



SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

6HP04MH — 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}		-60	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 (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	-60			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-60V, 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	180		mS
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-60mA, V _{GS} =-10V		5.1	6.6	Ω
	R _{DS(on)2}	I _D =-30mA, V _{GS} =-4V		6.8	9.6	Ω
Input Capacitance	C _{iss}	V _{DS} =-20V, f=1MHz		13.5		pF
Output Capacitance	C _{oss}	V _{DS} =-20V, f=1MHz		3.4		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-20V, f=1MHz		1.3		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		36.5		ns
Rise Time	t _r	See specified Test Circuit.		38.0		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		455		ns
Fall Time	t _f	See specified Test Circuit.		160		ns

Marking : QB

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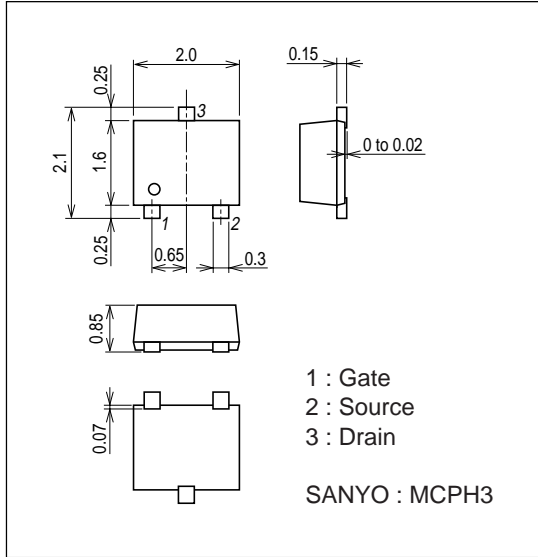
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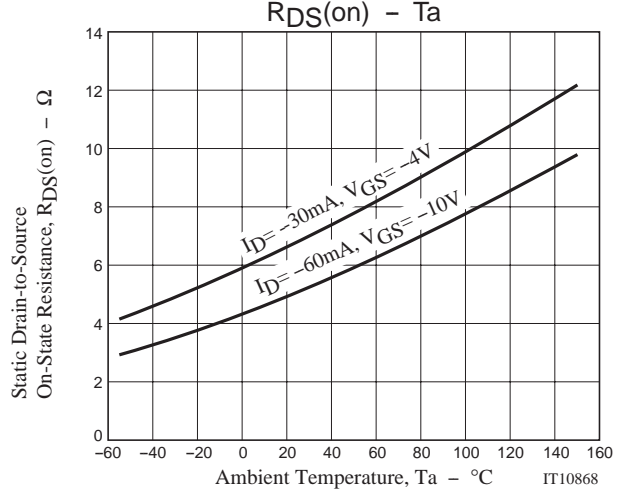
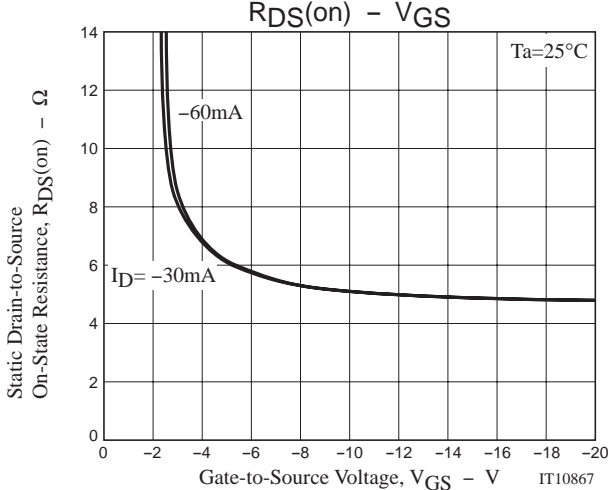
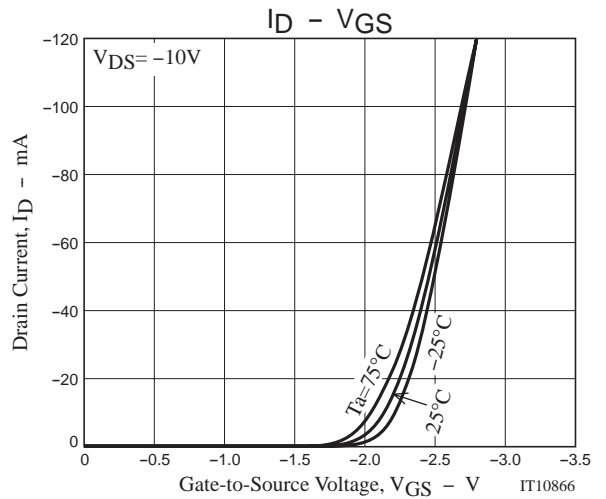
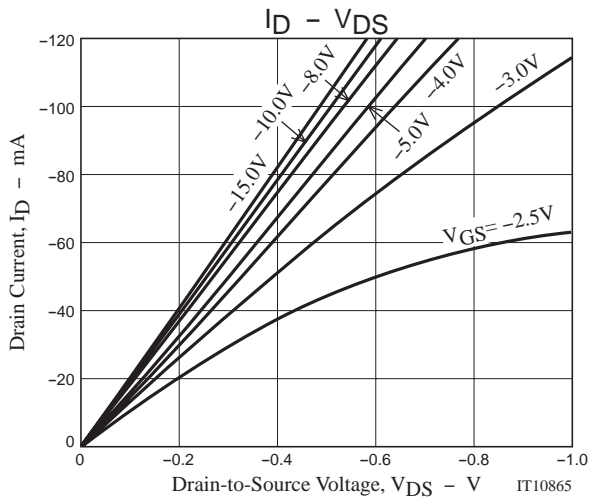
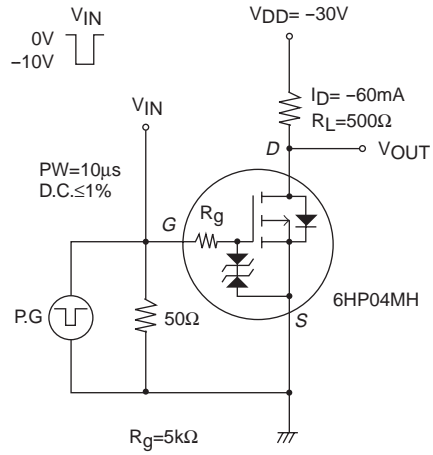
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-30V, V_{GS}=-10V, I_D=-120mA$		1.6		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-30V, V_{GS}=-10V, I_D=-120mA$		0.4		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-30V, V_{GS}=-10V, I_D=-120mA$		0.16		nC
Diode Forward Voltage	VSD	$I_S=-120mA, V_{GS}=0V$		-0.85	-1.2	V

Package Dimensions

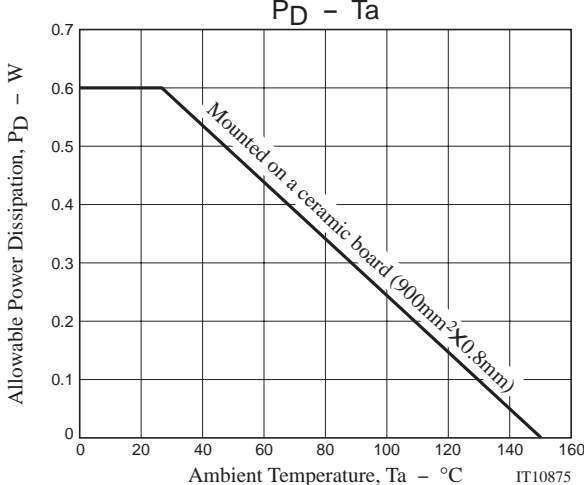
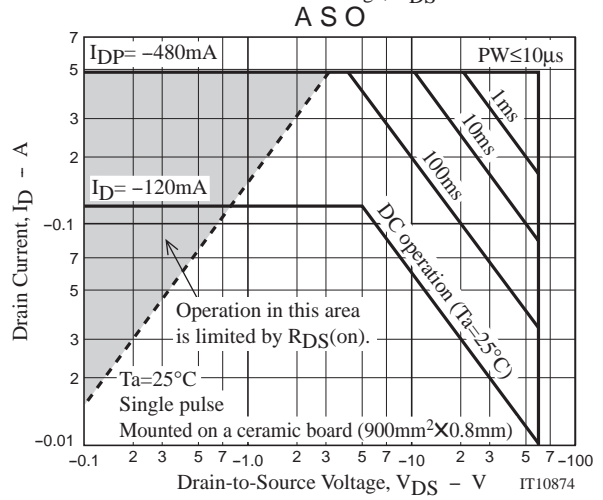
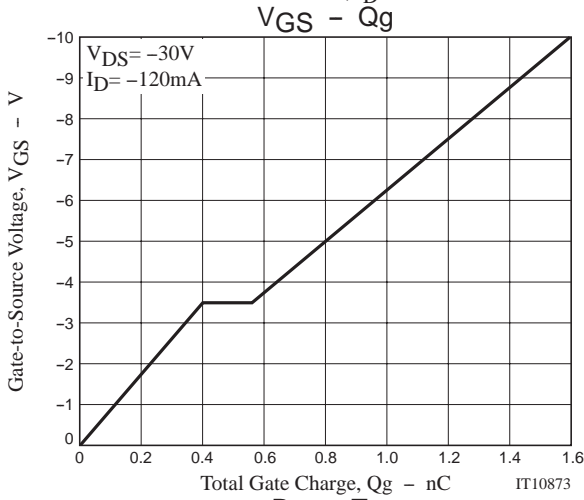
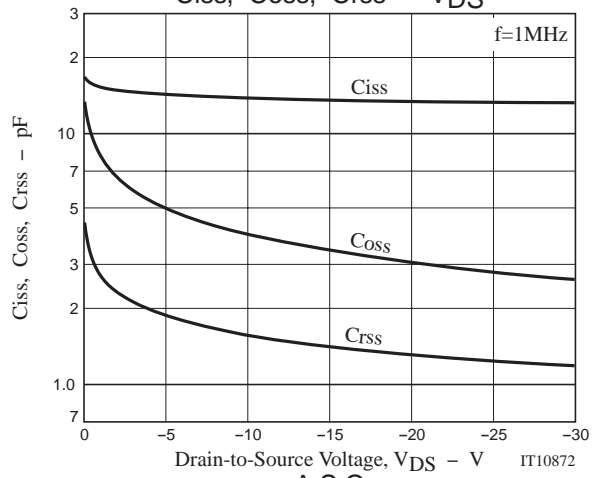
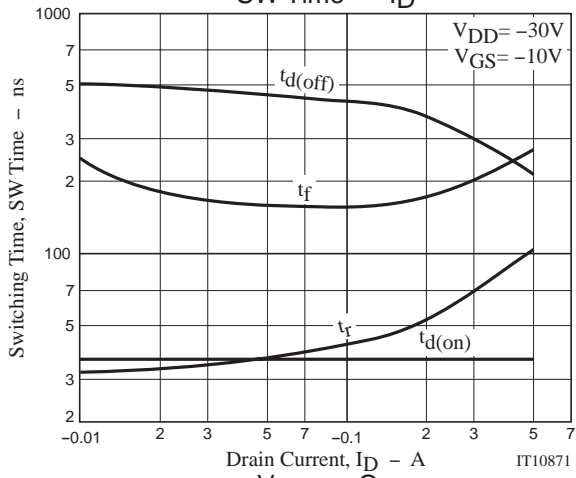
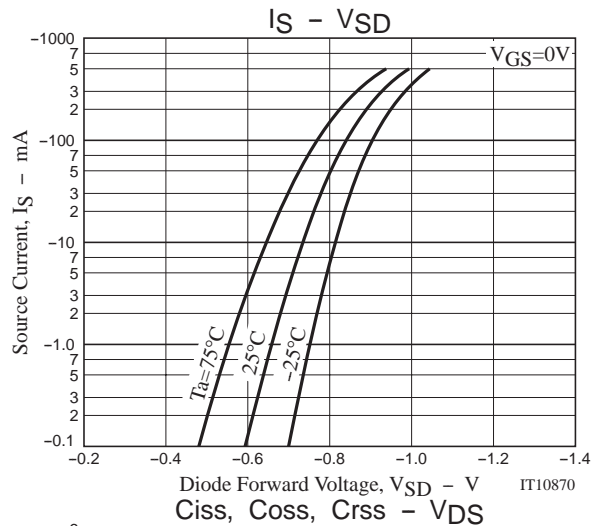
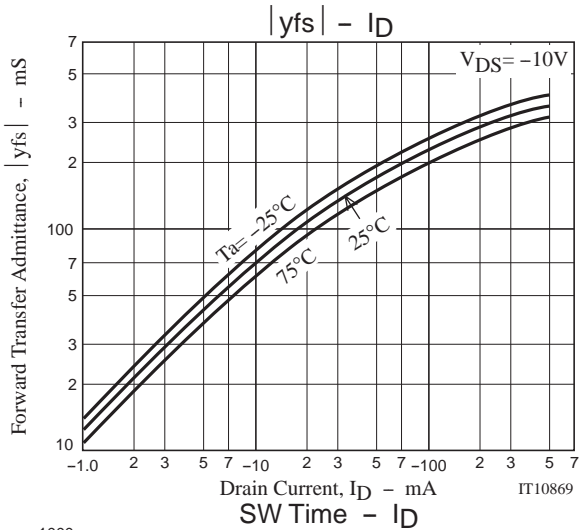
unit : mm
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Switching Time Test Circuit



6HP04MH



Note on usage : Since the 6HP04MH is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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