



# MCH6604

## N-Channel Power MOSFET 50V, 0.25A, 7.8Ω, Dual MCPH6

ON Semiconductor®

<http://onsemi.com>

### Features

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

### Specifications

#### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	V <sub>DSS</sub>		50	V
Gate to Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		0.25	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	1	A
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (90mm <sup>2</sup> ×0.8mm)1unit	0.8	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

This product is designed to "ESD immunity < 200V\*\*", so please take care when handling.

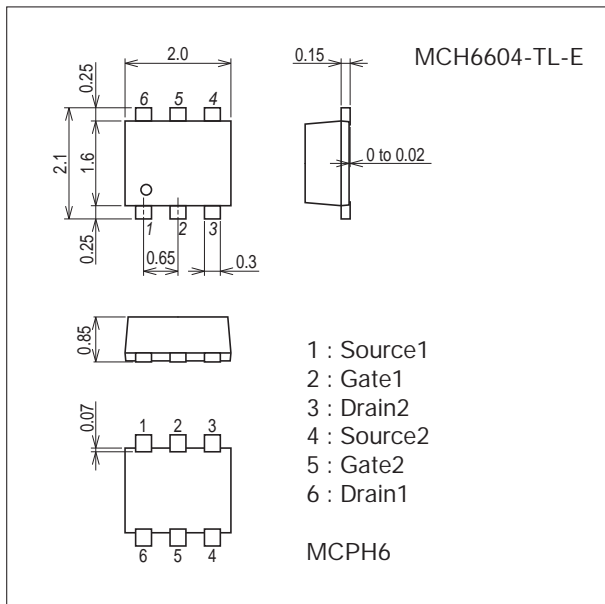
\* Machine Model

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

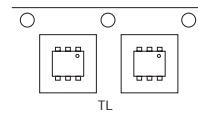
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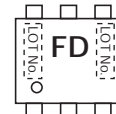
### Product & Package Information

- Package : MCPH6
- JEITA, JEDEC : SC-88, SC-70-6, SOT-363
- Minimum Packing Quantity : 3,000 pcs./reel

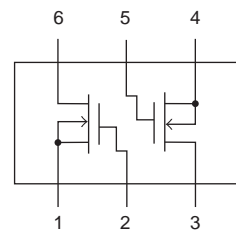
### Packing Type : TL



### Marking



### Electrical Connection

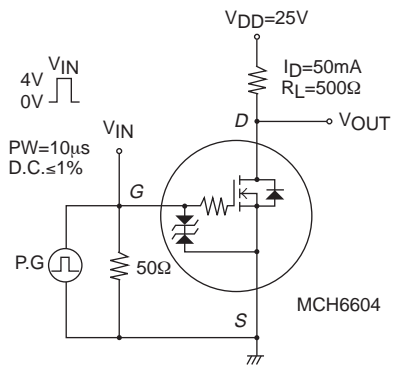


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## Electrical Characteristics at Ta=25°C

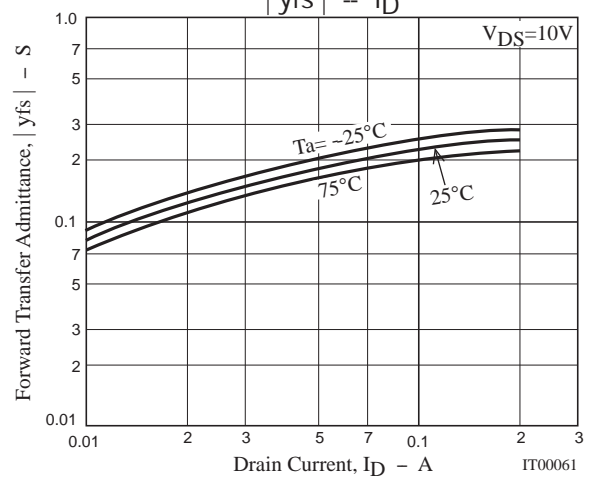
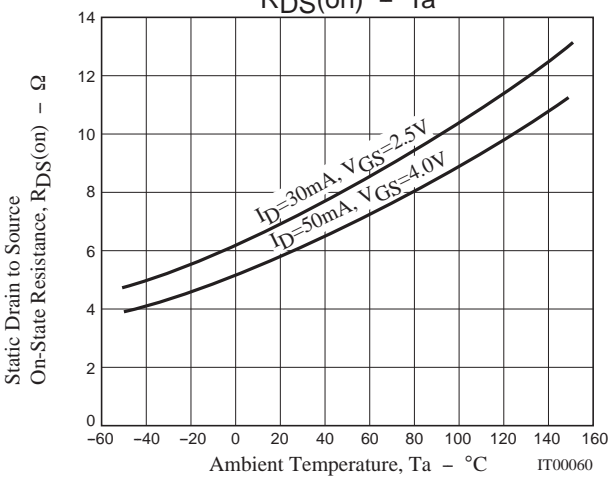
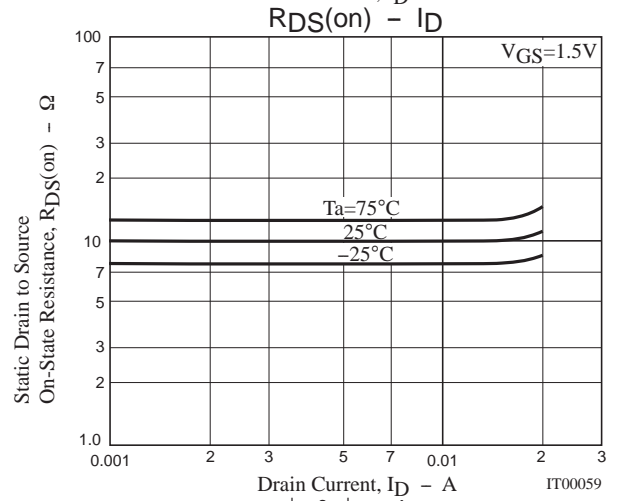
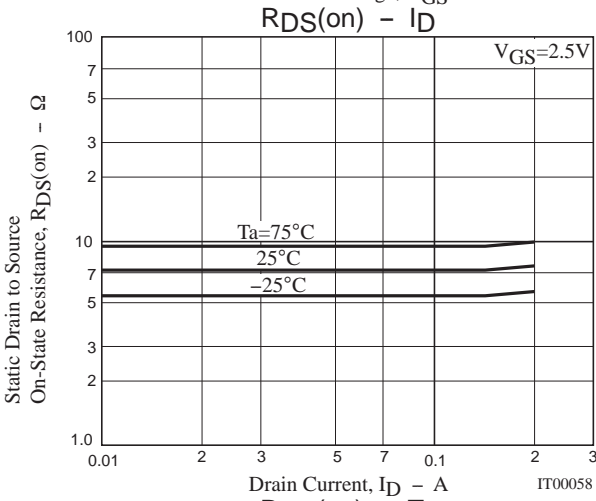
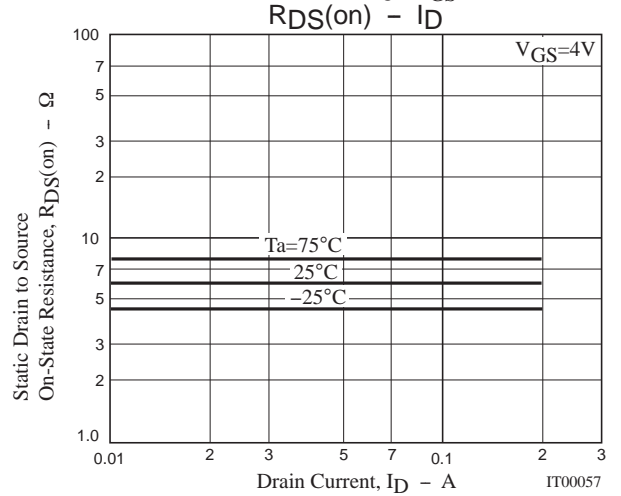
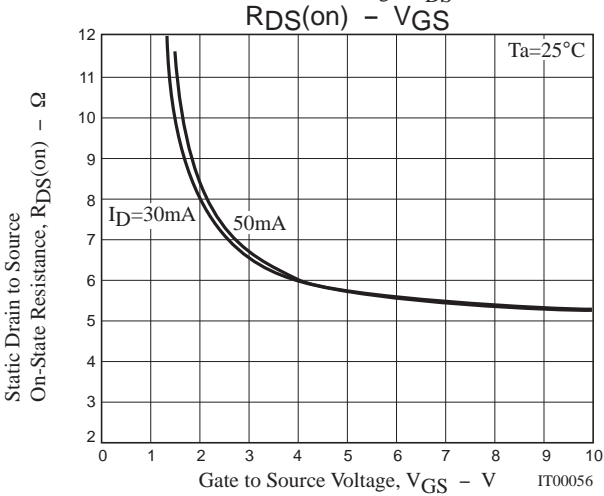
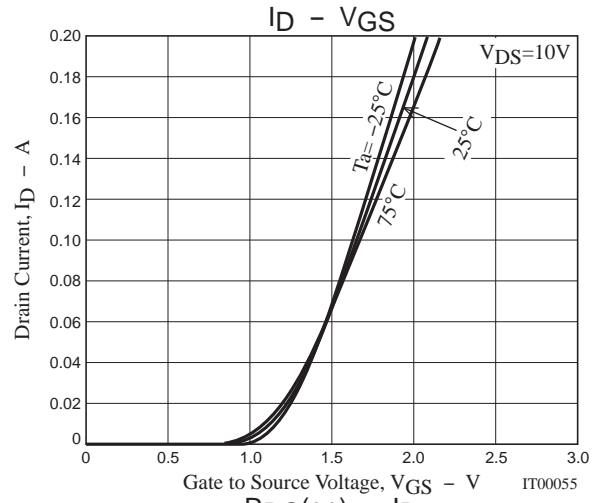
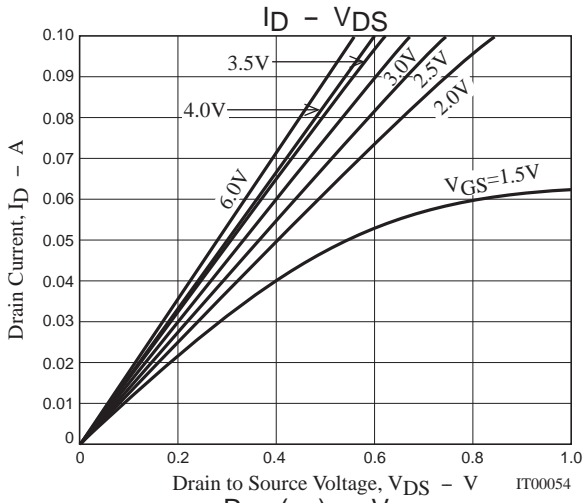
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	50			V
Zero-Gate Voltage Drain Current	IDSS	VDS=50V, VGS=0V			1	μA
Gate to Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=100μA	0.4		1.3	V
Forward Transfer Admittance	yfs	VDS=10V, ID=50mA	130	180		mS
Static Drain to Source On-State Resistance	RDS(on)1	ID=50mA, VGS=4V		6	7.8	Ω
	RDS(on)2	ID=30mA, VGS=2.5V		7.1	9.9	Ω
	RDS(on)3	ID=10mA, VGS=1.5V		10	20	Ω
Input Capacitance	Ciss	VDS=10V, f=1MHz		6.6		pF
Output Capacitance	Coss			4.7		pF
Reverse Transfer Capacitance	Crss			1.7		pF
Turn-ON Delay Time	td(on)			18		ns
Rise Time	tr	See specified Test Circuit.		42		ns
Turn-OFF Delay Time	td(off)			190		ns
Fall Time	tf			105		ns
Total Gate Charge	Qg			1.57		nC
Gate to Source Charge	Qgs	VDS=10V, VGS=10V, ID=100mA		0.20		nC
Gate to Drain "Miller" Charge	Qgd			0.32		nC
Diode Forward Voltage	VSD		IS=100mA, VGS=0V		0.85	1.2

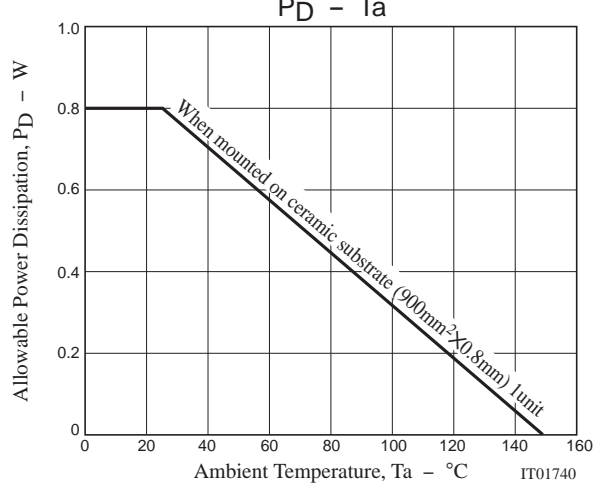
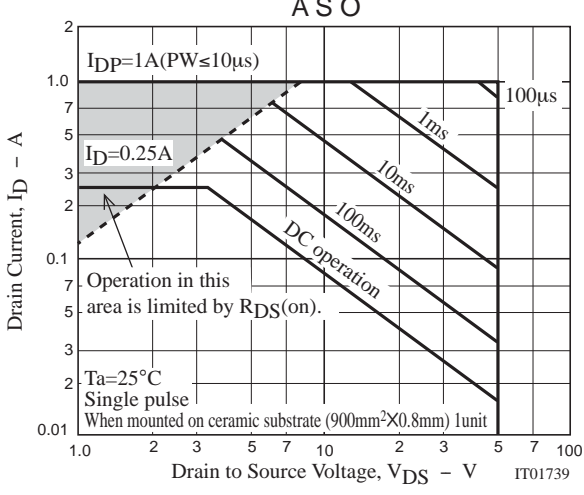
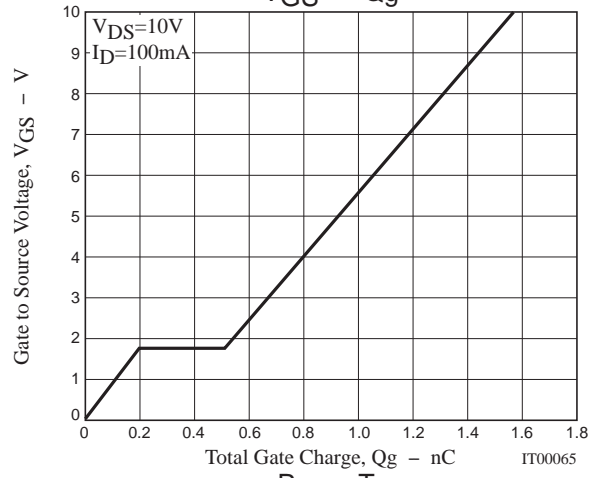
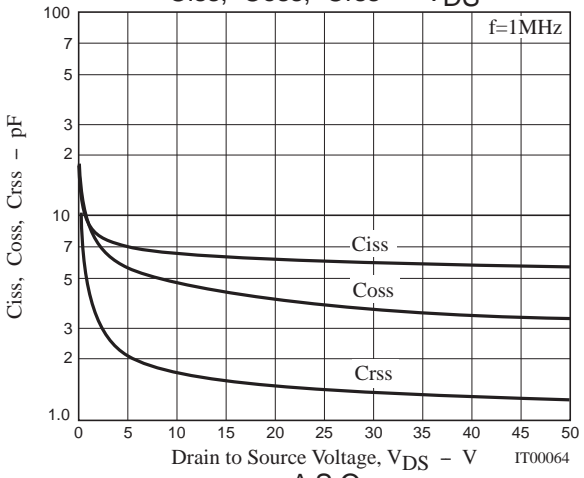
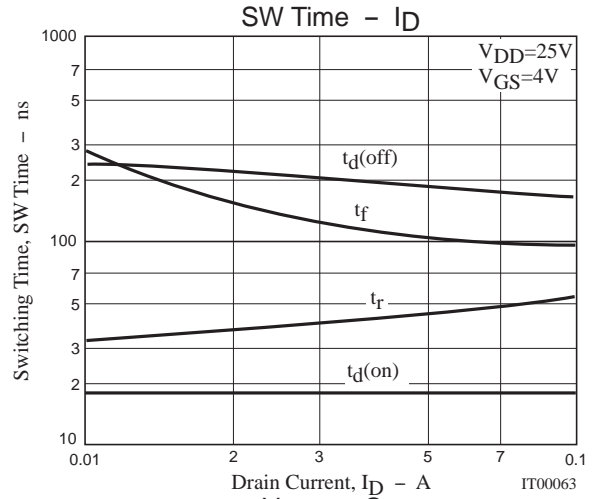
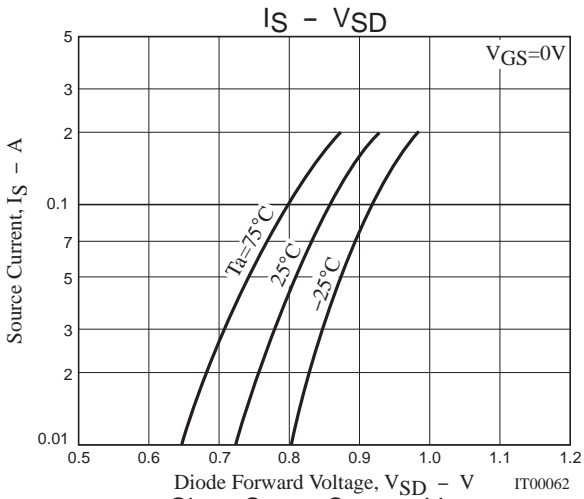
## Switching Time Test Circuit



## Ordering Information

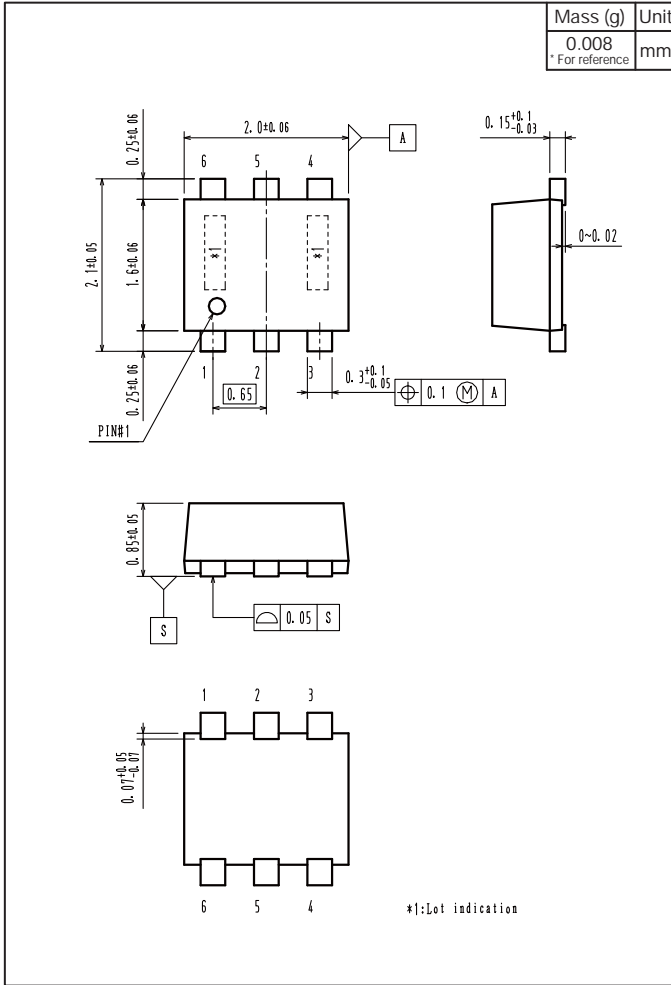
Device	Package	Shipping	memo
MCH6604-TL-E	MCPH6	3,000pcs./reel	Pb-Free



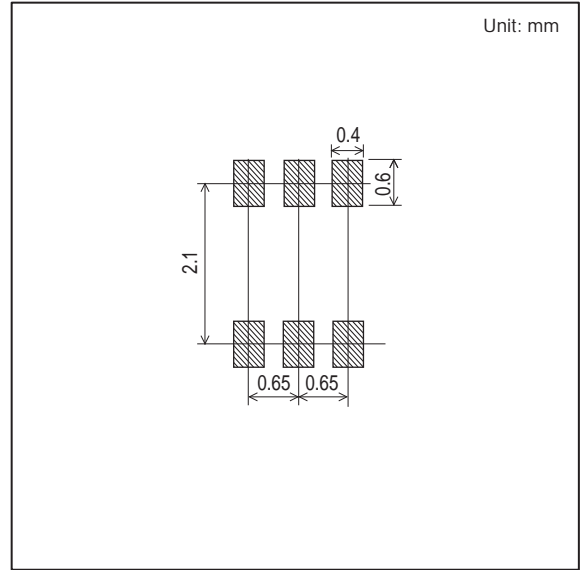


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## Outline Drawing MCH6604-TL-E



## Land Pattern Example



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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