Ordering number : ENA0457

SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

6LP04MH — General-Purpose Switching Device Applications

Features

- 1.5V 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}		±10	V
Drain Current (DC)	I_D		-100	mA
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	-400	mA
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm²×0.8mm)	0.6	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}=±8V, V_{DS}=0V			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=-10V, I_D=-100μA	-0.4		-1.4	V
Forward Transfer Admittance	$\|yfs\|$	V_{DS}=-10V, I_D=-50mA	130	220		mS
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	I_D=-50mA, V_{GS}=-4V		6.5	8.5	Ω
	$R_{DS(on)2}$	I_D=-30mA, V_{GS}=-2.5V		7.4	11	Ω
	$R_{DS(on)3}$	I_D=-10mA, V_{GS}=-1.5V		10	20	Ω
Input Capacitance	Ciss	V_{DS}=-20V, f=1MHz		15		pF
Output Capacitance	Coss	V_{DS}=-20V, f=1MHz		3.5		pF
Reverse Transfer Capacitance	Crss	V_{DS}=-20V, f=1MHz		1.0		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		75		ns
Rise Time	t_r	See specified Test Circuit.		116		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		665		ns
Fall Time	t_f	See specified Test Circuit.		270		ns

Marking : QA

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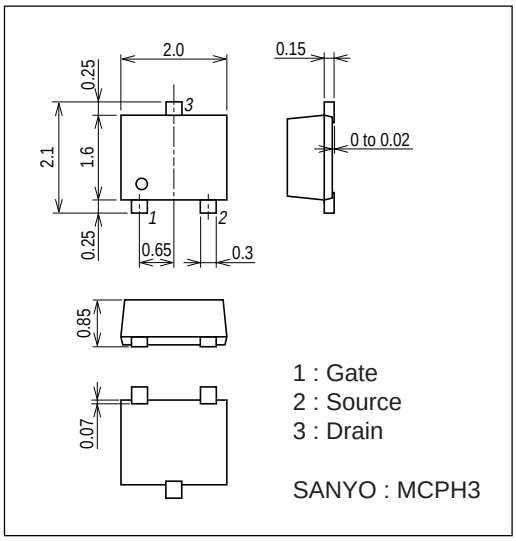
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V_{DS}=-30V, V_{GS}=-4V, I_D=-100mA		0.58		nC
Gate-to-Source Charge	Qgs	V_{DS}=-30V, V_{GS}=-4V, I_D=-100mA		0.14		nC
Gate-to-Drain "Miller" Charge	Qgd	V_{DS}=-30V, V_{GS}=-4V, I_D=-100mA		0.03		nC
Diode Forward Voltage	V_{SD}	I_S=-100mA, V_{GS}=0V		-0.91	-1.5	V

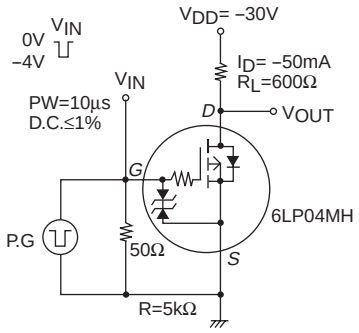
Package Dimensions

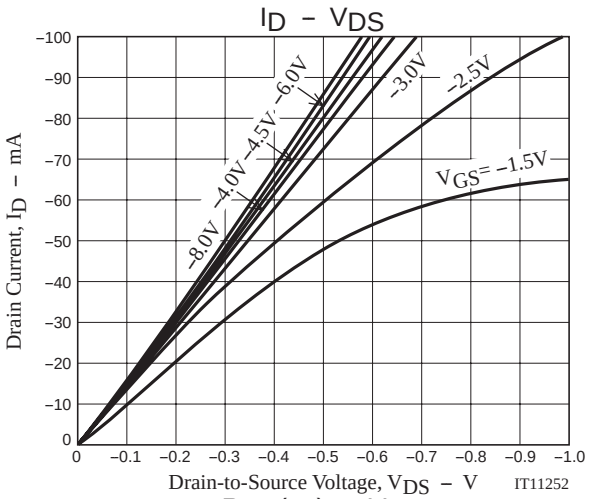
unit : mm (typ)

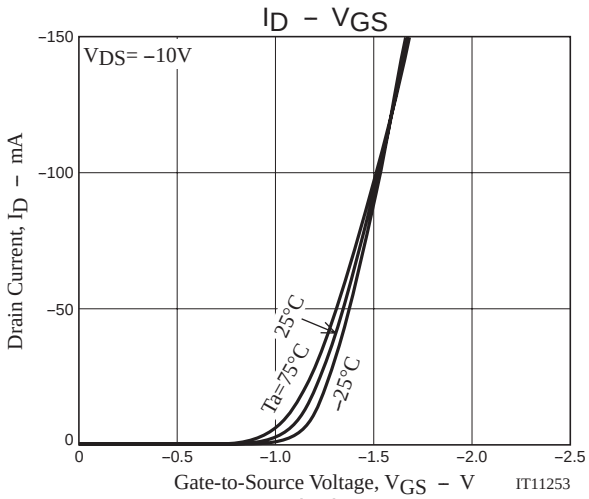
7019A-003

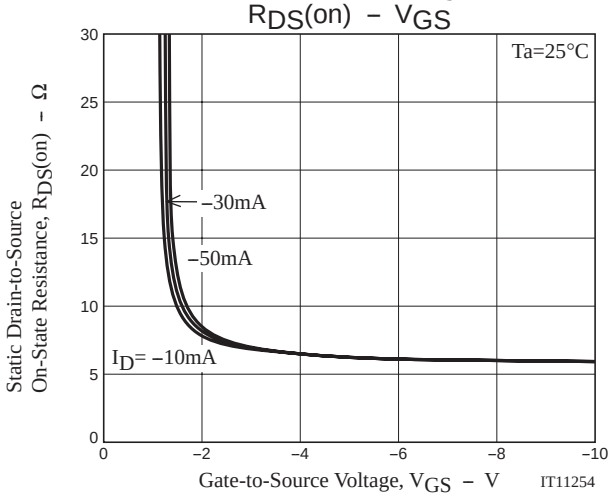


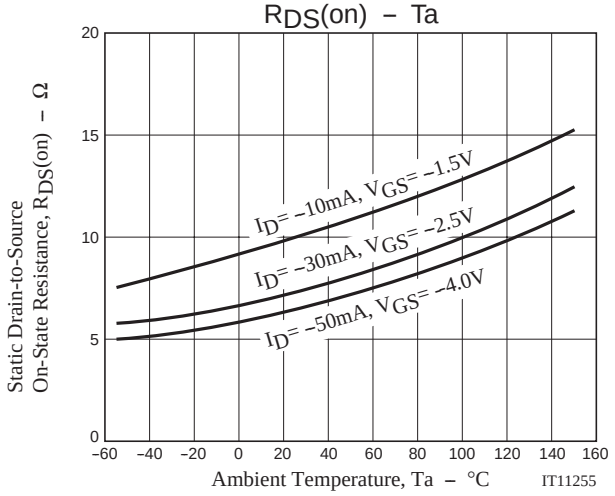
Switching Time Test Circuit

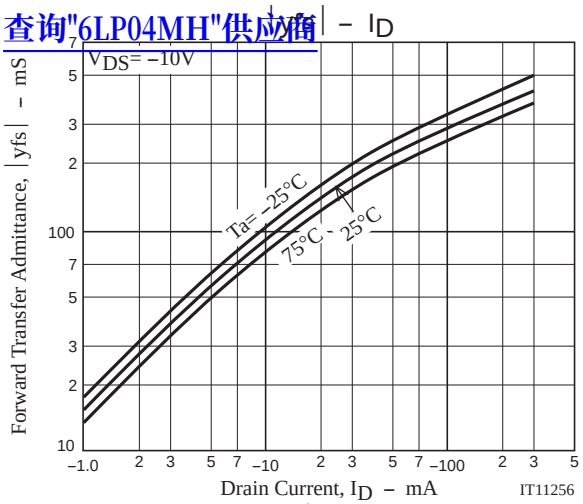


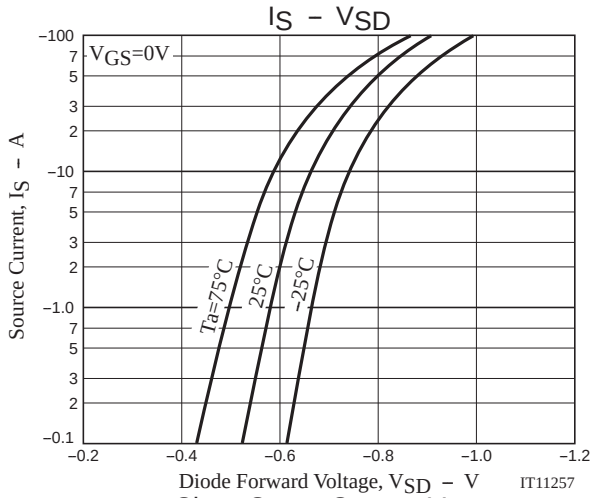


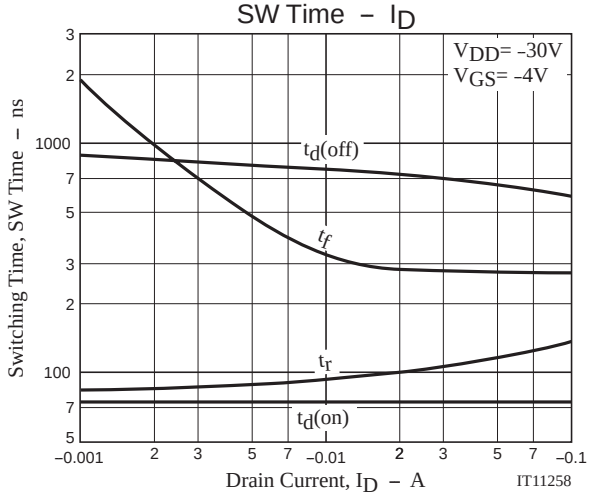


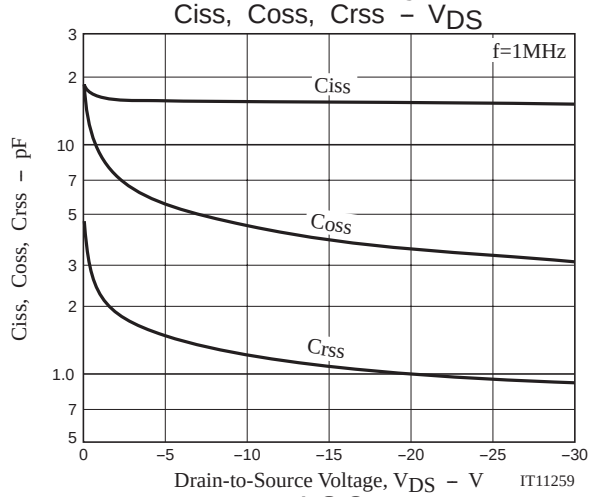


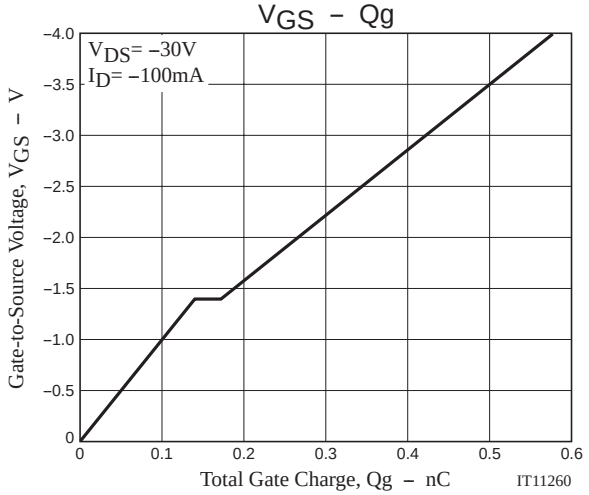


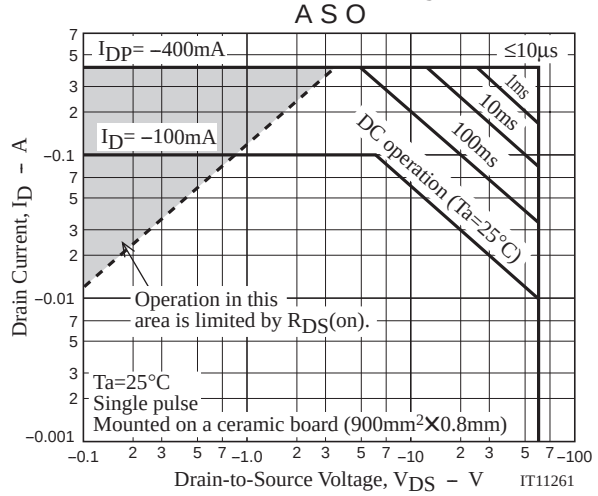


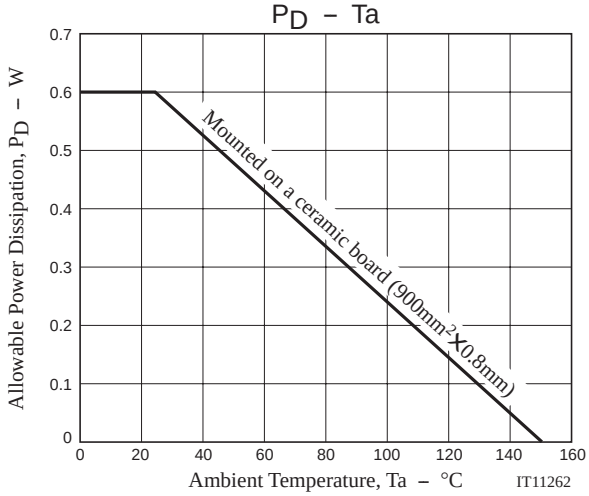












Note on usage : Since the 6LP04MH is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.