



SANYO Semiconductors

DATA SHEET

MCH6429

N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		20	V
Gate-to-Source Voltage	VGSS		±12	V
Drain Current (DC)	ID		6	A
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	24	A
Allowable Power Dissipation	PD	Mounted on a ceramic board (900mm²×0.8mm)	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	ID=1mA, VGS=0V	20			V
Zero-Gate Voltage Drain Current	IDSS	VDS=20V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	0.4		1.3	V
Forward Transfer Admittance	yfs	VDS=10V, ID=3A	3.8	6.4		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=3A, VGS=4V		21	28	mΩ
	RDS(on)2	ID=1.5A, VGS=2.5V		27	38	mΩ
	RDS(on)3	ID=1A, VGS=1.8V		38	76	mΩ

Marking : ZD

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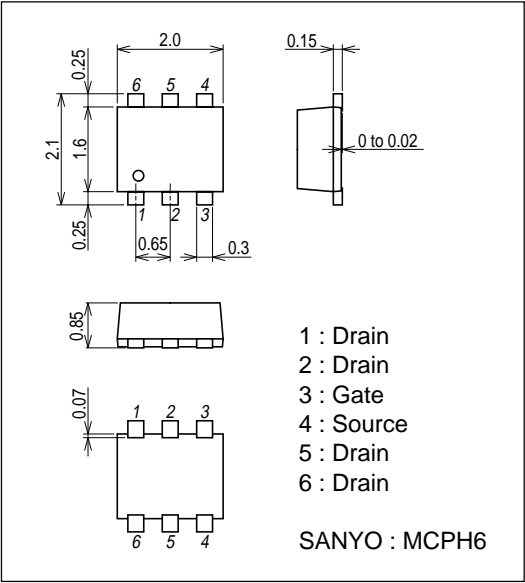
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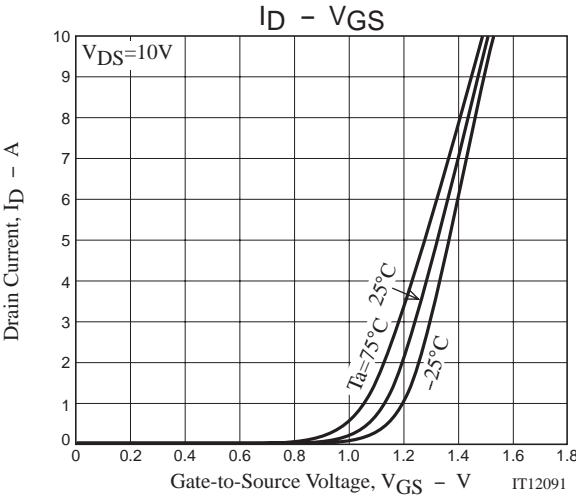
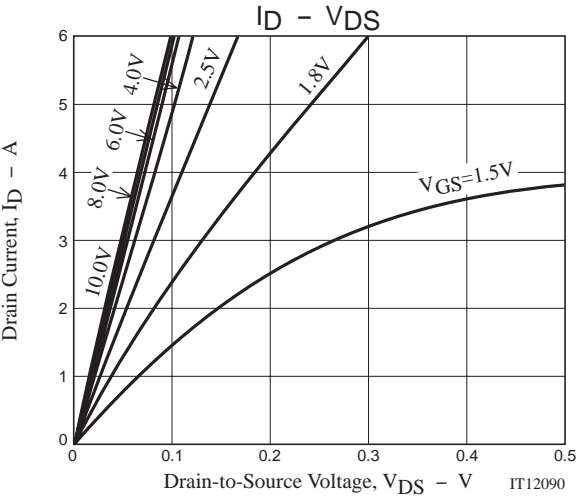
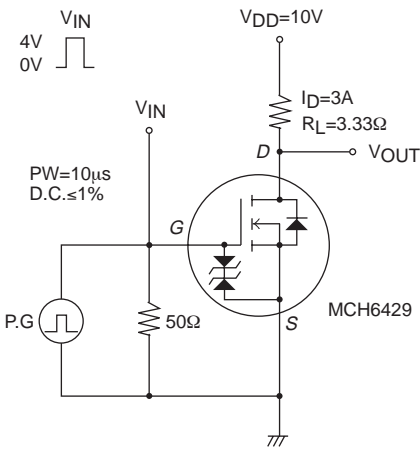
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		680		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		175		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		135		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		13		ns
Rise Time	t _r	See specified Test Circuit.		90		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		57		ns
Fall Time	t _f	See specified Test Circuit.		91		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4V, I _D =6A		8.2		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =10V, V _{GS} =4V, I _D =6A		1.45		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =10V, V _{GS} =4V, I _D =6A		2.7		nC
Diode Forward Voltage	V _{SD}	I _S =6A, V _{GS} =0V		0.8	1.2	V

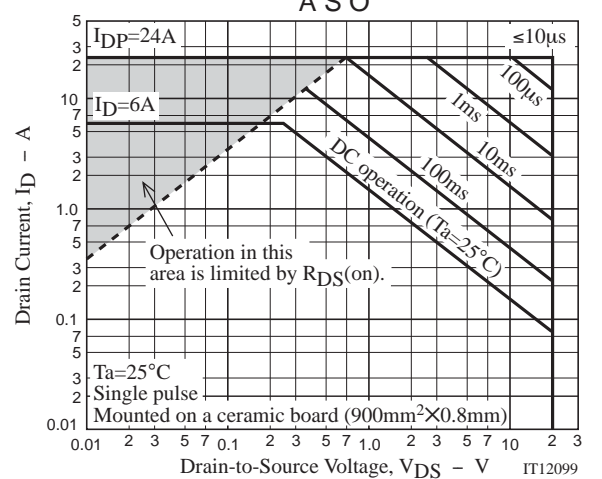
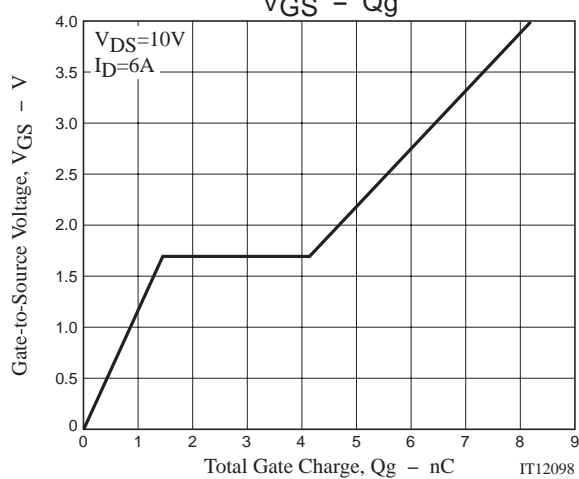
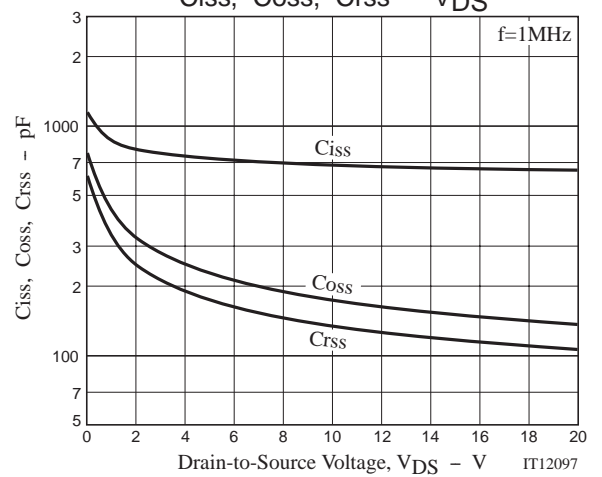
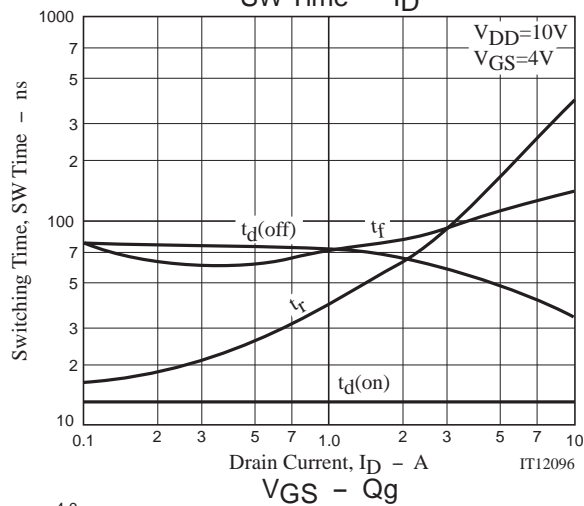
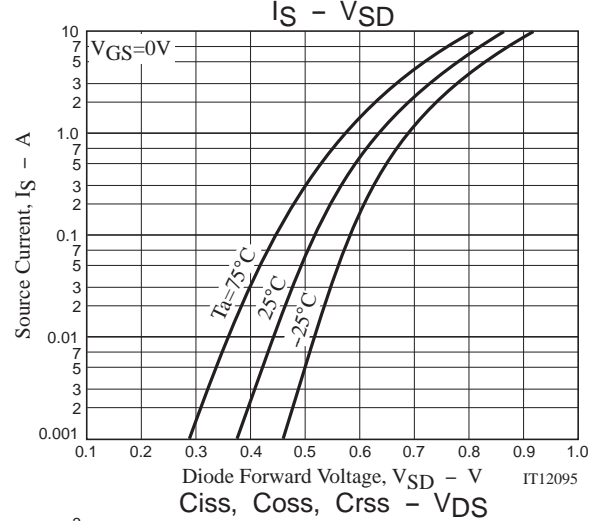
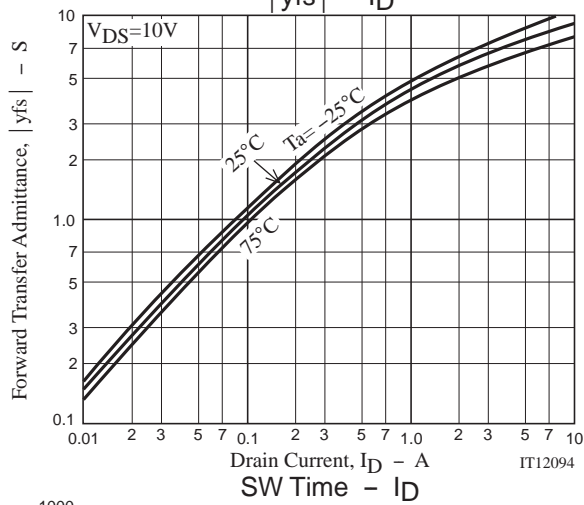
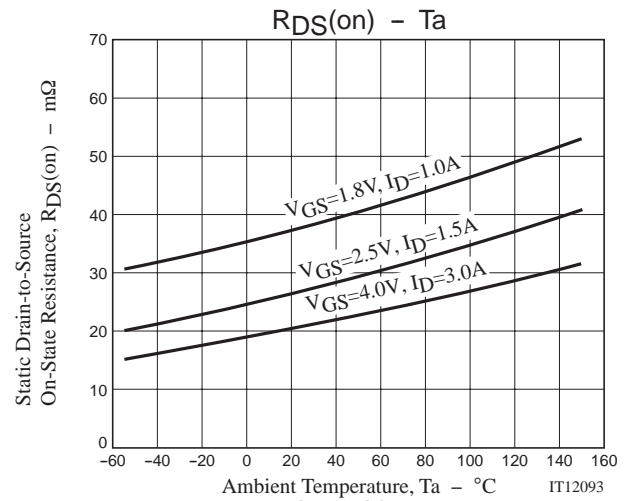
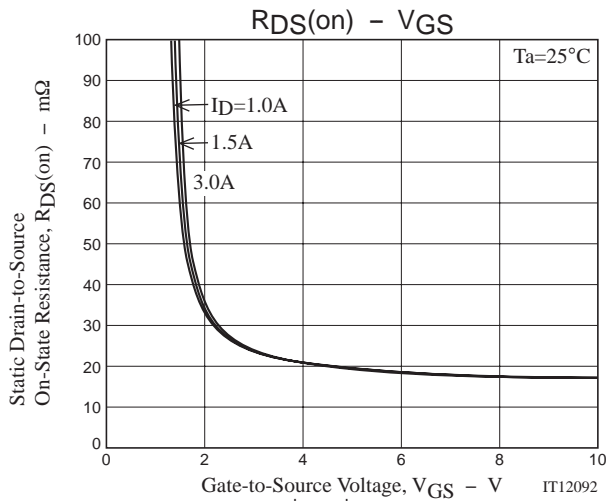
Package Dimensions

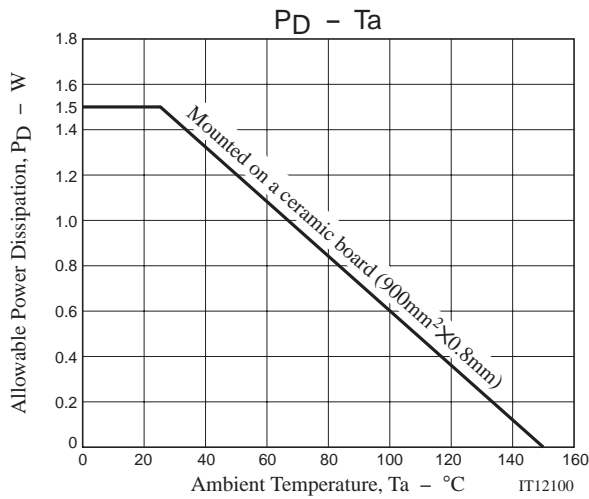
unit : mm (typ)
7022A-009



Switching Time Test Circuit







Note on usage : Since the MCH6429 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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