



SANYO Semiconductors

DATA SHEET

N-Channel Silicon MOSFET

6HN04SS — General-Purpose Switching Device Applications

Features

- 4V drive.
- Halogen Free compliance.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		60	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		200	mA
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	800	mA
Allowable Power Dissipation	P _D	When mounted on glass epoxy substrate (145mm×80mm×1.6mm)	0.15	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	60			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _D =60V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _D =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _D =10V, I _D =100μA	1.2		2.6	V
Forward Transfer Admittance	y _{fs}	V _D =10V, I _D =100mA	140	240		mS
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =100mA, V _{GS} =10V		1.8	2.4	Ω
	R _{DS(on)2}	I _D =50mA, V _{GS} =4V		2.6	3.7	Ω
Input Capacitance	C _{iss}	V _D =20V, f=1MHz		27		pF
Output Capacitance	C _{oss}	V _D =20V, f=1MHz		8.6		pF
Reverse Transfer Capacitance	C _{rss}	V _D =20V, f=1MHz		4.4		pF

Marking : YU

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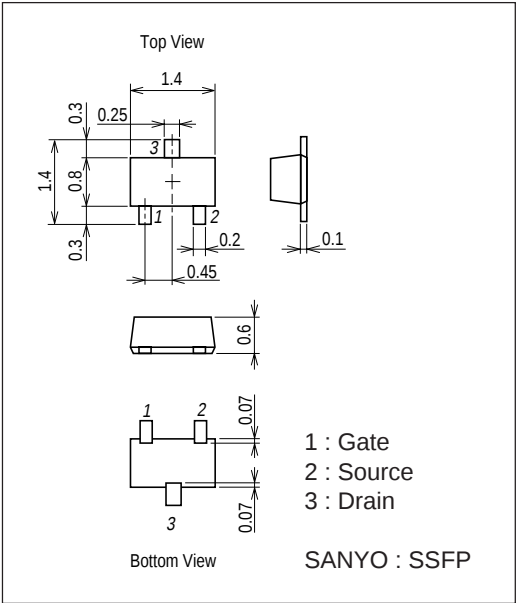
6HN04SS

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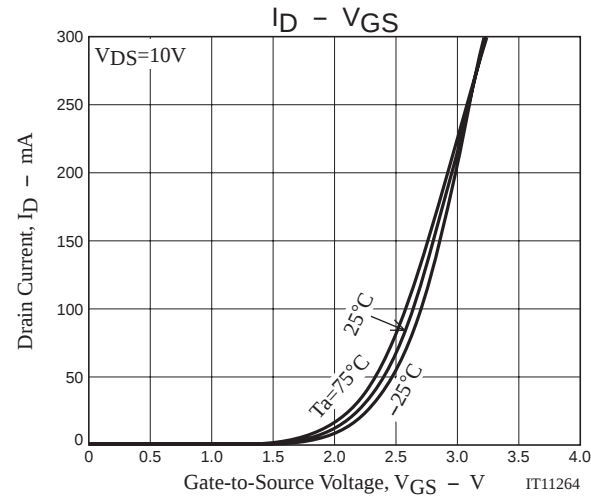
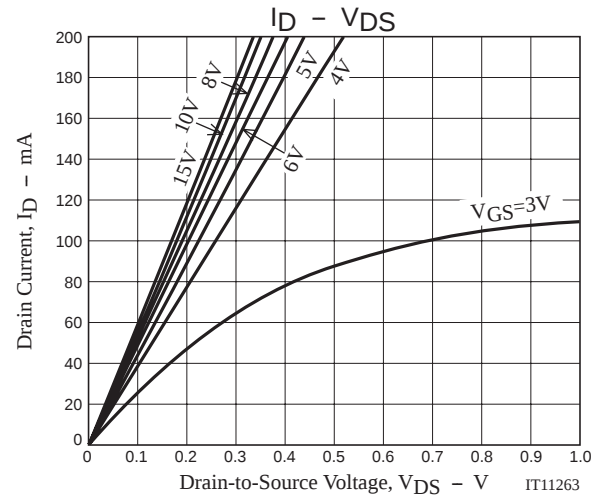
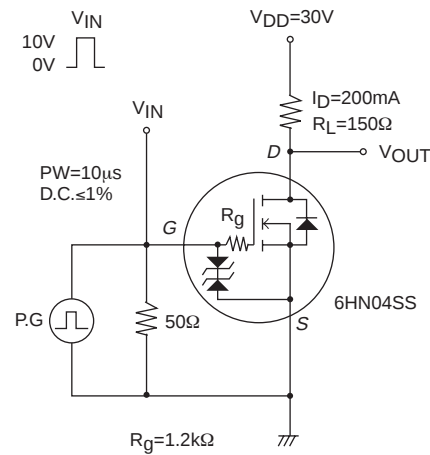
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		13.5		ns
Rise Time	t_r	See specified Test Circuit.		11.5		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		81		ns
Fall Time	t_f	See specified Test Circuit.		39		ns
Total Gate Charge	Q_g	$V_{DS}=30V, V_{GS}=10V, I_D=200mA$		1.88		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=30V, V_{GS}=10V, I_D=200mA$		0.4		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=30V, V_{GS}=10V, I_D=200mA$		0.37		nC
Diode Forward Voltage	V_{SD}	$I_S=200mA, V_{GS}=0V$		0.85	1.2	V

Package Dimensions

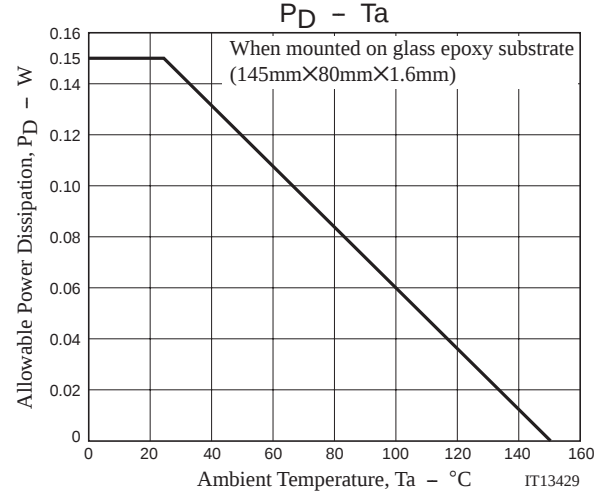
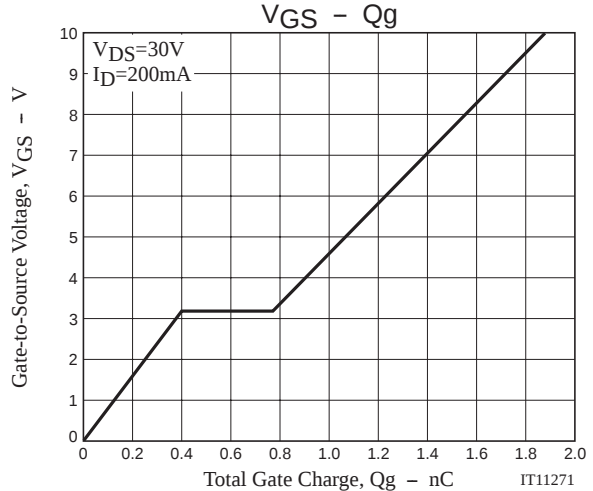
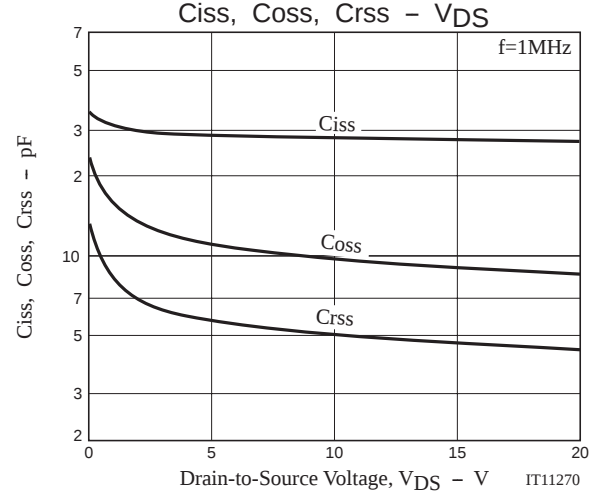
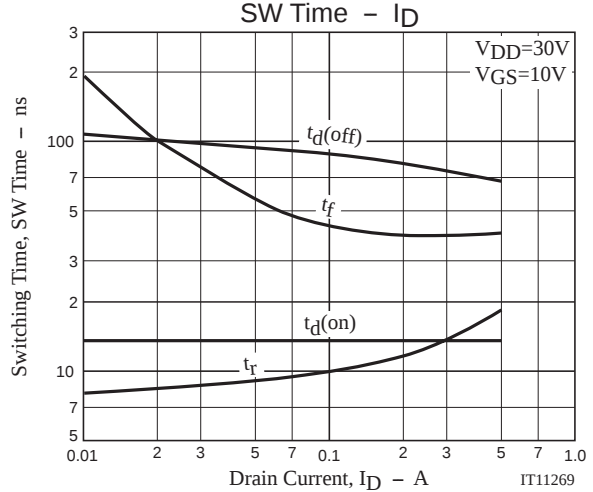
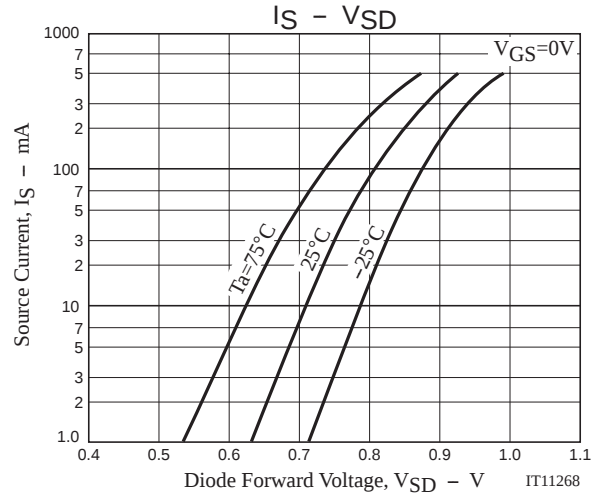
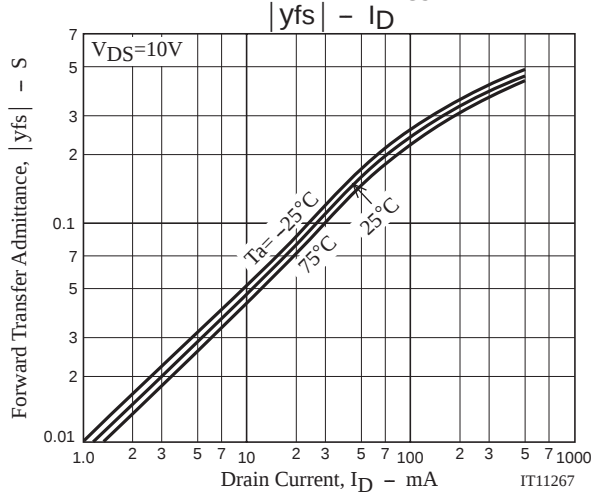
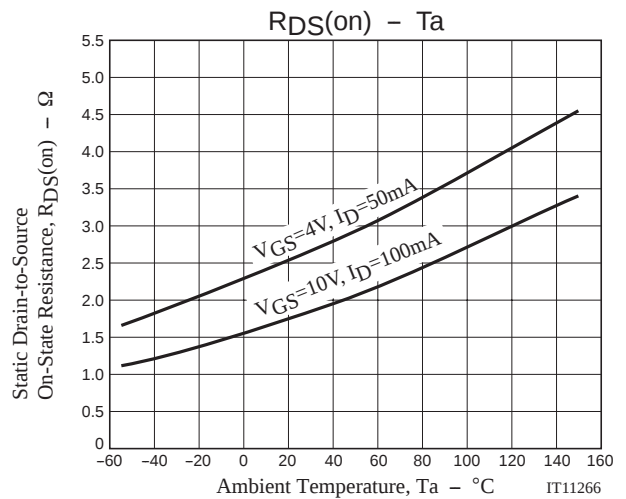
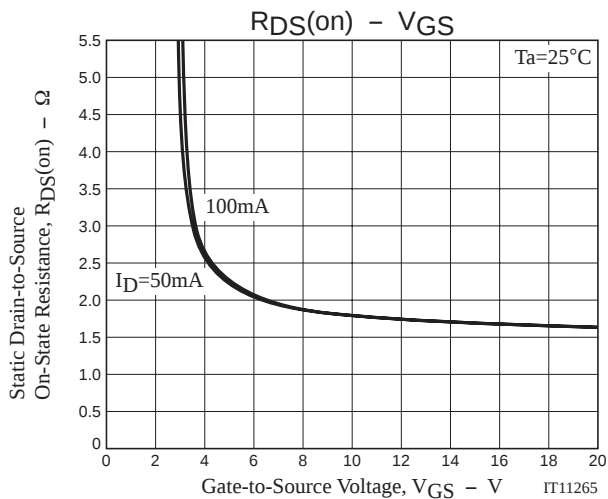
unit : mm (typ)
7029-003



Switching Time Test Circuit



6HN04SS



Note on usage : Since the 6HN04SS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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