Ordering number : ENA1040A

SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

6HP04S — 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	When mounted on glass epoxy substrate (145mmX80mmX1.6mm)	0.15	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-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	$\|yfs\|$	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	Ciss	V_{DS}=-20V, f=1MHz		13.5		pF
Output Capacitance	Coss	V_{DS}=-20V, f=1MHz		3.4		pF
Reverse Transfer Capacitance	Crss	V_{DS}=-20V, f=1MHz		1.3		pF

Marking : XU

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SANYO Semiconductor Co., Ltd.

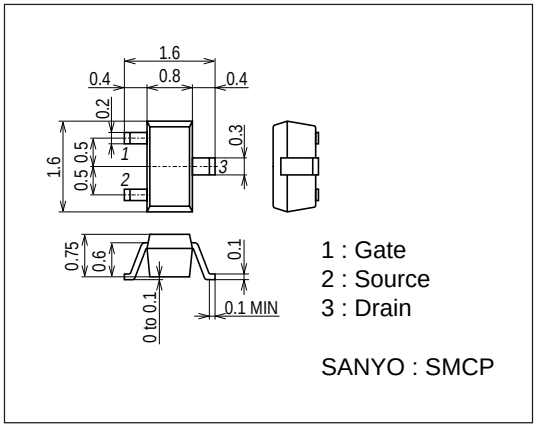
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		36.5		ns
Rise Time	t_r	See specified Test Circuit.		38		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		455		ns
Fall Time	t_f	See specified Test Circuit.		160		ns
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	V_{SD}	I_S=-120mA, V_{GS}=0V		-0.85	-1.2	V

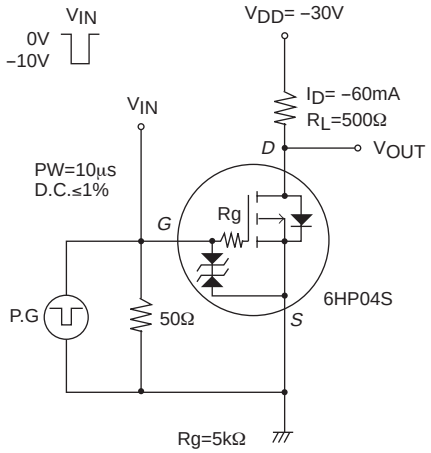
Package Dimensions

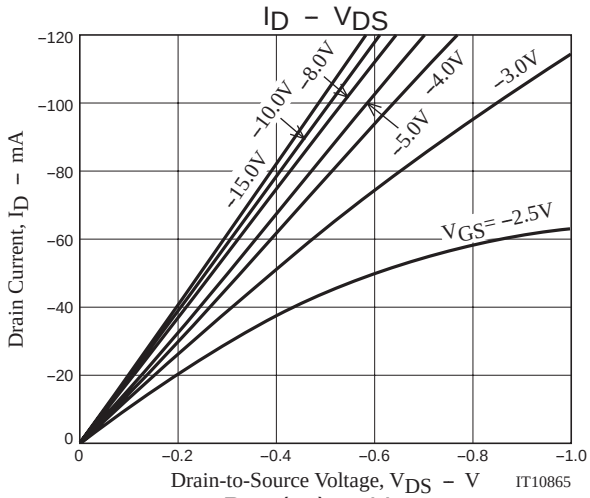
unit : mm (typ)

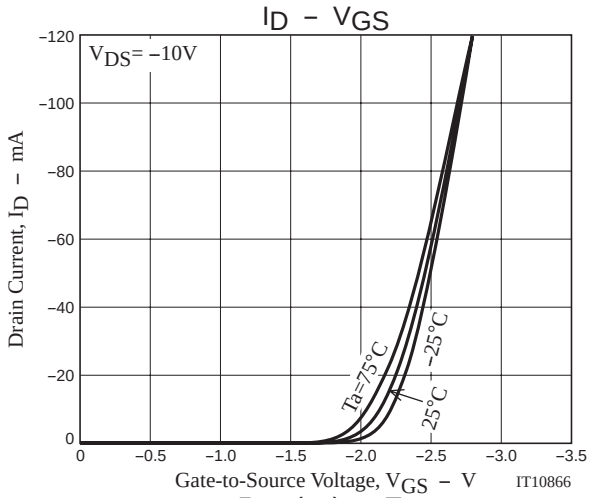
7027-004

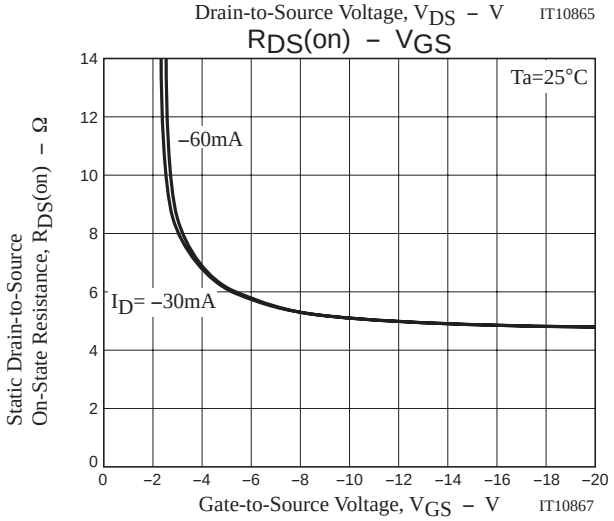


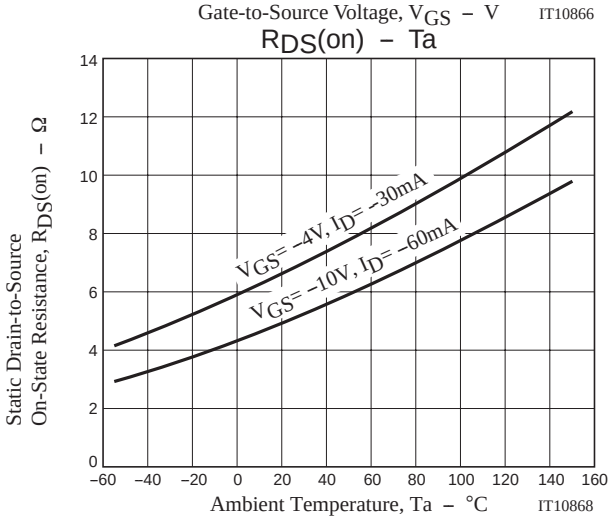
Switching Time Test Circuit

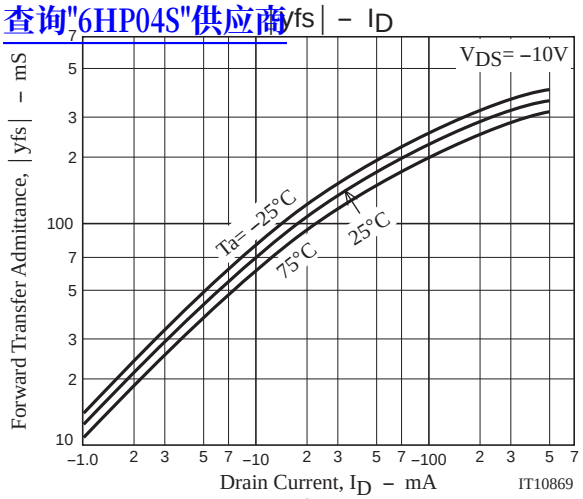


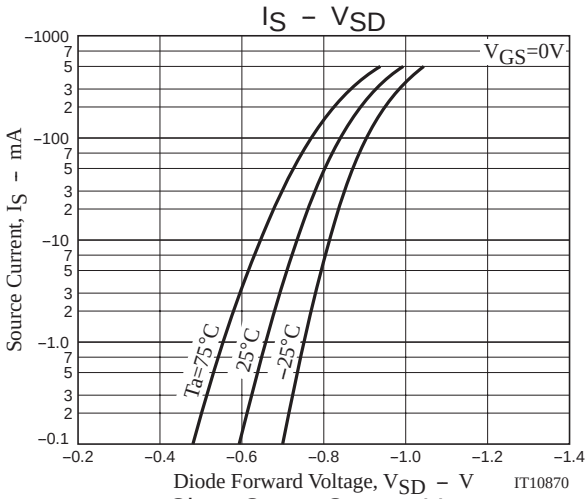


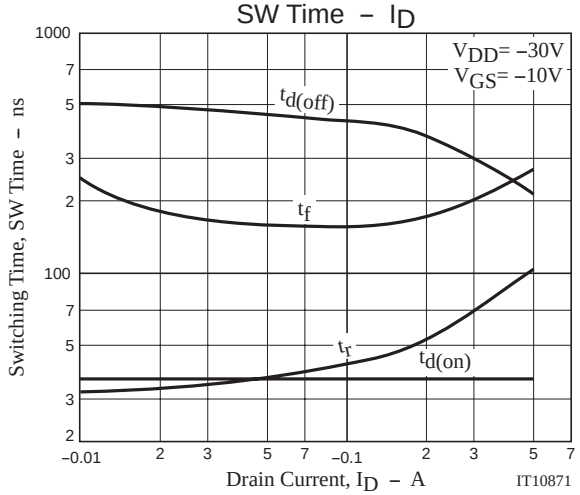


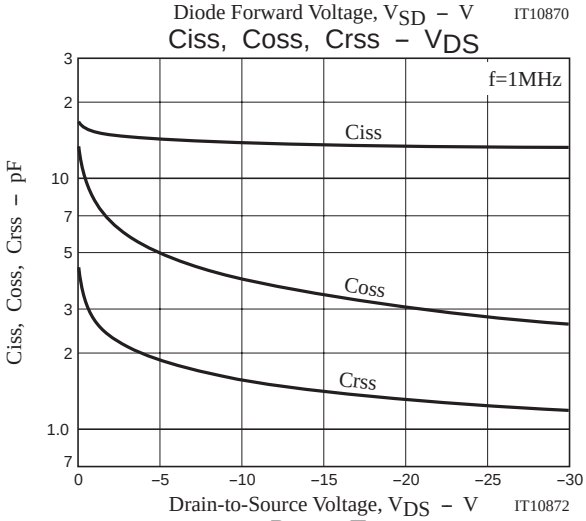


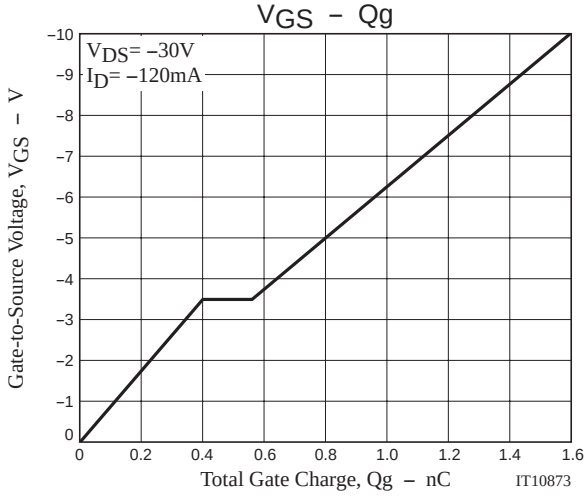


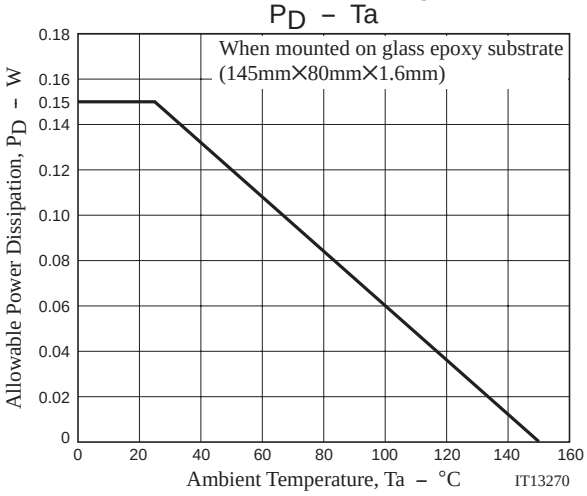












Note on usage : Since the 6HP04S is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

This catalog provides information as of June, 2008. Specifications and information herein are subject to change without notice.