

Ordering number : ENN8208



SANYO Semiconductors

## DATA SHEET

# CPH6320 — P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.

### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-12	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±8	V
Drain Current (DC)	I <sub>D</sub>		-3.5	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-14	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (1200mm <sup>2</sup> ×0.8mm)	1.6	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(BR)DSS	I <sub>D</sub> =-1mA, V <sub>GS</sub> =0	-12			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-12V, V <sub>GS</sub> =0			-10	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±6.4V, V <sub>DS</sub> =0			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-6V, I <sub>D</sub> =-1mA	-0.3		-1.0	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-6V, I <sub>D</sub> =-1.7A	3.3	4.7		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-1.7A, V <sub>GS</sub> =-4.5V		75	98	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-0.8A, V <sub>GS</sub> =-2.5V		110	155	mΩ
	R <sub>DS(on)3</sub>	I <sub>D</sub> =-0.4A, V <sub>GS</sub> =-1.8V		150	225	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-6V, f=1MHz		450		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =-6V, f=1MHz		100		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =-6V, f=1MHz		85		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		15		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		90		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		62		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		50		ns

Marking : JW

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SANYO Electric Co., Ltd. Semiconductor Company

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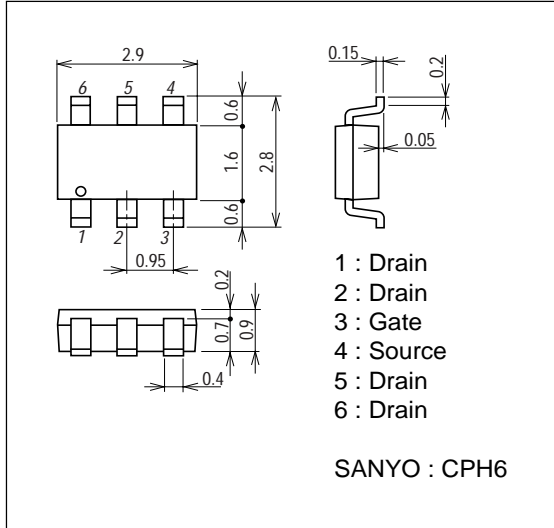
# CPH6320

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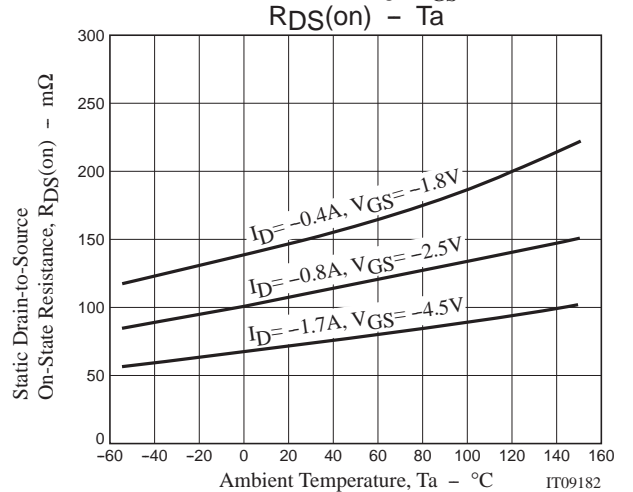
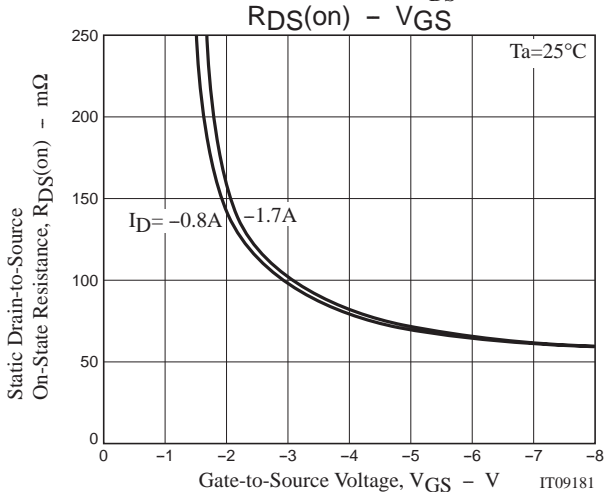
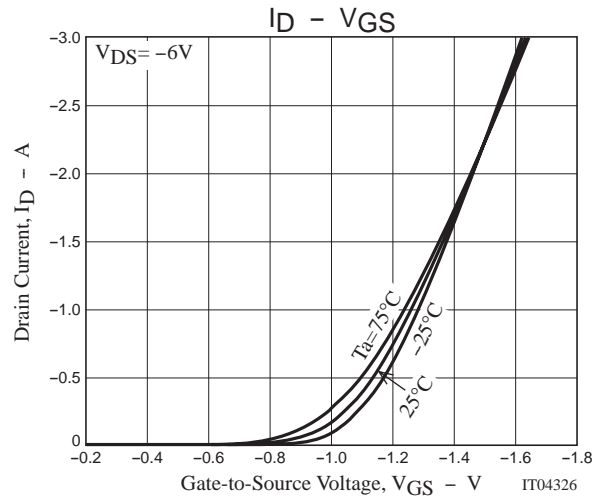
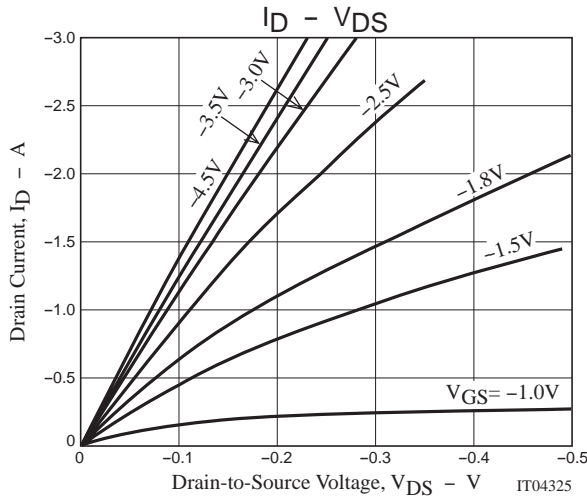
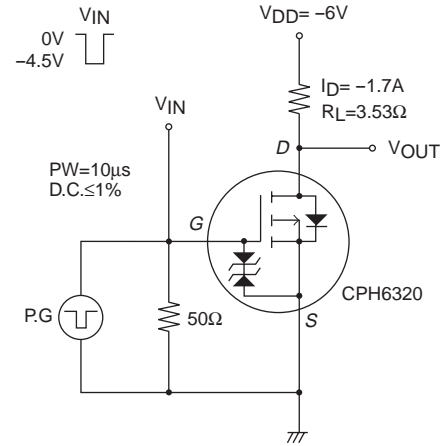
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-3.5A$		6.5		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-3.5A$		0.8		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-3.5A$		2.0		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-3.5A, V_{GS}=0$		-0.9	-1.5	V

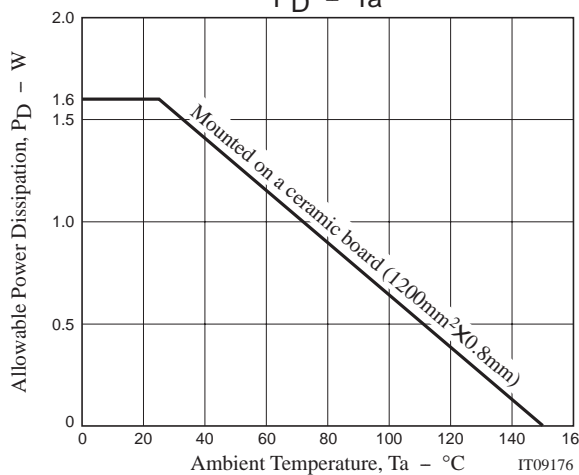
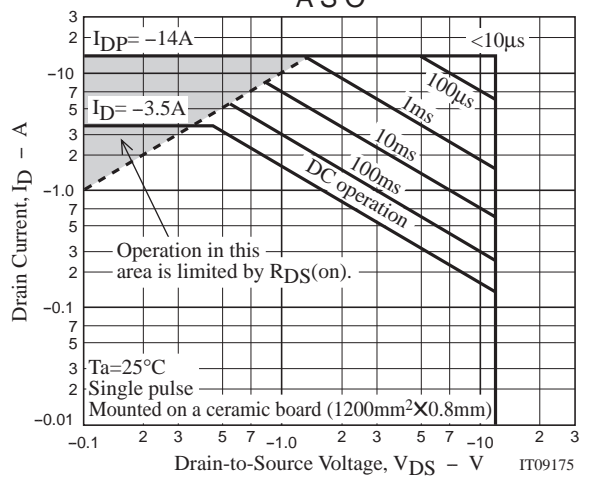
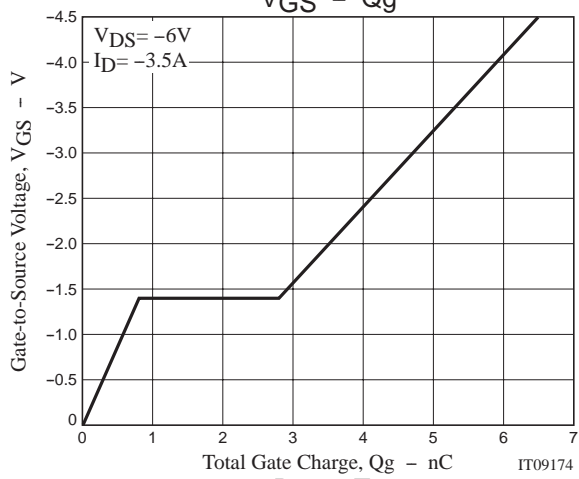
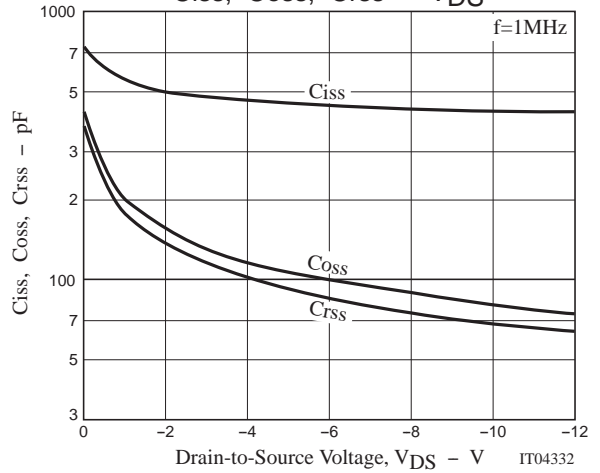
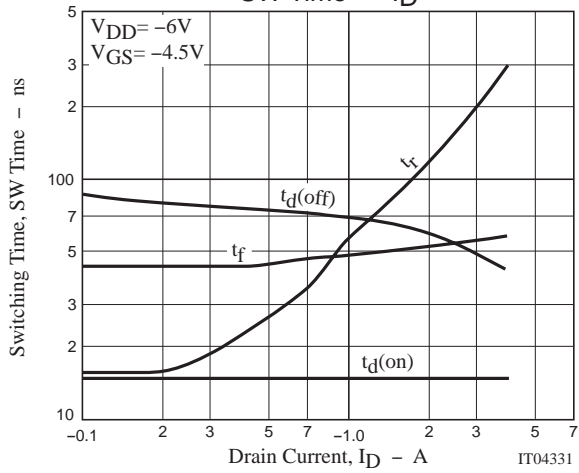
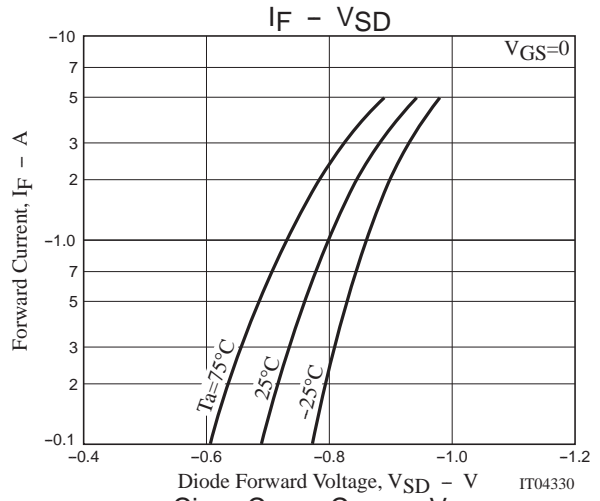
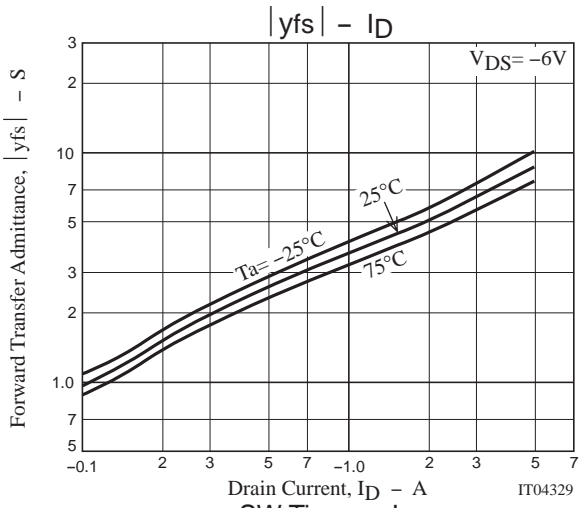
## Package Dimensions

unit : mm  
2151A



## Switching Time Test Circuit





Note on usage : Since the CPH6320 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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