Ordering number : ENN8160

ON Semiconductor®

ON Semiconductor
DATA SHEET

P-Channel Silicon MOSFET

CPH3331 — General-Purpose Switching Device Applications

Features

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

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		−200	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		−0.4	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−1.6	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm²×0.8mm)	1.0	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	−200			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−200V, V_{GS}=0			−10	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=−200mA	0.54	0.9		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=−200mA, V_{GS}=−10V		3.8	5.0	Ω
	R_{DS}(on)2	I_D=−200mA, V_{GS}=−4V		4	5.6	Ω
Input Capacitance	Ciss	V_{DS}=−20V, f=1MHz		350		pF
Output Capacitance	Coss	V_{DS}=−20V, f=1MHz		17		pF
Reverse Transfer Capacitance	Crss	V_{DS}=−20V, f=1MHz		11		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		10		ns
Rise Time	t_r	See specified Test Circuit.		4		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		43		ns
Fall Time	t_f	See specified Test Circuit.		42		ns

Marking : YG

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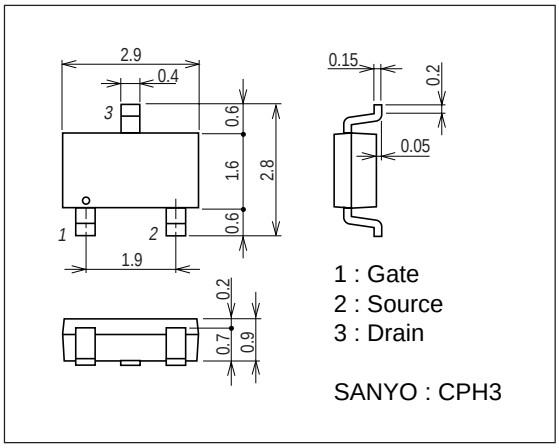
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V_{DS}=–100V, V_{GS}=–10V, I_D=–400mA		7.0		nC
Gate-to-Source Charge	Qgs	V_{DS}=–100V, V_{GS}=–10V, I_D=–400mA		1.0		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=–100V, V_{GS}=–10V, I_D=–400mA		0.8		nC
Diode Forward Voltage	V_{SD}	I_S=–400mA, V_{GS}=0		–0.79	–1.2	V

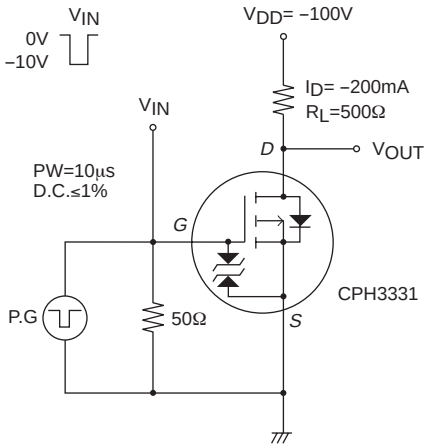
Package Dimensions

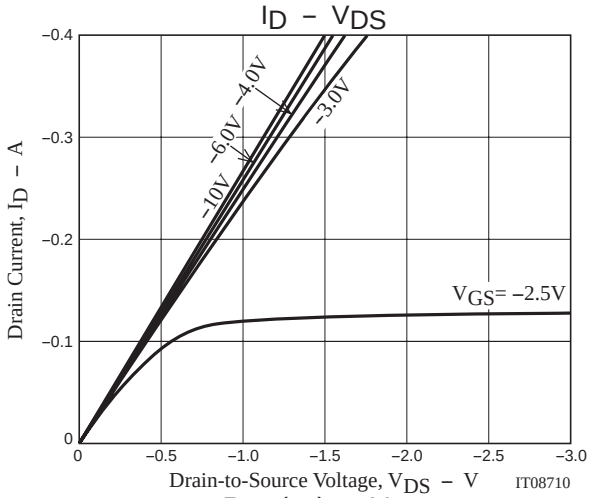
unit : mm

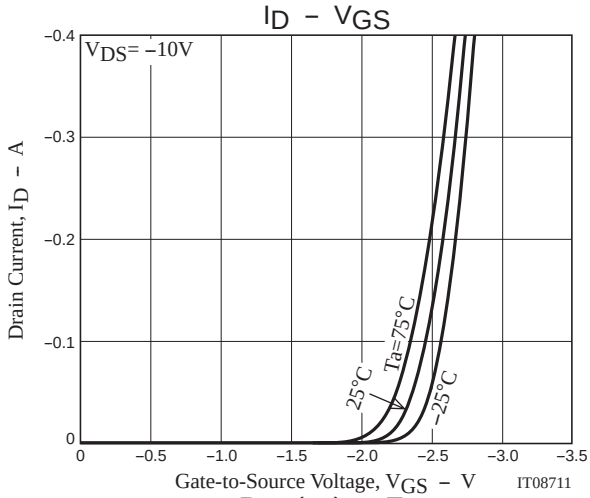
2152A

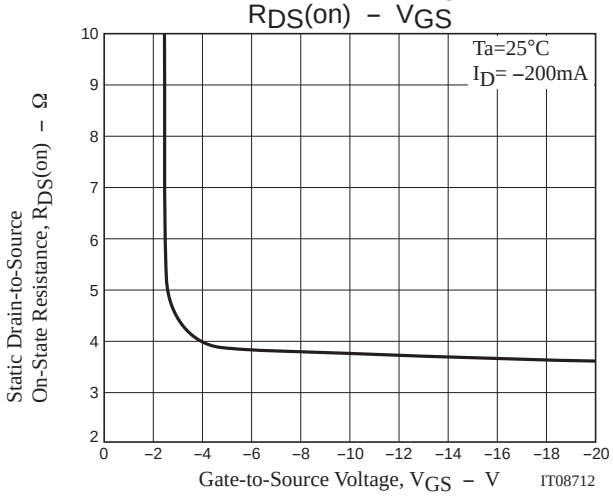


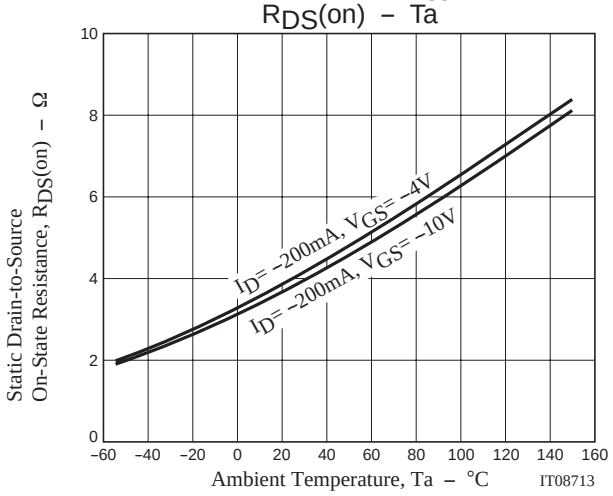
Switching Time Test Circuit

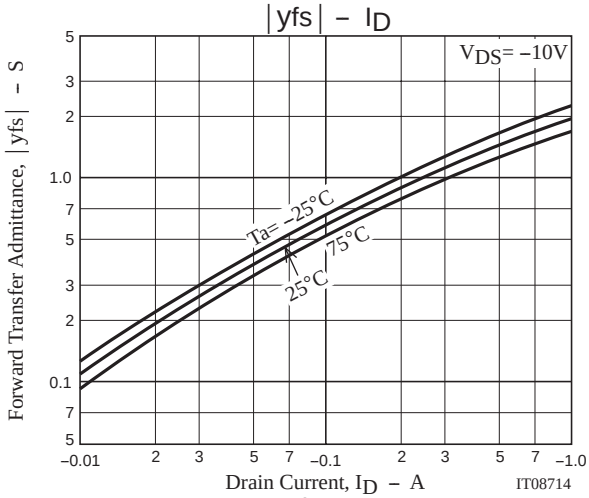


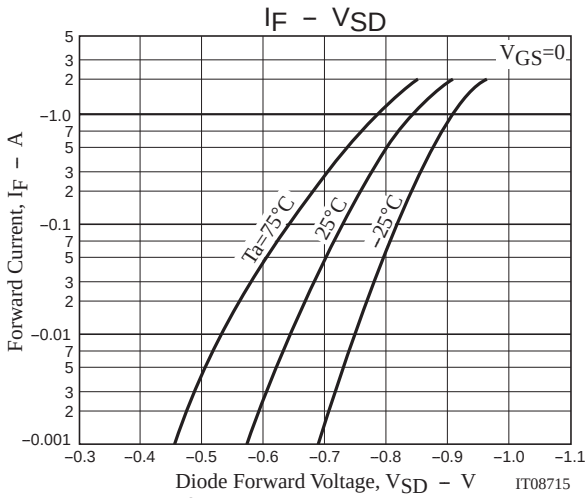


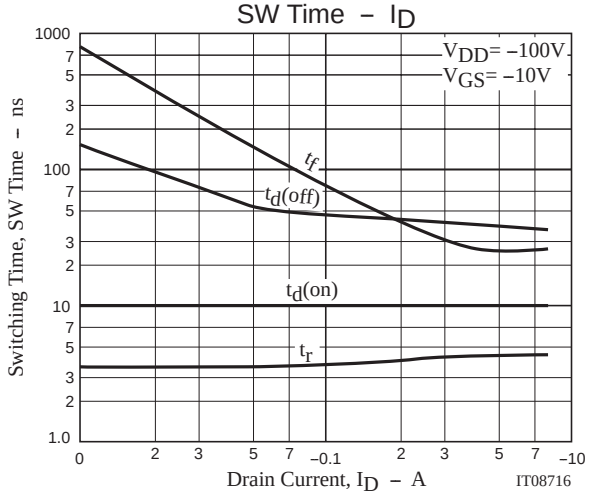


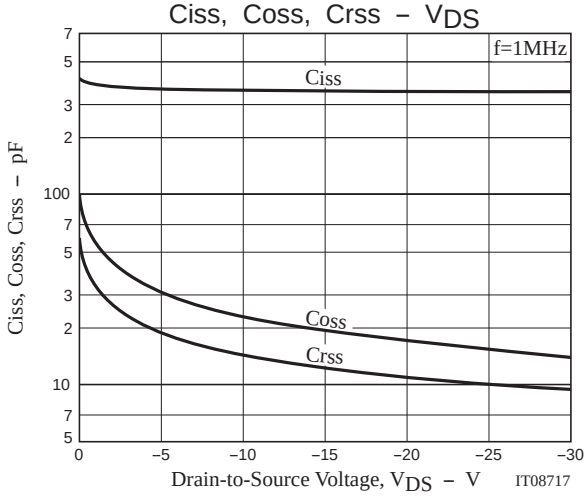


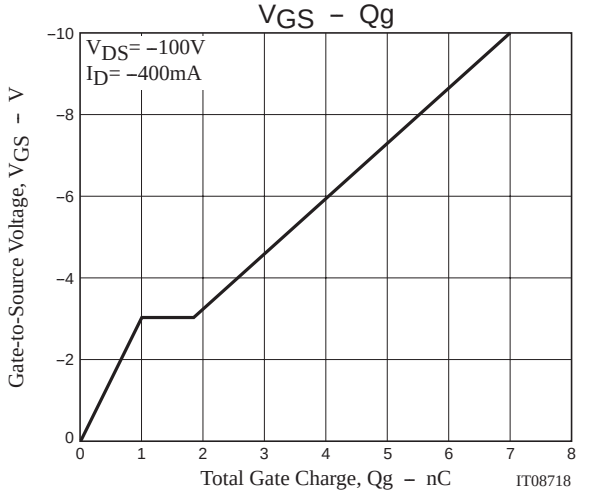


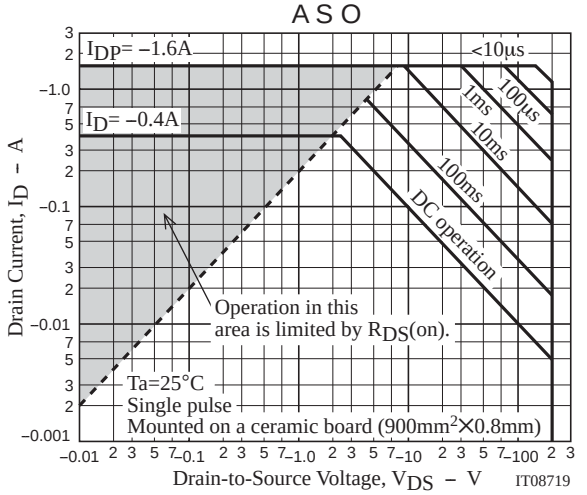


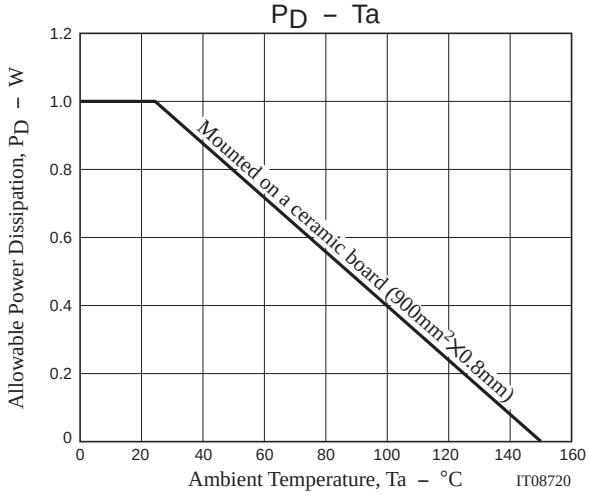












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