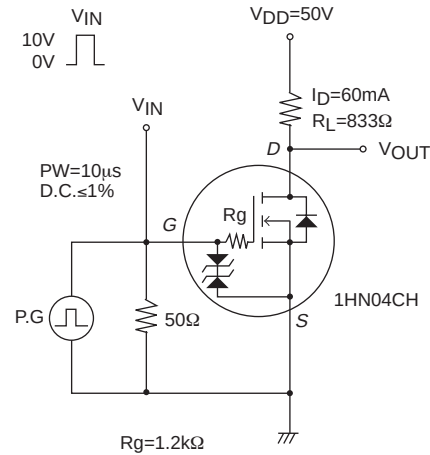
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		13		ns
Rise Time	t_r	See specified Test Circuit.		7.8		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		87		ns
Fall Time	t_f	See specified Test Circuit.		60		ns
Total Gate Charge	Q_g	$V_{DS}=50V, V_{GS}=10V, I_D=120mA$		1.6		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=50V, V_{GS}=10V, I_D=120mA$		0.25		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=50V, V_{GS}=10V, I_D=120mA$		0.25		nC
Diode Forward Voltage	V_{SD}	$I_S=120mA, V_{GS}=0V$		0.83	1.2	V

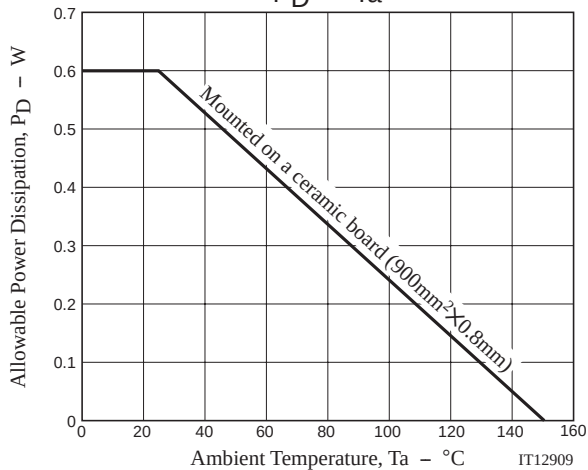
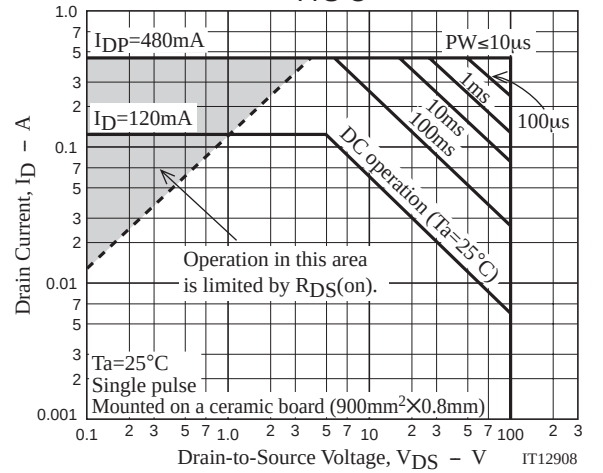
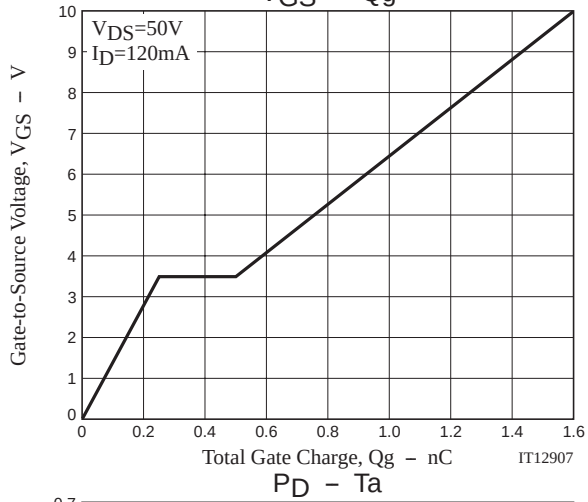
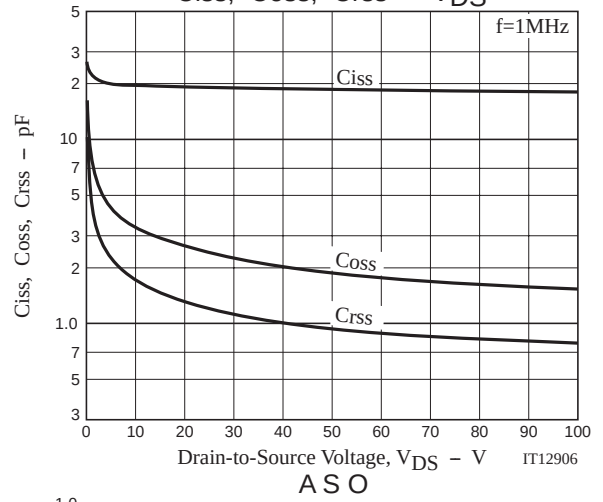
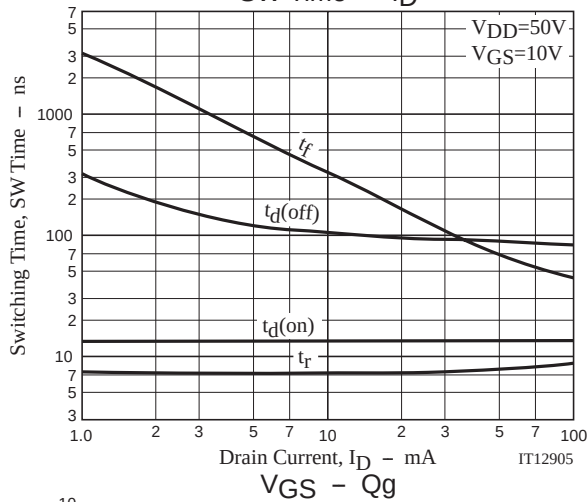
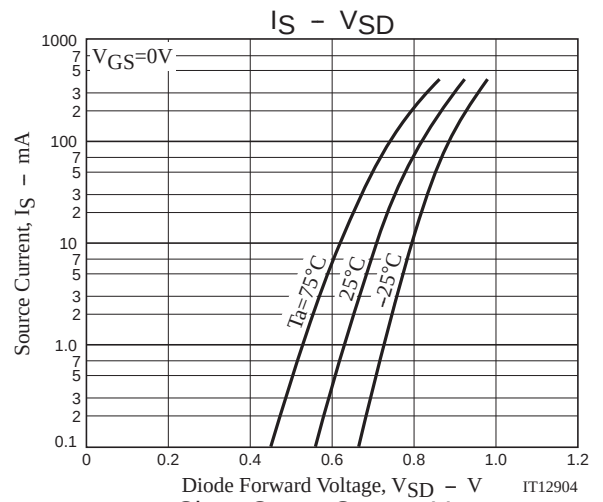
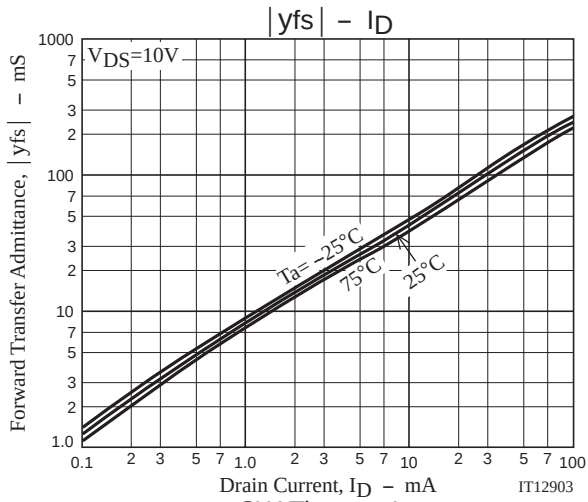
Package Dimensions

unit : mm (typ)
7015A-004



Switching Time Test Circuit





Note on usage : Since the 1HN04CH is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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