



# CPH6622 — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- 2.5V drive.
- Best suited for LiB charging and discharging switch.
- Common-drain type.
- With a built-in gate resistor.

### 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>		3.0	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤12ms, duty cycle≤1%	18	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (900mm <sup>2</sup> ×0.8mm)1unit	0.9	W
Total Dissipation	P <sub>T</sub>	Mounted on a ceramic board (900mm <sup>2</sup> ×0.8mm)	1.0	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> =0V	20			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =20V, V <sub>GS</sub> =0V			1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±8V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	0.6		1.2	V

Marking : BW

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# CPH6622

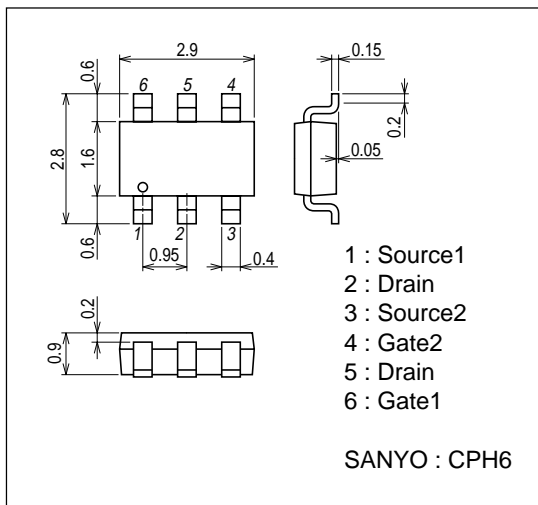
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=1.5A$	1.5	3.3		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=3A, V_{GS}=4V$	46	58	70	$m\Omega$
	$R_{DS(on)2}$	$I_D=3A, V_{GS}=2.5V$	50	75	100	$m\Omega$
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		210		ns
Rise Time	$t_r$	See specified Test Circuit.		690		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		1400		ns
Fall Time	$t_f$	See specified Test Circuit.		1000		ns
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=4V, I_D=3A$		10.5		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=10V, V_{GS}=4V, I_D=3A$		1.0		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=10V, V_{GS}=4V, I_D=3A$		2.8		nC
Diode Forward Voltage	$V_{SD}$	$I_S=3A, V_{GS}=0V$		0.8	1.2	V

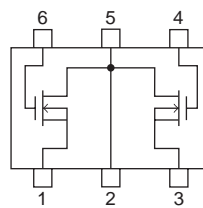
## Package Dimensions

unit : mm (typ)

7018A-013



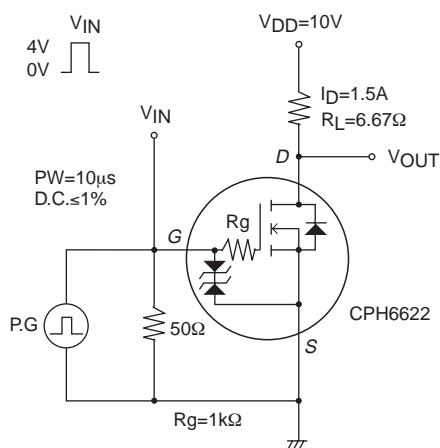
## Electrical Connection

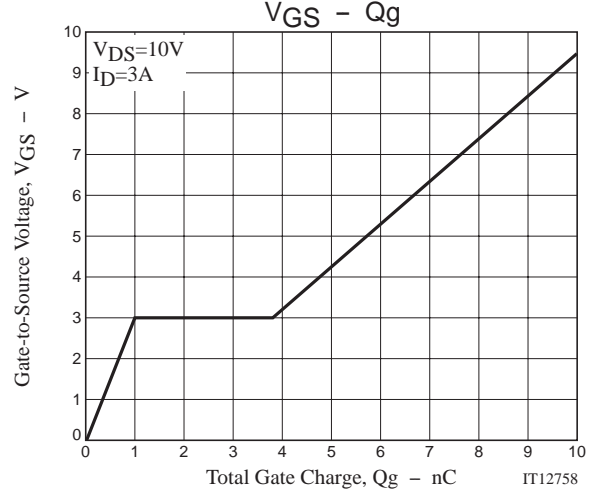
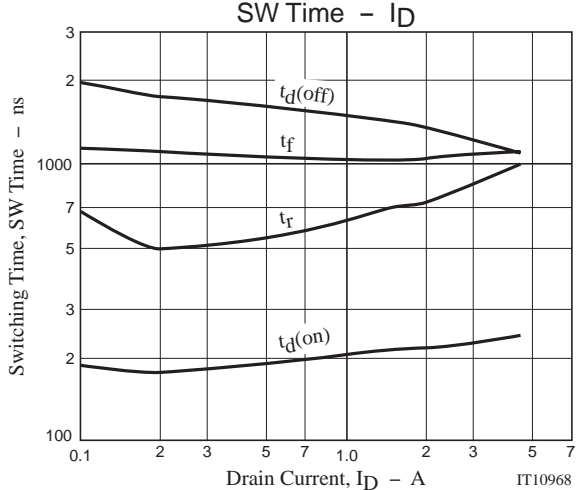
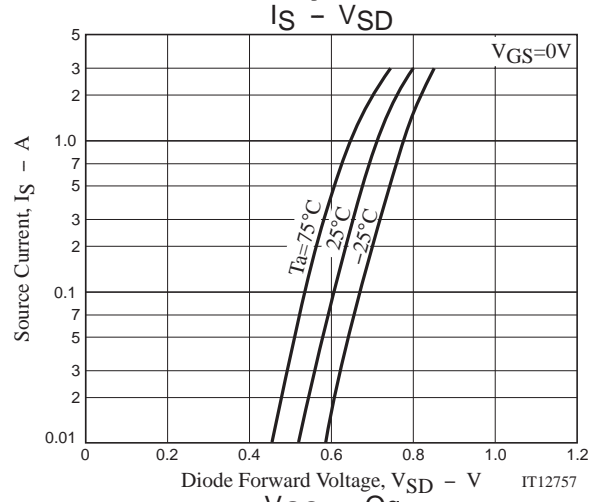
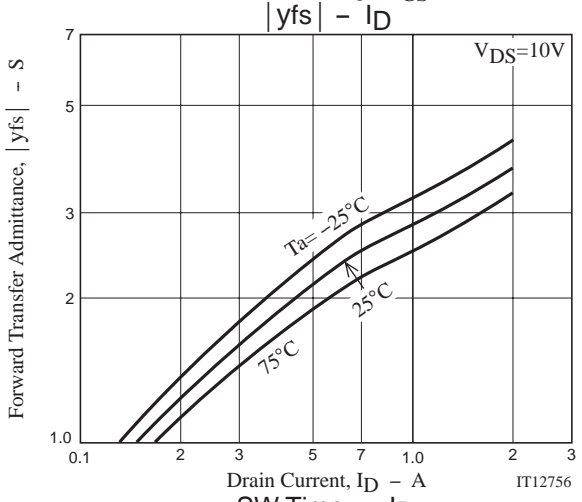
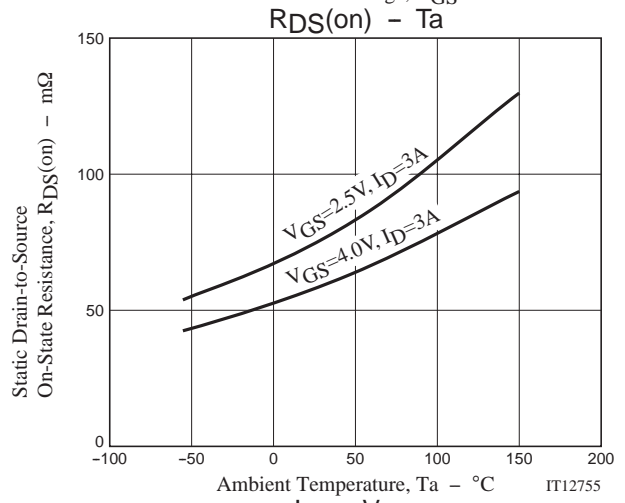
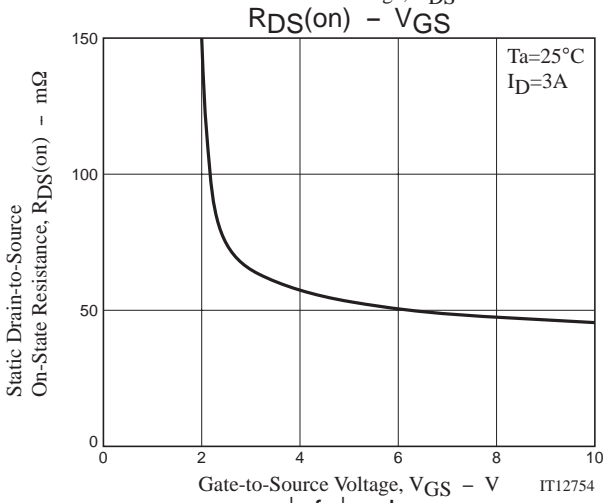
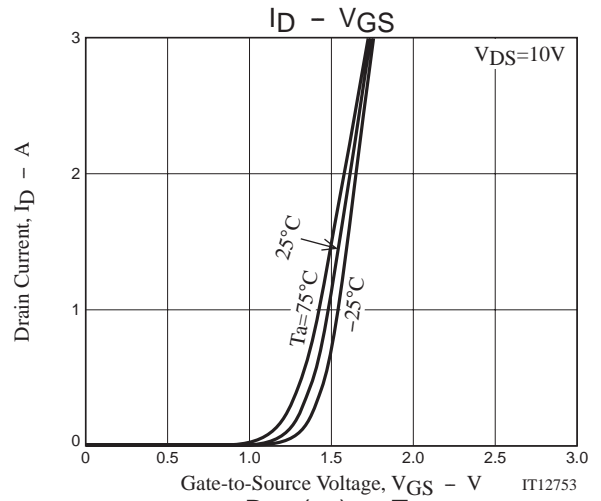
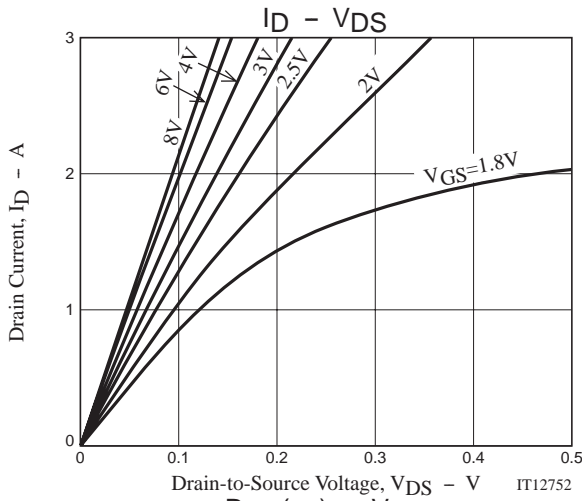


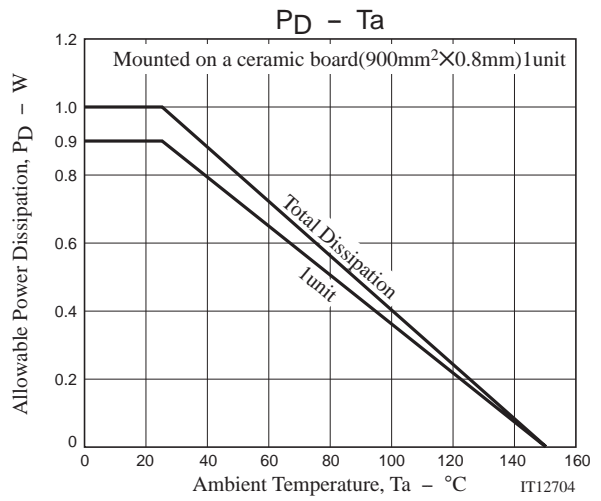
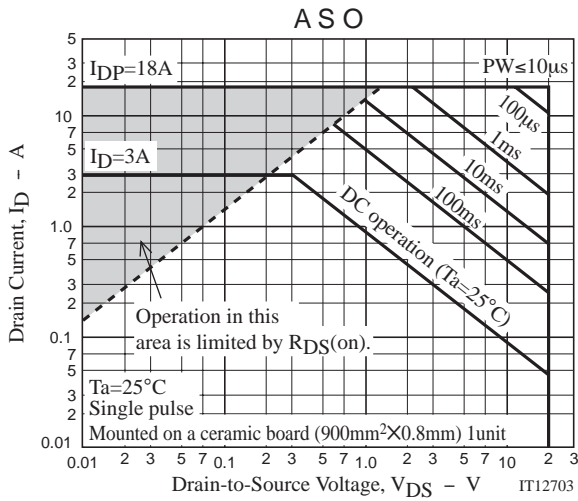
- 1 : Source1
- 2 : Drain
- 3 : Source2
- 4 : Gate2
- 5 : Drain
- 6 : Gate1

Top view

## Switching Time Test Circuit







Note on usage : Since the CPH6622 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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