Ordering number : ENN8236

ON Semiconductor®

ON Semiconductor
DATA SHEET

P-Channel Silicon MOSFET

CPH6314 — General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- High-speed switching.
- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		−30	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		−4	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−16	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1200mm²×0.8mm)	1.6	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−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_D=−1mA, V_{GS}=0	−30			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−30V, V_{GS}=0			−1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0			±10	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}=−10V, I_D=−1mA	−1.2		−2.6	V
Forward Transfer Admittance	$\|yfs\|$	V_{DS}=−10V, I_D=−2A	2.5	3.6		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=−2A, V_{GS}=−10V		53	69	mΩ
	R_{DS}(on)2	I_D=−1A, V_{GS}=−4.5V		92	129	mΩ
	R_{DS}(on)3	I_D=−1A, V_{GS}=−4V		105	147	mΩ
Input Capacitance	Ciss	V_{DS}=−10V, f=1MHz		510		pF
Output Capacitance	Coss	V_{DS}=−10V, f=1MHz		115		pF
Reverse Transfer Capacitance	Crss	V_{DS}=−10V, f=1MHz		78		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		11		ns
Rise Time	t_r	See specified Test Circuit.		20		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		40		ns
Fall Time	t_f	See specified Test Circuit.		32		ns

Marking : JQ

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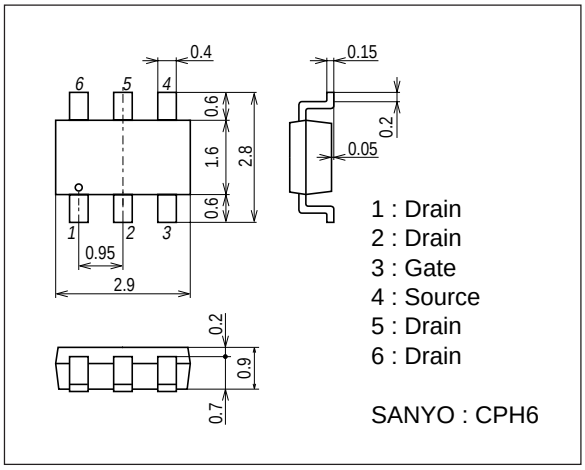
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V_{DS}=−10V, V_{GS}=−10V, I_D=−4A		11		nC
Gate-to-Source Charge	Qgs	V_{DS}=−10V, V_{GS}=−10V, I_D=−4A		2.4		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=−10V, V_{GS}=−10V, I_D=−4A		1.7		nC
Diode Forward Voltage	V_{SD}	I_S=−4A, V_{GS}=0		−0.86	−1.2	V

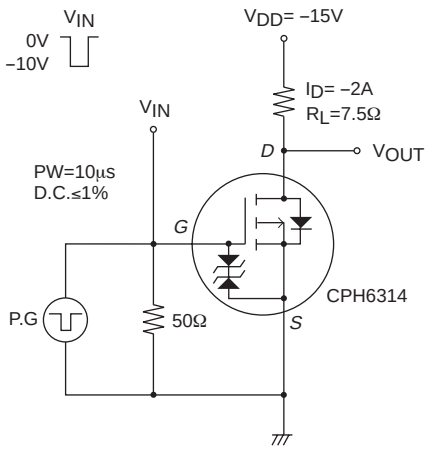
Package Dimensions

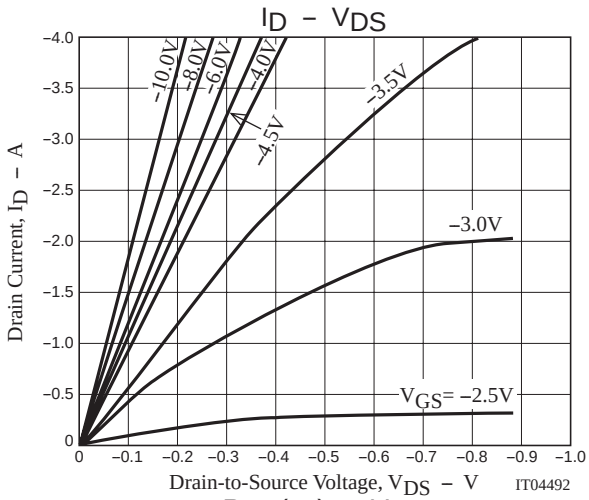
unit : mm

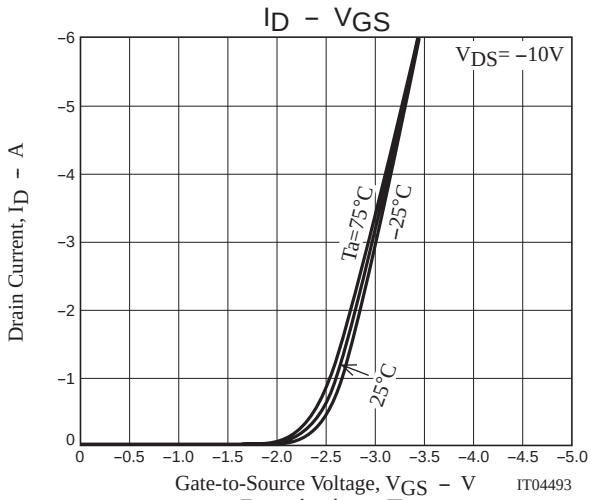
2151B

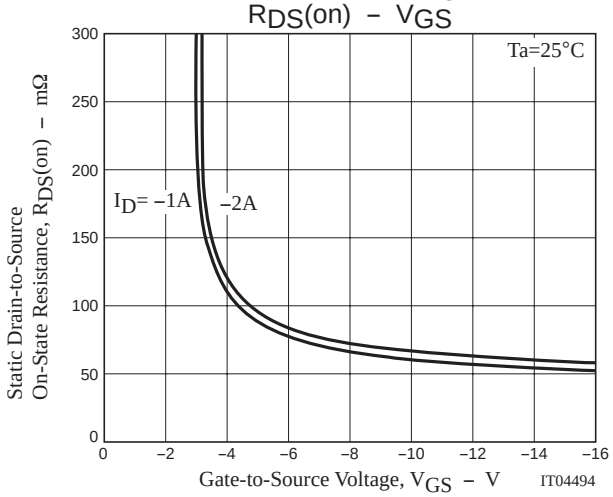


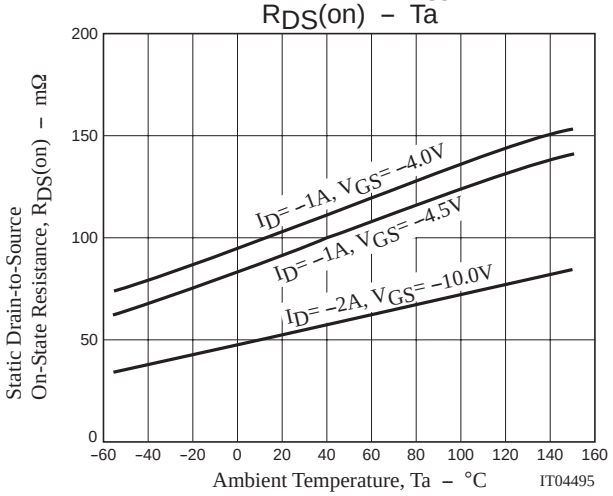
Switching Time Test Circuit

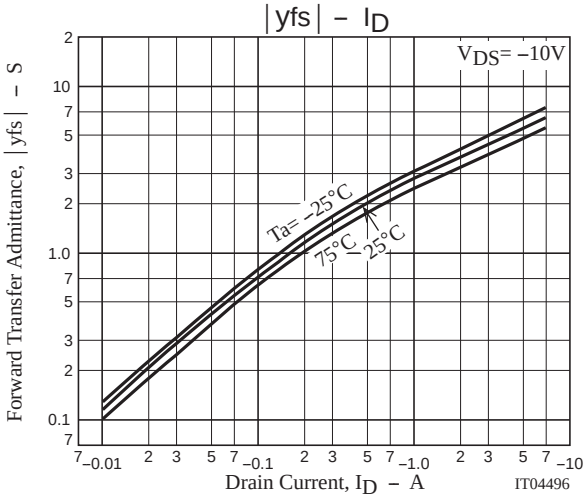


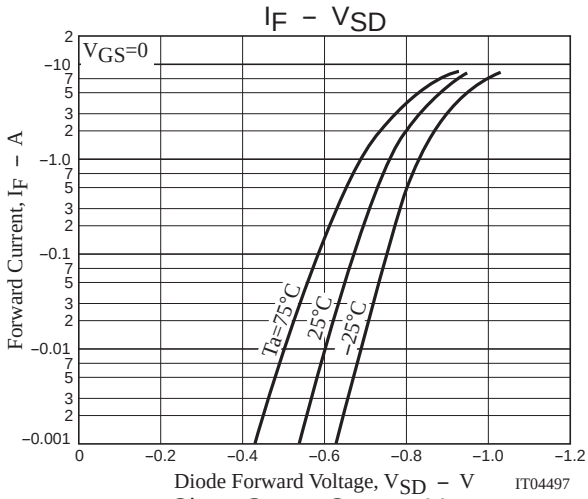


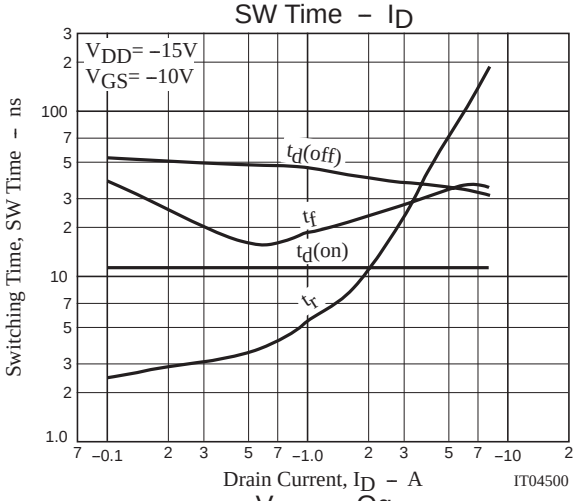


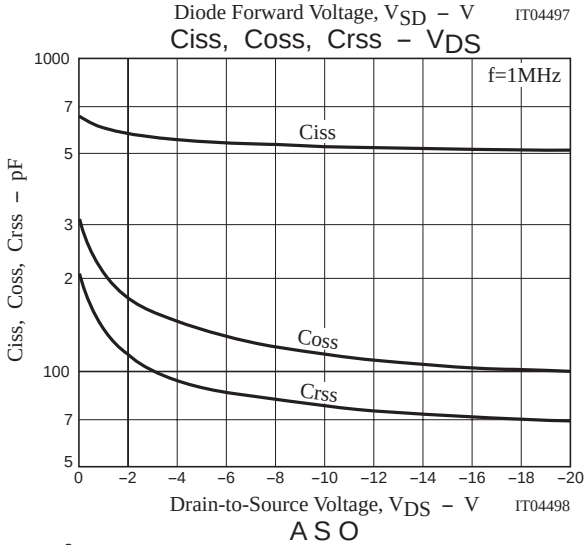


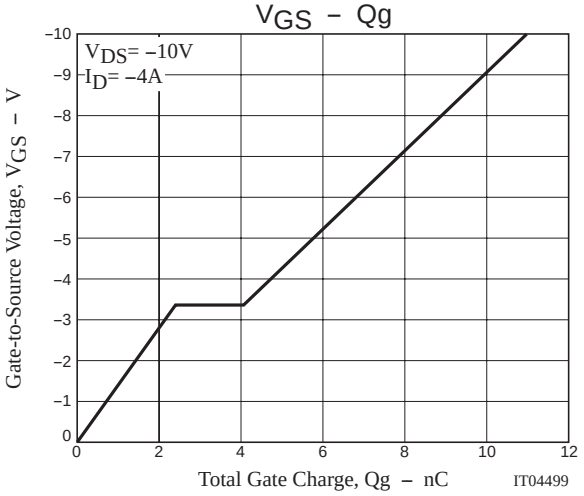


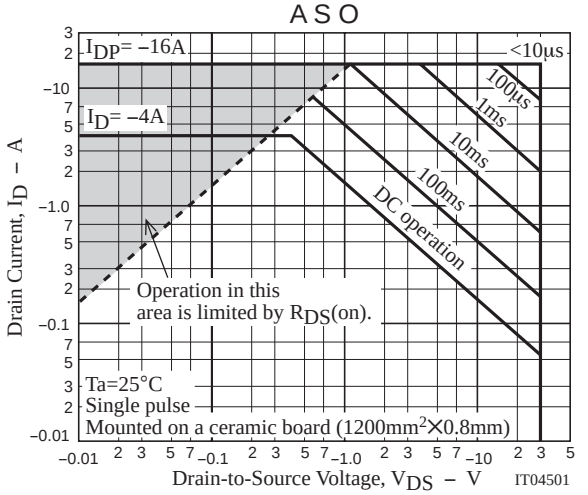


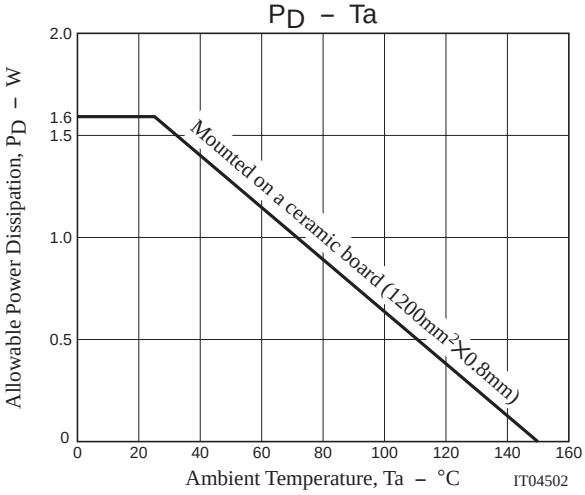












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