Ordering number : ENA0162

SANYO Semiconductors
DATA SHEET

MCH6422 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V 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		2	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	8	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1200mm²×0.8mm)	1.5	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=1mA	0.4		1.3	V
Forward Transfer Admittance	|yfs|	V_{DS}=10V, I_D=1A	1.8	3.6		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=1A, V_{GS}=4V		170	220	mΩ
	R_{DS}(on)2	I_D=0.5A, V_{GS}=2.5V		190	270	mΩ
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		325		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		29		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		21		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		11		ns
Rise Time	t_r	See specified Test Circuit.		17		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		40		ns
Fall Time	t_f	See specified Test Circuit.		27		ns

Marking : KW

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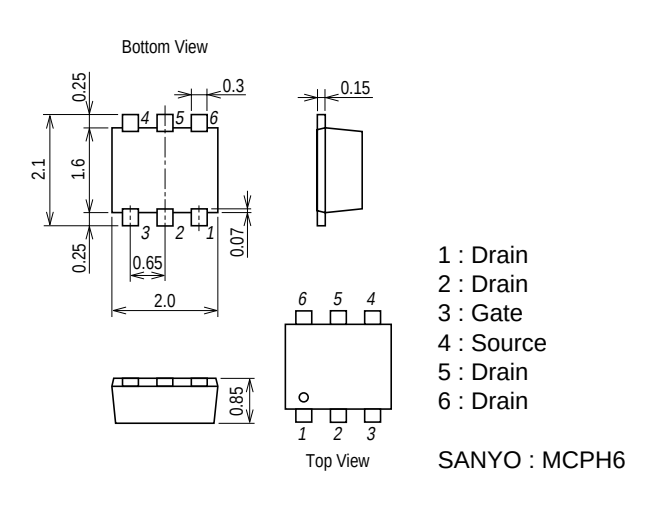
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V_{DS}=30V, V_{GS}=4V, I_D=2A		4.2		nC
Gate-to-Source Charge	Qgs	V_{DS}=30V, V_{GS}=4V, I_D=2A		1.1		nC
Gate-to-Drain "Miller" Charge	Qgd	V_{DS}=30V, V_{GS}=4V, I_D=2A		1.1		nC
Diode Forward Voltage	V_{SD}	I_S=2A, V_{GS}=0V		0.85	1.2	V

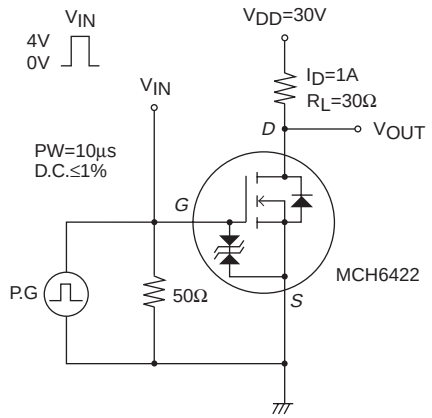
Package Dimensions

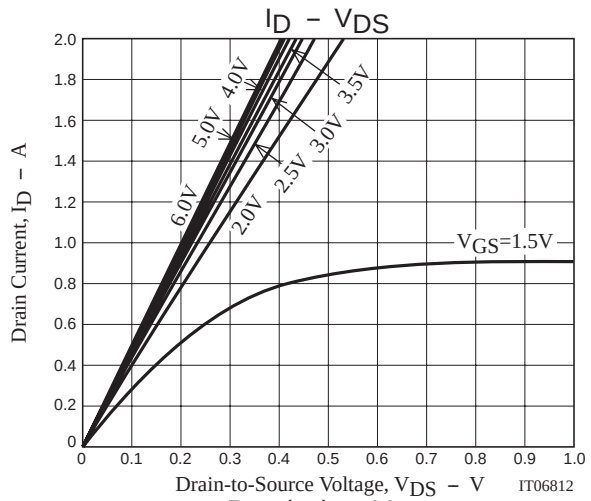
unit : mm

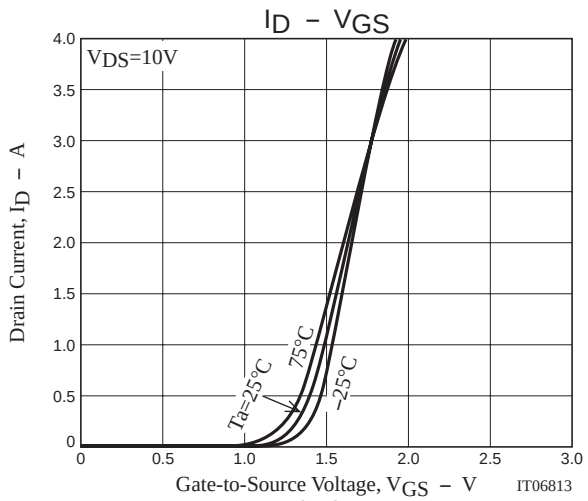
7022-009

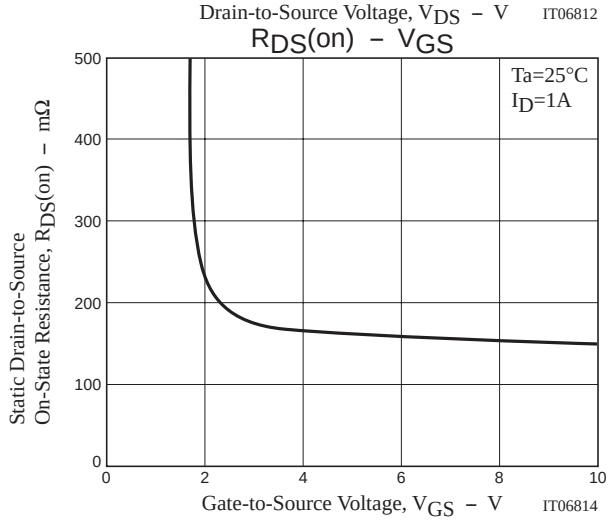


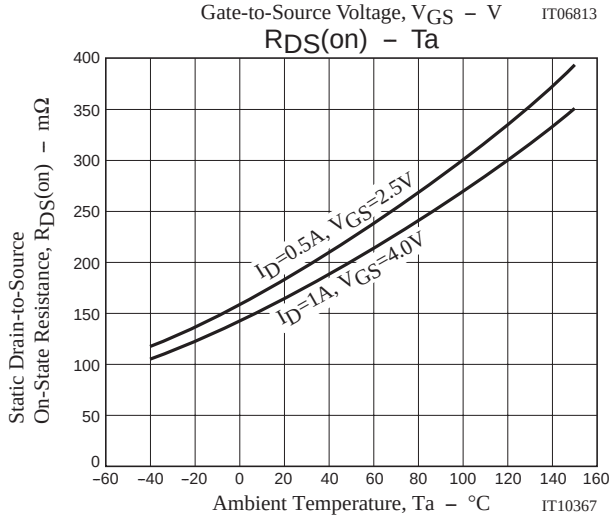
Switching Time Test Circuit











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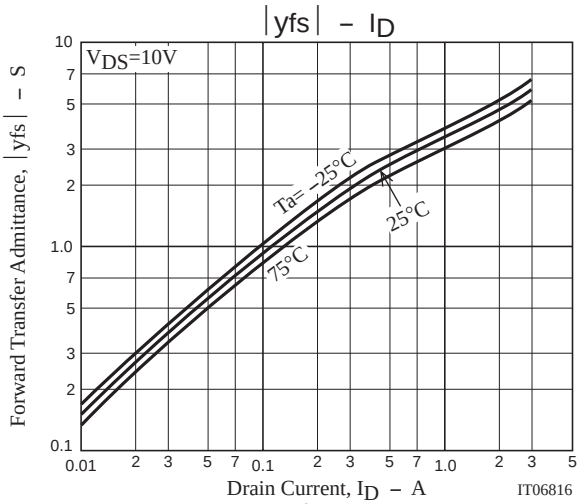

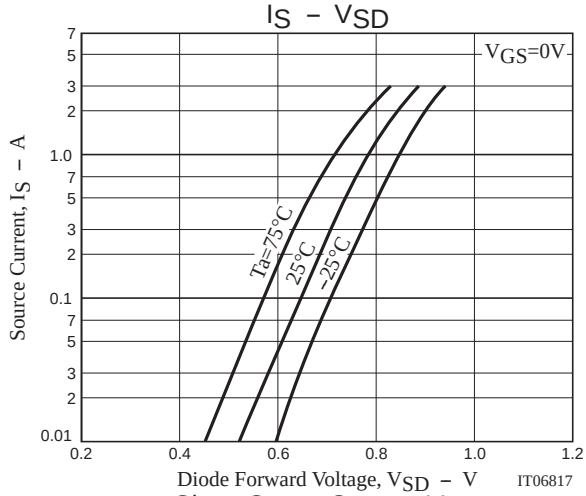

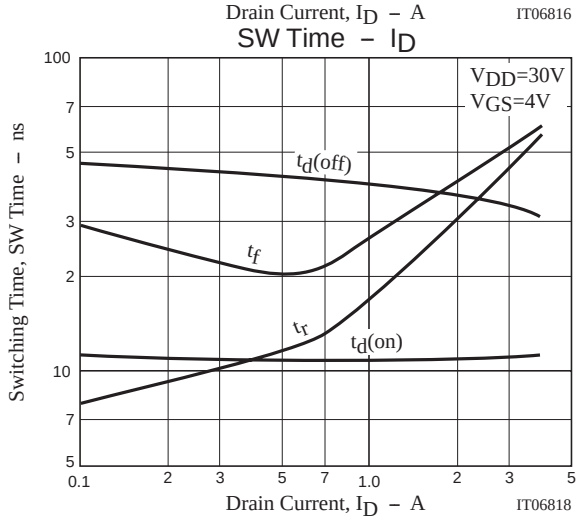

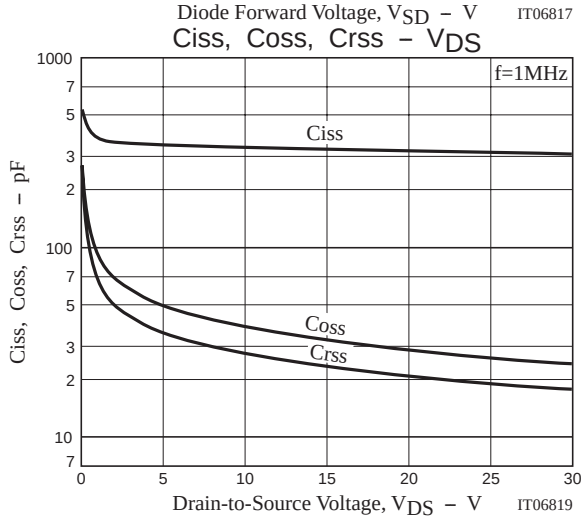

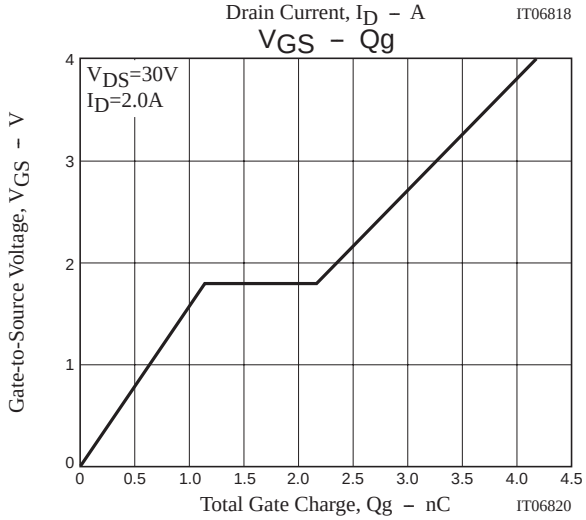

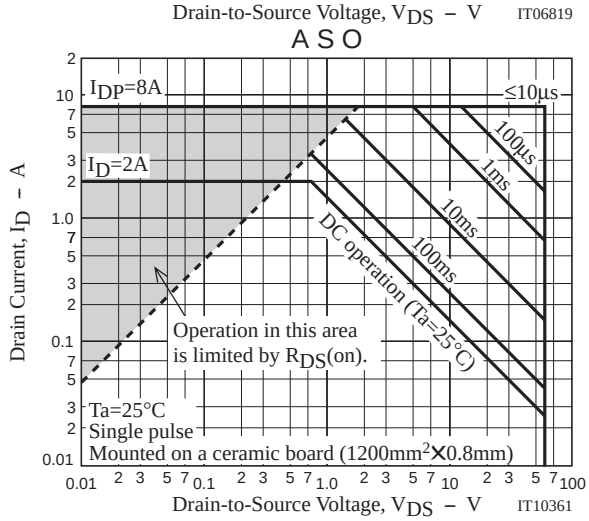

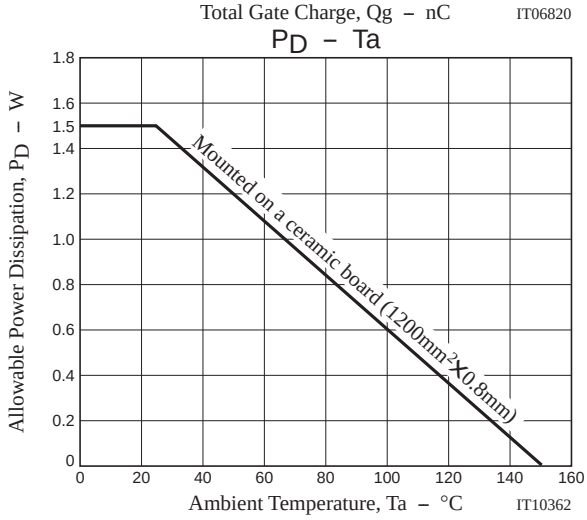

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Note on usage : Since the MCH6422 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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