

N-Channel Silicon MOSFET **CPH5614**—General-Purpose Switching Device **Applications**

Features

- · Low ON-resistance.
- · Ultrahigh-speed switching.
- 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	VDSS		100	V
Gate-to-Source Voltage	VGSS		±20	V
Drain Current (DC)	۱ _D		1	A
Drain Current (Pulse)	IDP	PW≤10µs, duty cycle≤1%	4	A
Allowable Power Dissipation	PD	Mounted on a ceramic board (600mm ² X0.8mm) 1unit	0.9	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions		Ratings		
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0	100			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =100V, V _{GS} =0			1	μΑ
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0			±10	μΑ
Cutoff Voltage	VGS(off)	V _{DS} =10V, I _D =1mA	1.2		2.6	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =500mA	0.98	1.4		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=500mA, VGS=10V		480	630	mΩ
	R _{DS} (on)2	ID=500mA, VGS=4V		580	810	mΩ
Input Capacitance	Ciss	VDS=20V, f=1MHz		240		pF
Output Capacitance	Coss	VDS=20V, f=1MHz		20		pF
Reverse Transfer Capacitance	Crss	V _{DS} =20V, f=1MHz		12		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		8		ns
Rise Time	tr	See specified Test Circuit.		3		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit.		30		ns
Fall Time	tf	See specified Test Circuit.		11		ns

Marking : FW

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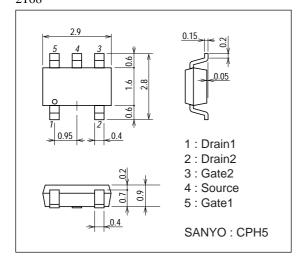
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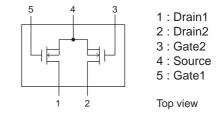
Parameter	Symbol	Conditions	Ratings			Unit
	Symbol		min	typ	max	
Total Gate Charge	Qg	VDS=50V, VGS=10V, ID=1A		6.5		nC
Gate-to-Source Charge	Qgs	V _{DS} =50V, V _{GS} =10V, I _D =1A		1.1		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=50V, VGS=10V, ID=1A		1.1		nC
Diode Forward Voltage	VSD	IS=1A, VGS=0		0.82	1.2	V

Package Dimensions

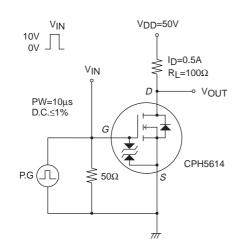
unit : mm 2168

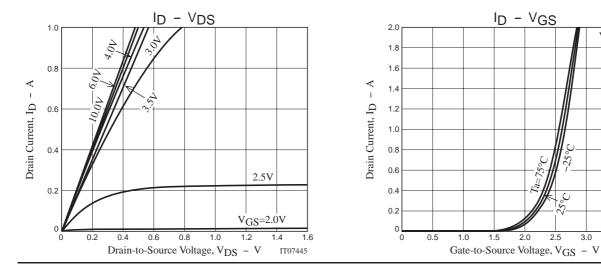


Electrical Connection



Switching Time Test Circuit





4.0

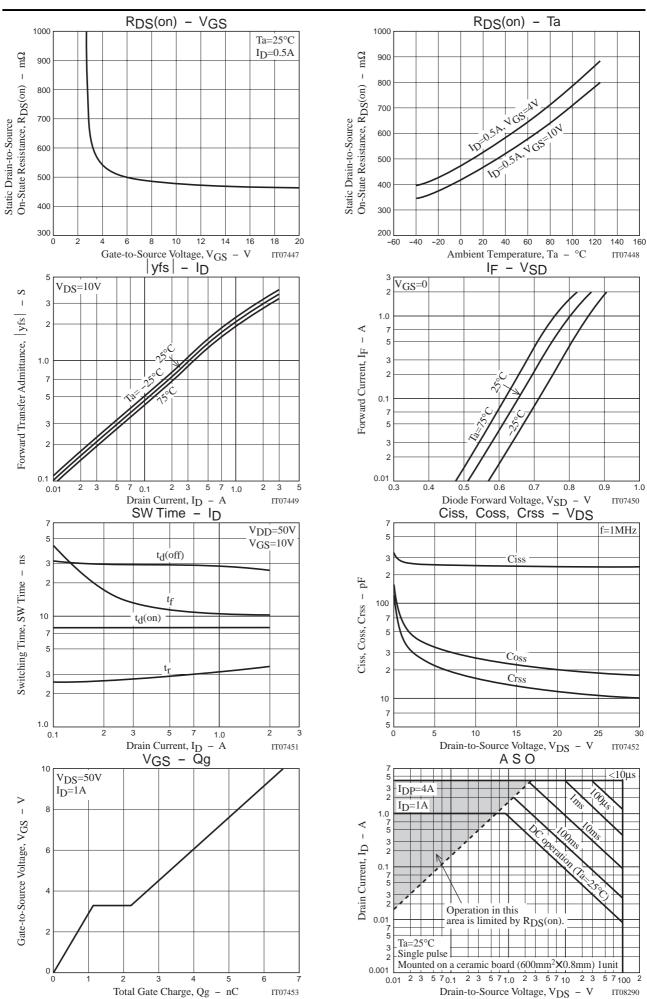
3.5

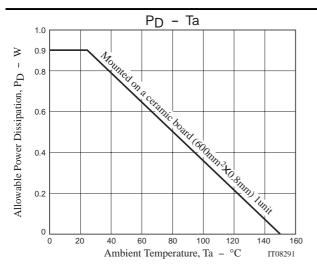
2.0

2.5

3.0

V_{DS}=10V





Note on usage : Since the CPH5614 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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