



# CPH6612 — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V 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>		20	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±12	V
Drain Current (DC)	I <sub>D</sub>		2	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	8	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (900mm²×0.8mm)1unit	0.8	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(BR)DSS	I <sub>D</sub> =1mA, V <sub>GS</sub> =0	20			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =20V, V <sub>GS</sub> =0			1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	0.4		1.3	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1A	1.4	2.4		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =1A, V <sub>GS</sub> =4V		125	165	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =0.5A, V <sub>GS</sub> =2.5V		165	235	mΩ
	R <sub>DS(on)3</sub>	I <sub>D</sub> =0.1A, V <sub>GS</sub> =1.8V		230	350	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, f=1MHz		120		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =10V, f=1MHz		31		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =10V, f=1MHz		25		pF

Marking : FY

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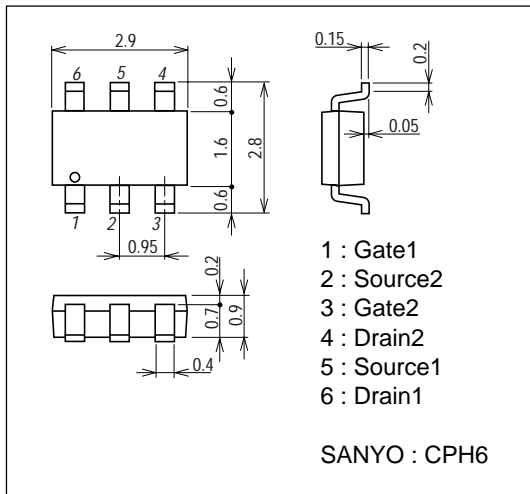
# CPH6612

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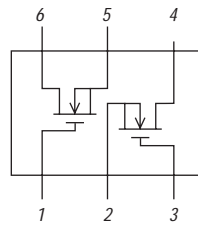
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_d(\text{on})$	See specified Test Circuit		9		ns
Rise Time	$t_r$	See specified Test Circuit		29		ns
Turn-OFF Delay Time	$t_d(\text{off})$	See specified Test Circuit		18		ns
Fall Time	$t_f$	See specified Test Circuit		22		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=4V, I_D=2A$		2.3		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=4V, I_D=2A$		0.5		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=4V, I_D=2A$		0.75		nC
Diode Forward Voltage	VSD	$I_S=2A, V_{GS}=0$		0.94	1.2	V

## Package Dimensions

unit : mm  
2238



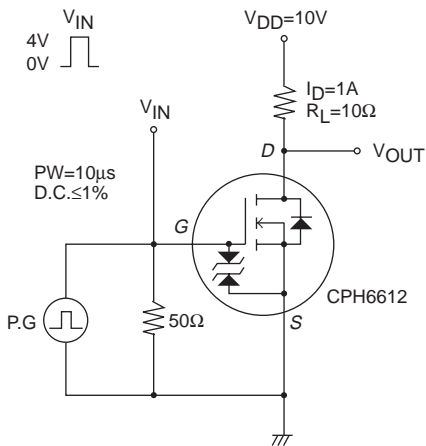
## Electrical Connection

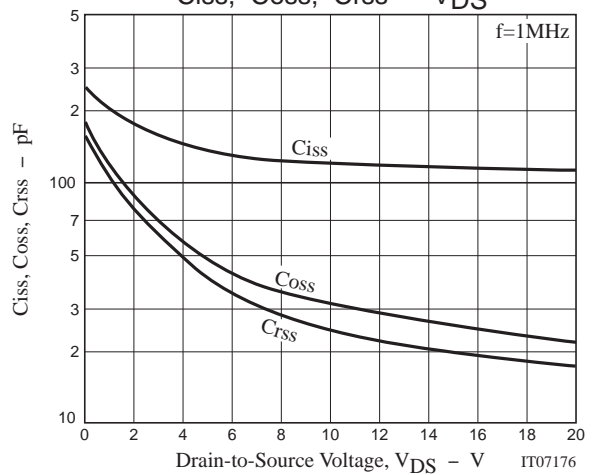
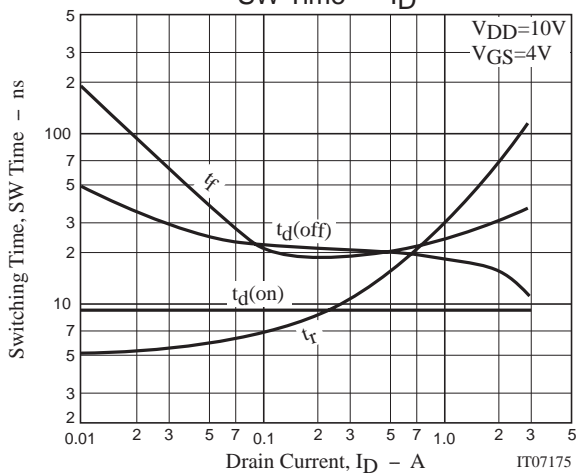
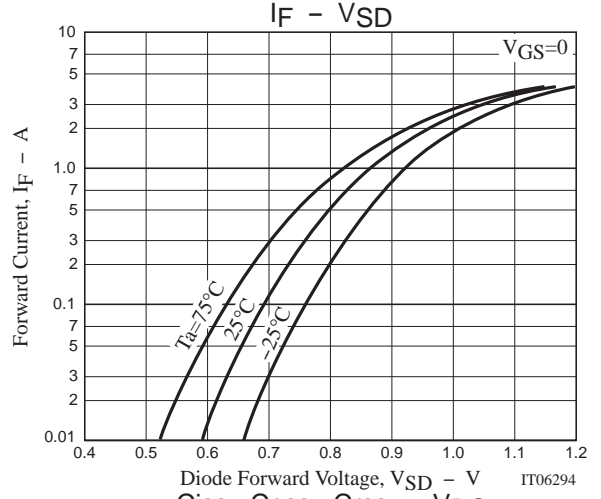
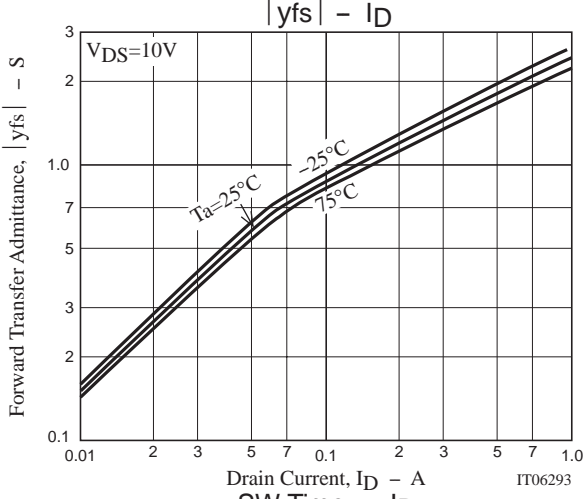
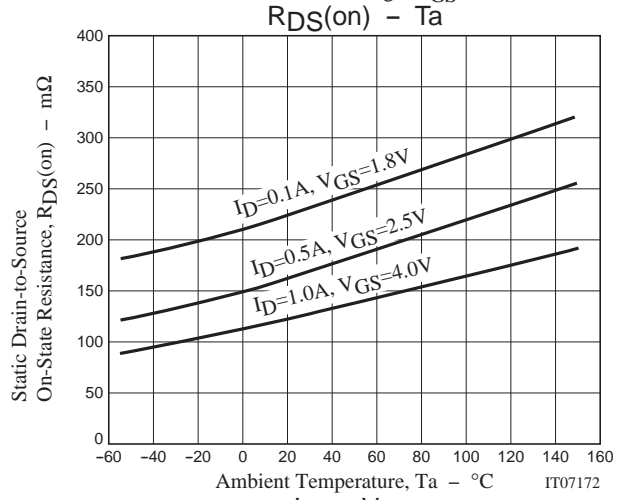
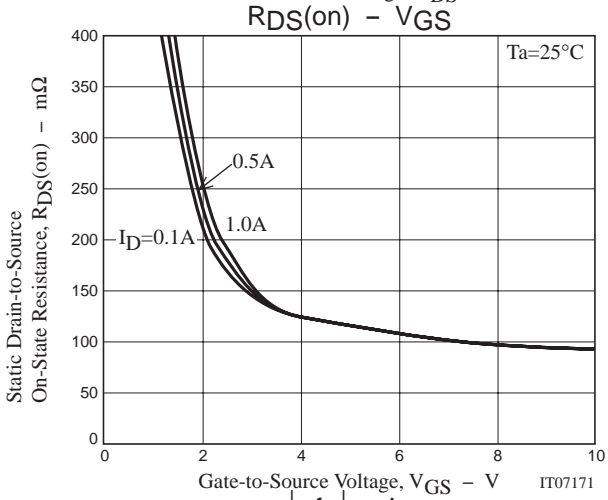
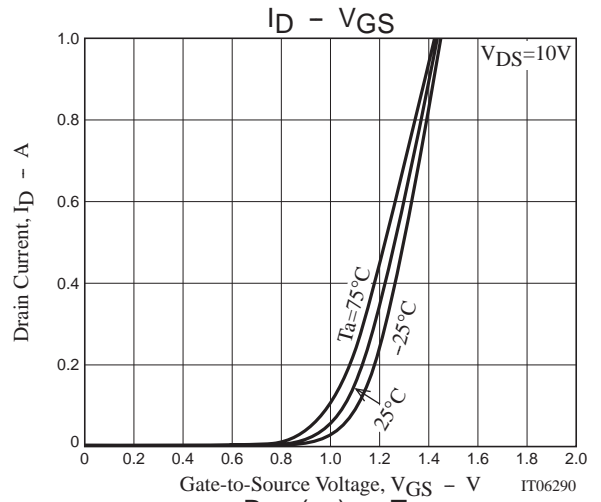
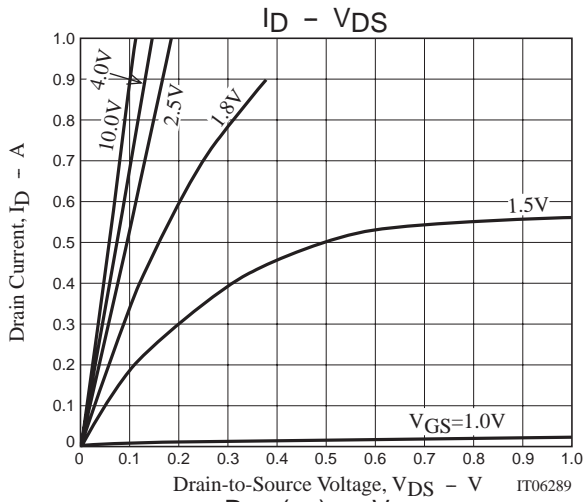


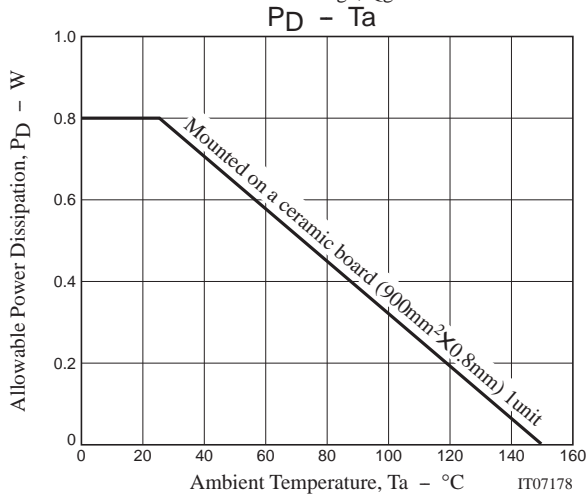
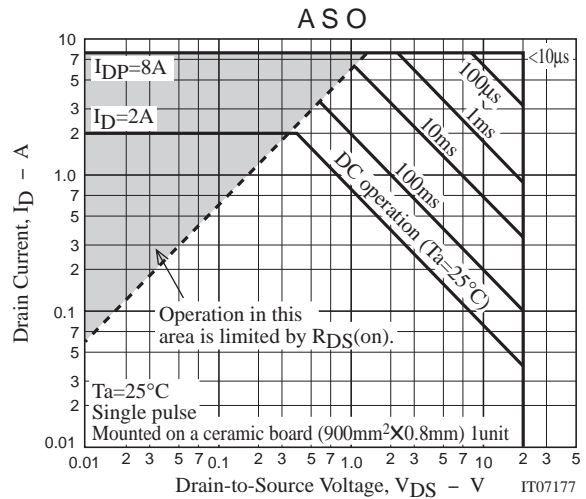
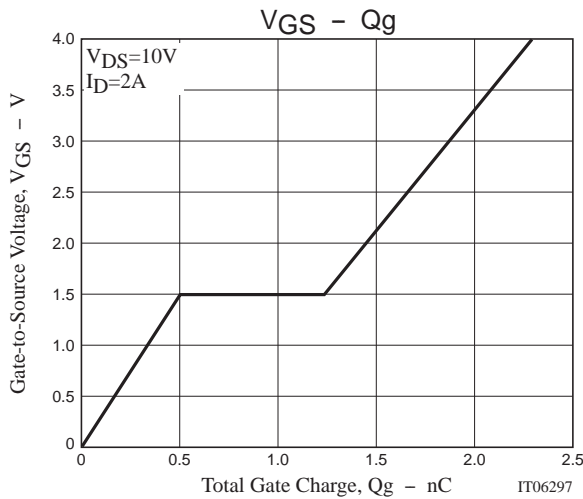
- 1 : Gate1
- 2 : Source2
- 3 : Gate2
- 4 : Drain2
- 5 : Source1
- 6 : Drain1

Top view

## Switching Time Test Circuit







Note on usage : Since the CPH6612 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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