



# MCH6656

N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- 4V 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>		60	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		200	mA
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	800	mA
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (900mm <sup>2</sup> ×0.8mm) 1unit	0.6	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	60			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0V			1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =100μA	1.2		2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =100mA	140	240		mS
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =100mA, V <sub>GS</sub> =10V		1.8	2.4	Ω
	R <sub>DS(on)2</sub>	I <sub>D</sub> =50mA, V <sub>GS</sub> =4V		2.6	3.7	Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =20V, f=1MHz		27		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =20V, f=1MHz		8.6		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =20V, f=1MHz		4.4		pF

Marking : XH

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40208PE TI IM TC-00001294 No. A0530-1/4

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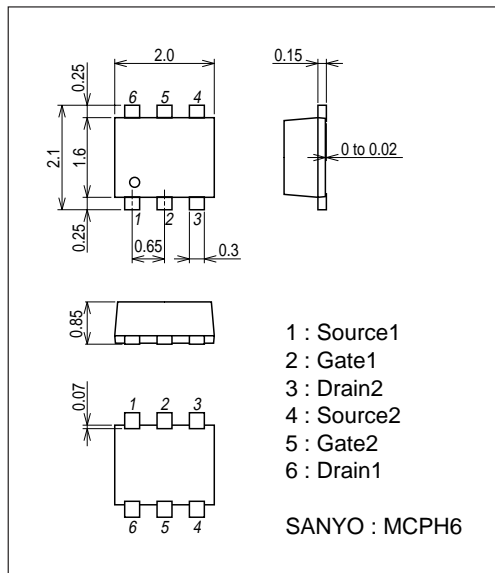
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		13.5		ns
Rise Time	$t_r$	See specified Test Circuit.		11.5		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		81		ns
Fall Time	$t_f$	See specified Test Circuit.		39		ns
Total Gate Charge	Qg	$V_{DS}=30V, V_{GS}=10V, I_D=200mA$		1.88		nC
Gate-to-Source Charge	Qgs	$V_{DS}=30V, V_{GS}=10V, I_D=200mA$		0.4		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=30V, V_{GS}=10V, I_D=200mA$		0.37		nC
Diode Forward Voltage	$V_{SD}$	$I_S=200mA, V_{GS}=0V$		0.85	1.2	V

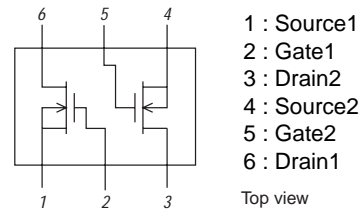
## Package Dimensions

unit : mm (typ)

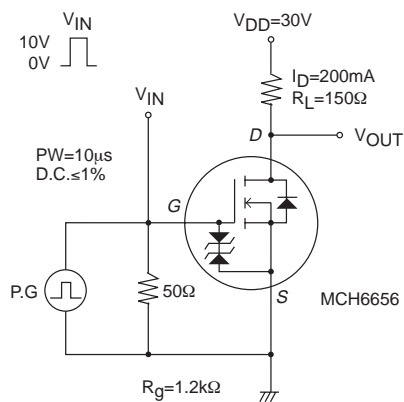
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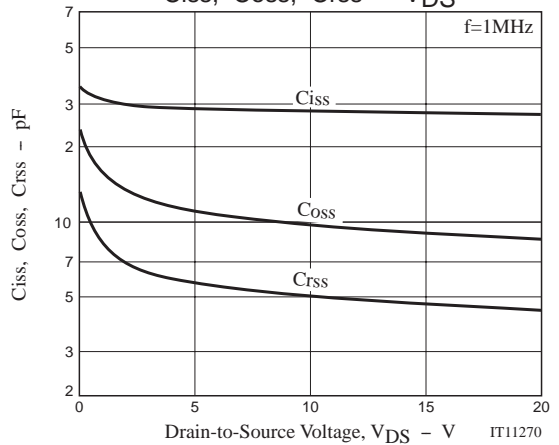
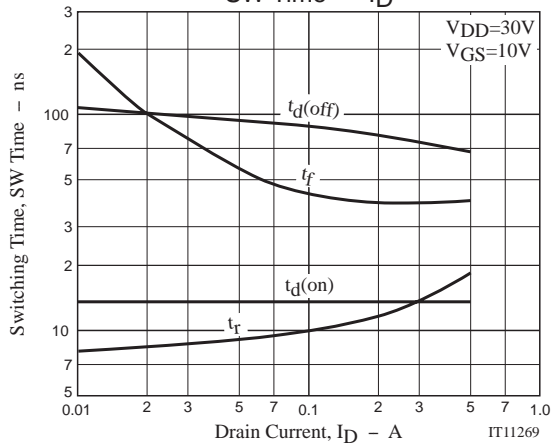
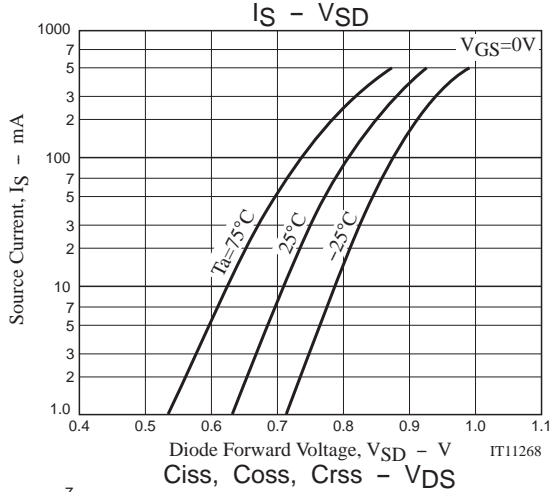
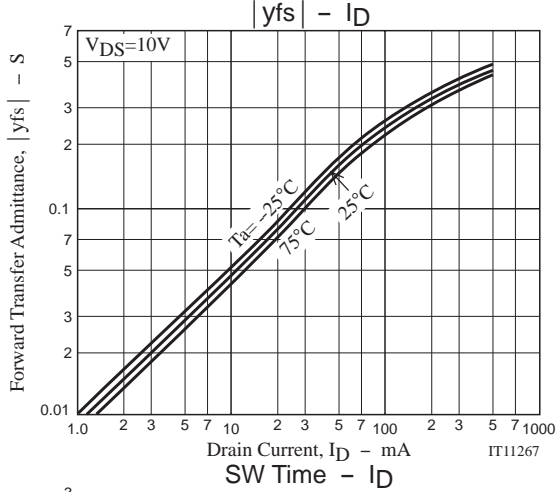
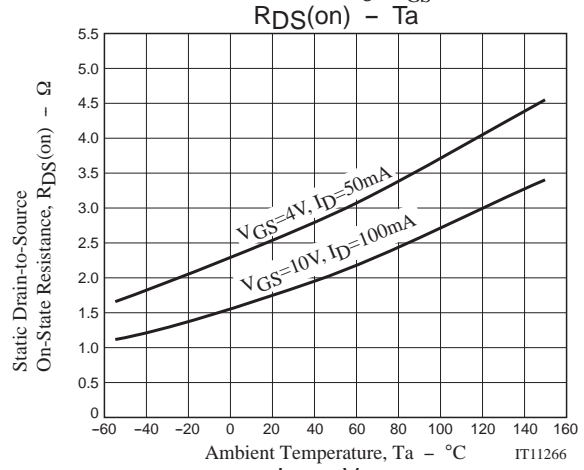
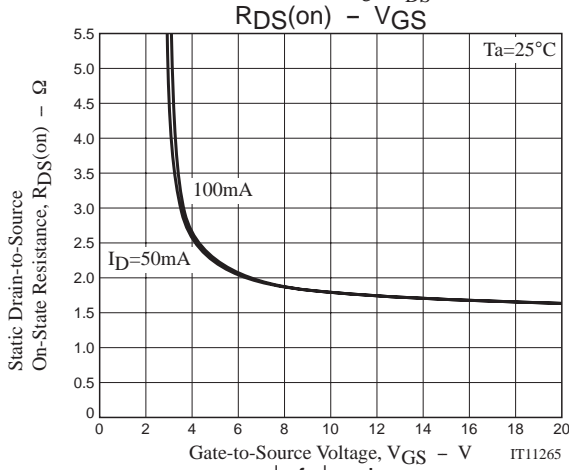
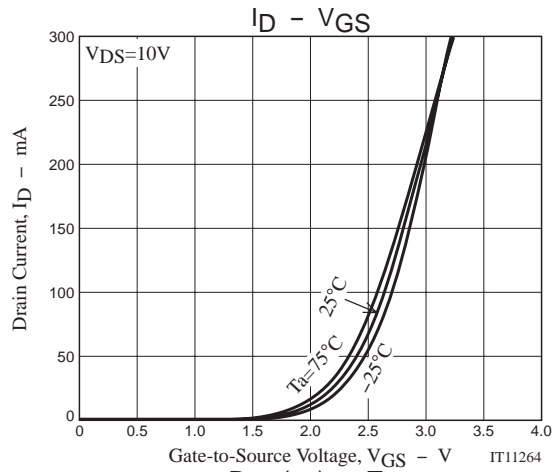
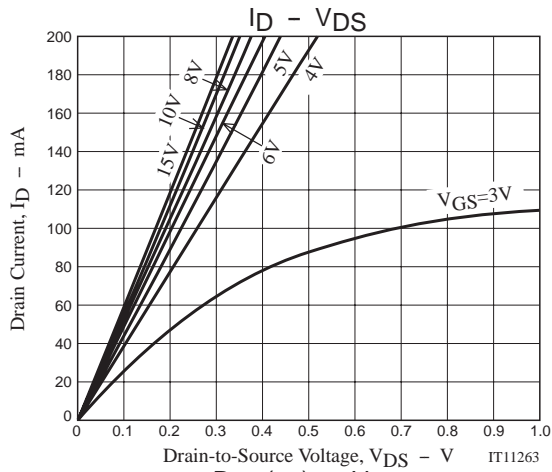
## Electrical Connection



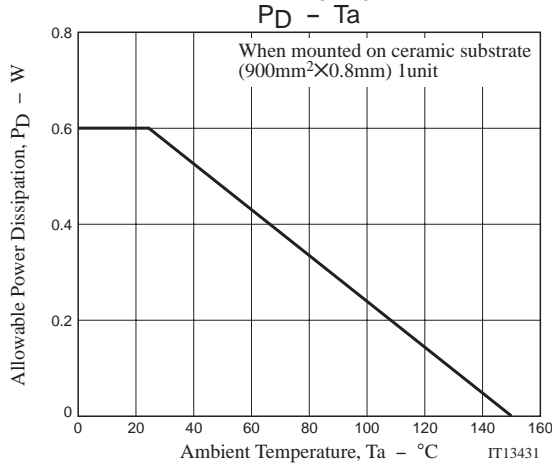
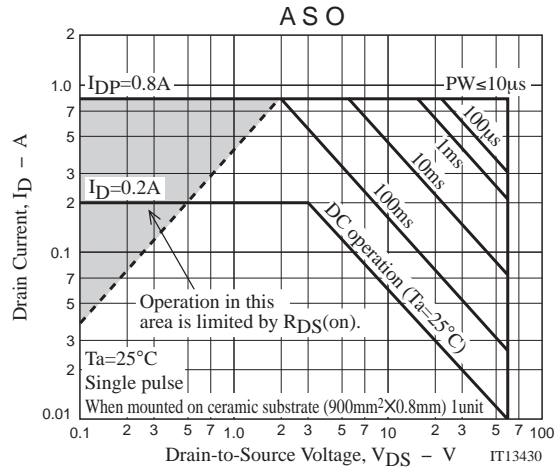
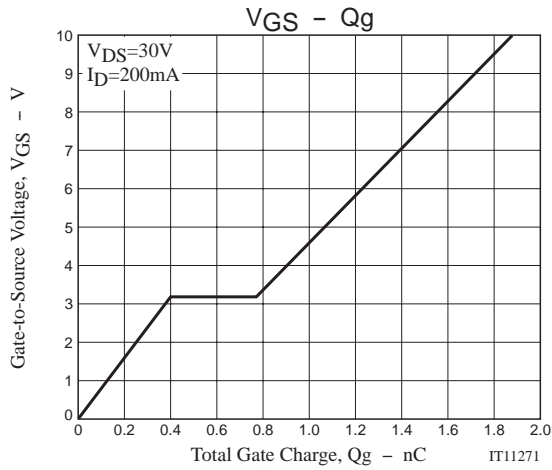
## Switching Time Test Circuit



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Note on usage : Since the MCH6656 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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