



CPH5612 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V drive.
- Composite type with 2 MOSFETs contained in a single package, facilitating density mounting.

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		100	V
Gate-to-Source Voltage	V_{GSS}		± 10	V
Drain Current (DC)	I_D		1	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	4	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (600mm \times 0.8mm) 1unit	0.9	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0$	100			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100\text{V}$, $V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$, $I_D=500\text{mA}$	1.8	2.6		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=500\text{mA}$, $V_{GS}=4\text{V}$		430	570	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=500\text{mA}$, $V_{GS}=2.5\text{V}$		450	650	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		350		pF
Output Capacitance	C_{oss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		20		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		12		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		15		ns
Rise Time	t_r	See specified Test Circuit.		11		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		54		ns
Fall Time	t_f	See specified Test Circuit.		30		ns

Marking : FS

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CPH5612

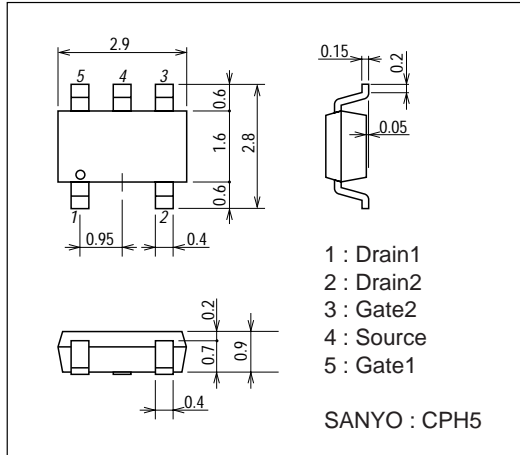
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=50V, V_{GS}=4V, I_D=1A$		4.4		nC
Gate-to-Source Charge	Qgs	$V_{DS}=50V, V_{GS}=4V, I_D=1A$		1.2		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=50V, V_{GS}=4V, I_D=1A$		0.8		nC
Diode Forward Voltage	VSD	$I_S=1A, V_{GS}=0$		0.82	1.2	V

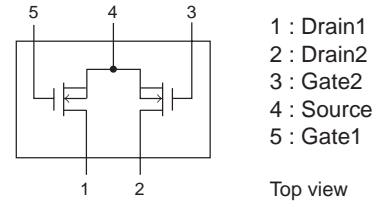
Package Dimensions

unit : mm

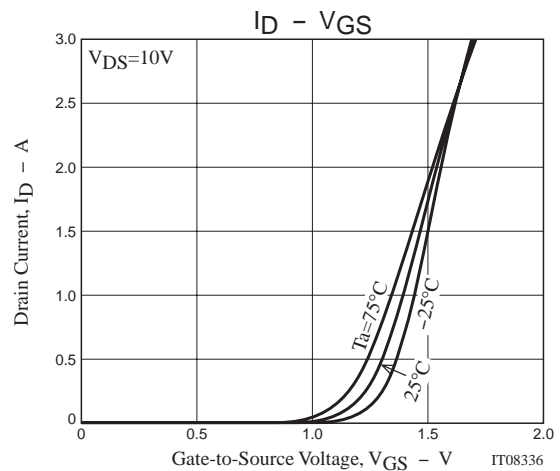
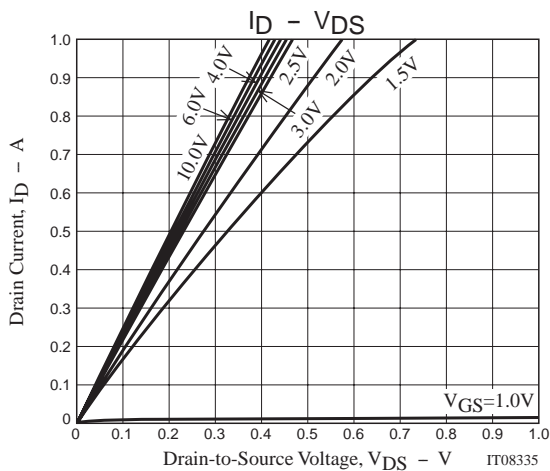
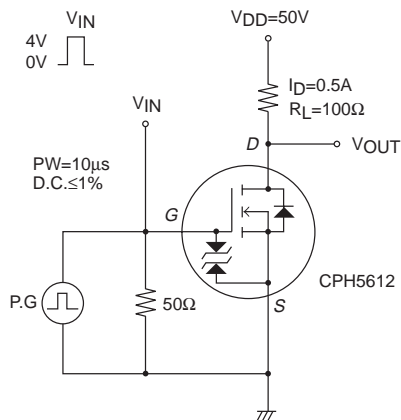
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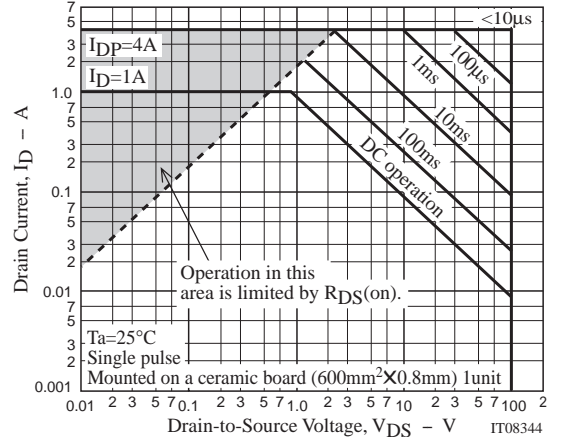
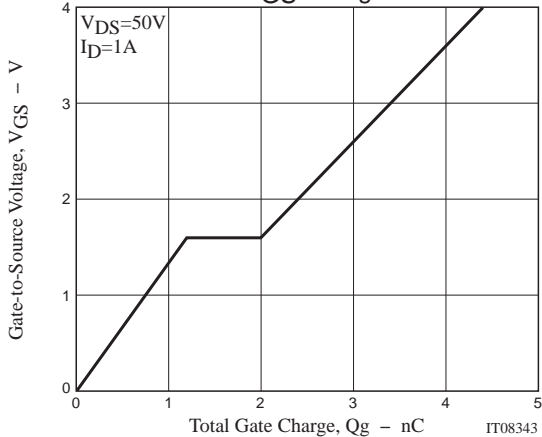
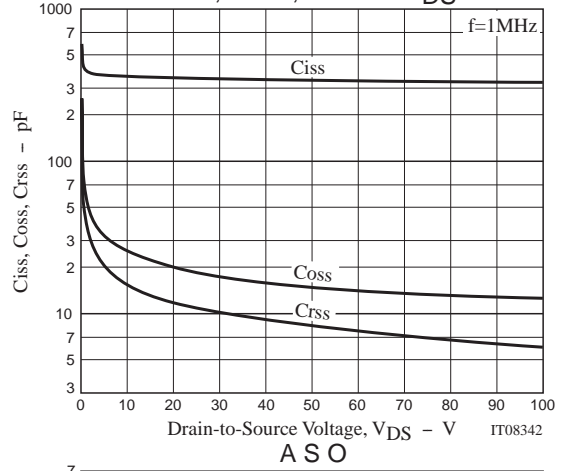
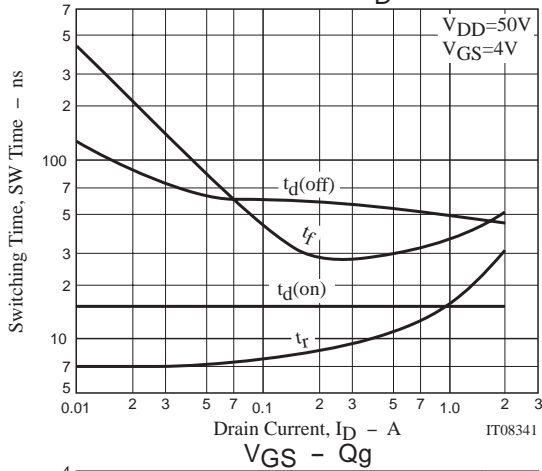
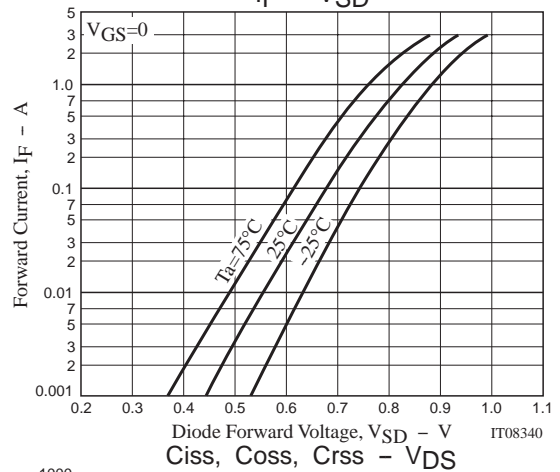
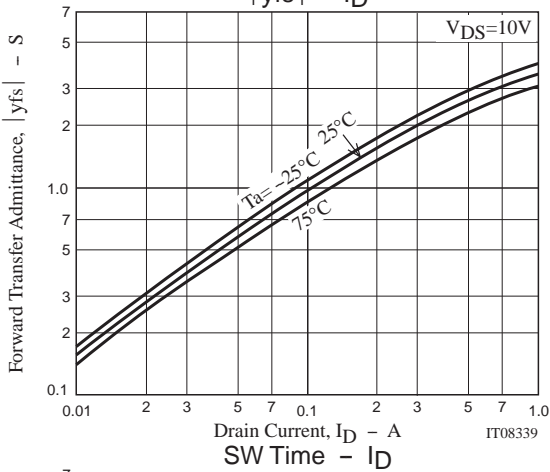
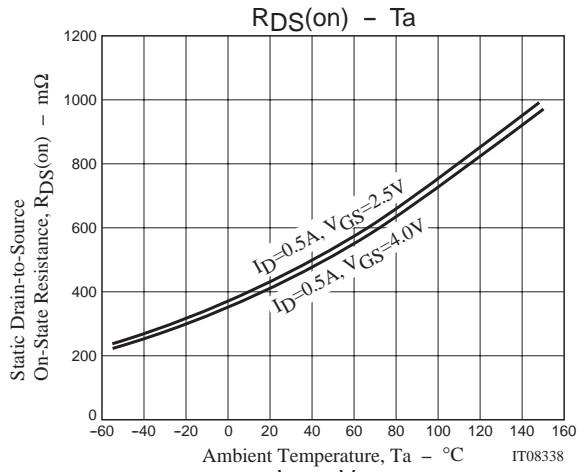
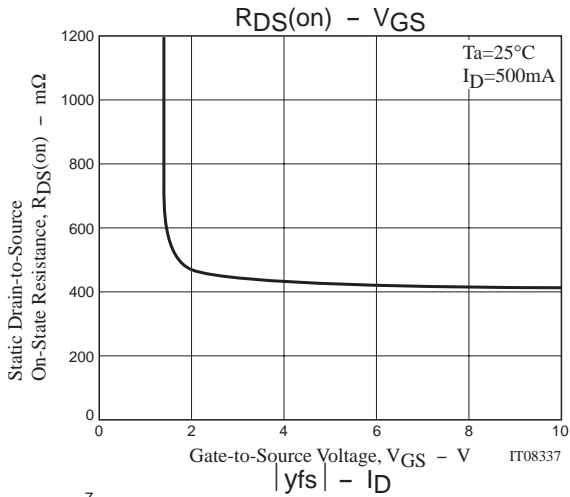


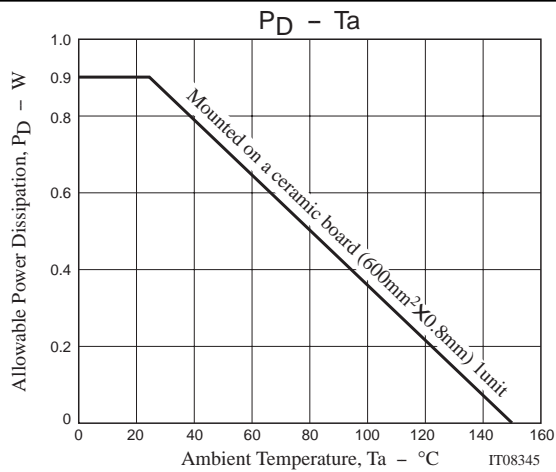
Electrical Connection



Switching Time Test Circuit







Note on usage : Since the CPH5612 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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