

SANYO Semiconductors DATA SHEET

An ON Semiconductor Company

MCH6604—

General-Purpose Switching Device Applications

Features

- · Low ON-resistance.
- · Ultrahigh-speed switching.
- 1.5V drive.
- · Composite type with 2 MOSFETs contained in a single package, facilitating high-density mounting.

N-Channel Silicon MOSFET

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		50	V
Gate-to-Source Voltage	VGSS		±10	V
Drain Current (DC)	ID		0.25	Α
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	1	Α
Allowable Power Dissipation	PD	Mounted on a ceramic board (900mm ² X0.8mm) 1unit	0.8	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			1.1
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	50			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =50V, V _{GS} =0V			1	μΑ
Gate-to-Source Leakage Current	IGSS	V _{GS} =±8V, V _{DS} =0V			±10	μΑ
Cutoff Voltage	VGS(off)	V _{DS} =10V, I _D =100μA	0.4		1.3	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =50mA	130	180		mS
Static Drain-to-Source On-State Resistance	R _{DS} (on)1	ID=50mA, VGS=4V		6	7.8	Ω
	RDS(on)2	ID=30mA, VGS=2.5V		7.1	9.9	Ω
	R _{DS} (on)3	ID=10mA, VGS=1.5V		10	20	Ω
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		6.6		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		4.7		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		1.7		pF

Marking: FD Continued on next page.

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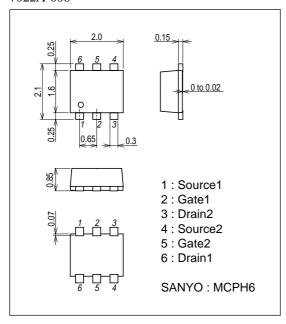
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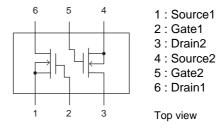
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Turn-ON Delay Time	t _d (on)	See specified Test Circuit.		18		ns
Rise Time	t _r	See specified Test Circuit.		42		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit.		190		ns
Fall Time	tf	See specified Test Circuit.		105		ns
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =100mA		1.57		nC
Gate-to-Source Charge	Qgs	VDS=10V, VGS=10V, ID=100mA		0.20		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =100mA		0.32		nC
Diode Forward Voltage	V _{SD}	I _S =100mA, V _{GS} =0V		0.85	1.2	V

Package Dimensions

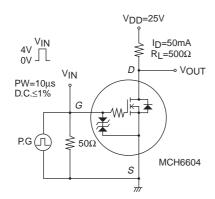
unit : mm 7022A-006

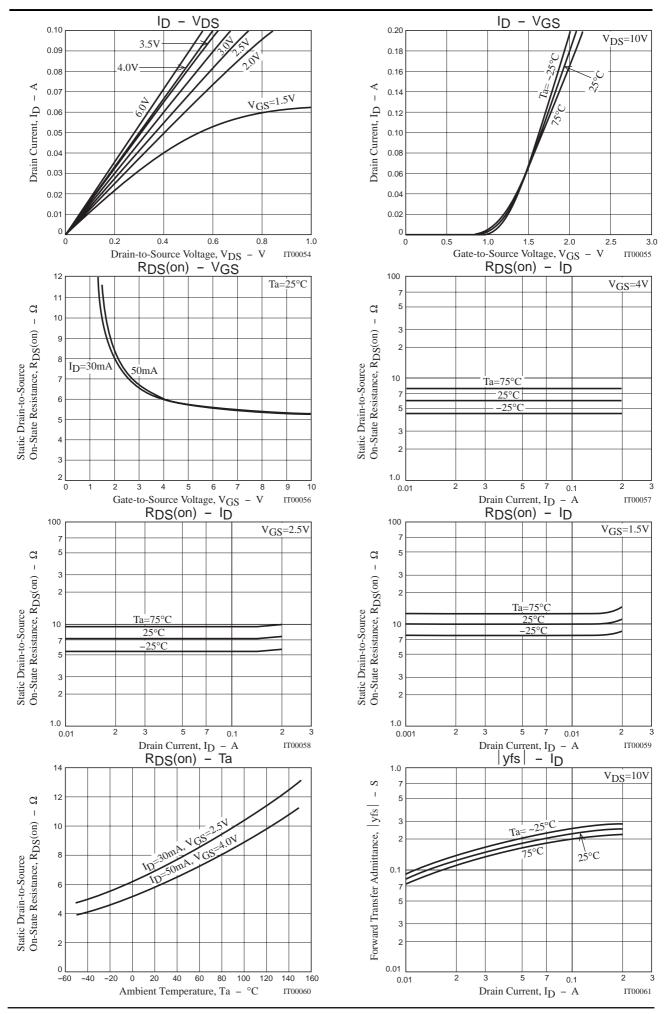


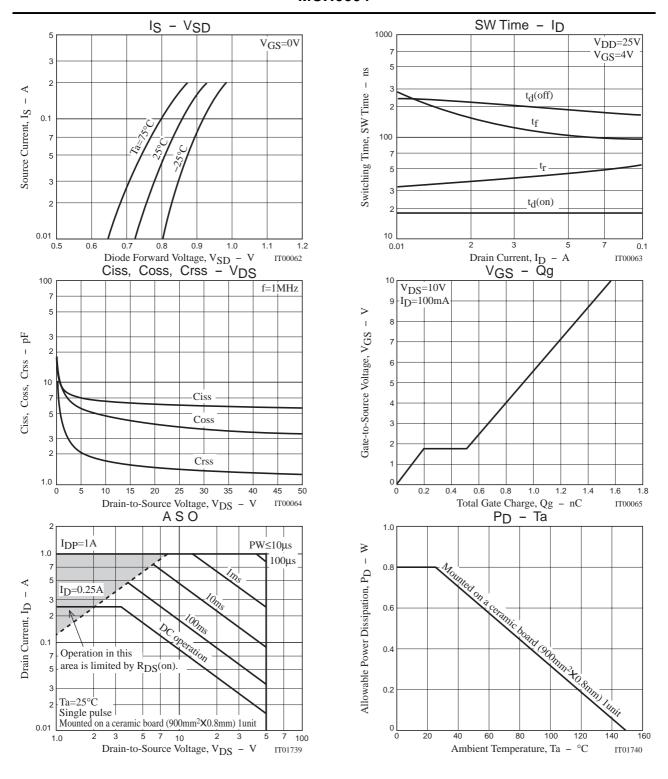
Electrical Connection



Switching Time Test Circuit







Note on usage: Since the MCH6604 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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