Ordering number : ENN8174

SANYO Semiconductors
DATA SHEET

P-Channel Silicon MOSFET

CPH3338 — 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}		−30	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		−3.5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−14	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	−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	2.4	4		S
Static Drain-to-Source On-State Resistance	$R_{DS}(on)1$	I_D=-2A, V_{GS}=-10V		57	74	mΩ
	$R_{DS}(on)2$	I_D=-1A, V_{GS}=-4.5V		101	141	mΩ
	$R_{DS}(on)3$	I_D=-1A, V_{GS}=-4V		118	165	mΩ
Input Capacitance	Ciss	V_{DS}=-10V, f=1MHz		566		pF
Output Capacitance	Coss	V_{DS}=-10V, f=1MHz		101		pF
Reverse Transfer Capacitance	Crss	V_{DS}=-10V, f=1MHz		84		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		11		ns
Rise Time	t_r	See specified Test Circuit.		13		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		49		ns
Fall Time	t_f	See specified Test Circuit.		36		ns

Marking : YN

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SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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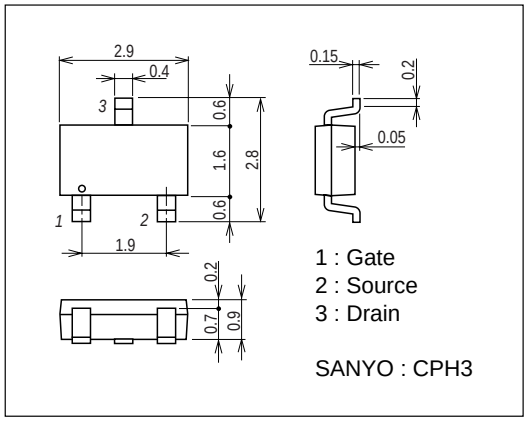
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V_{DS}=−10V, V_{GS}=−10V, I_D=−3.5A		11.7		nC
Gate-to-Source Charge	Qgs	V_{DS}=−10V, V_{GS}=−10V, I_D=−3.5A		2.04		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=−10V, V_{GS}=−10V, I_D=−3.5A		2.64		nC
Diode Forward Voltage	V_{SD}	I_S=−3.5A, V_{GS}=0		−0.86	−1.2	V

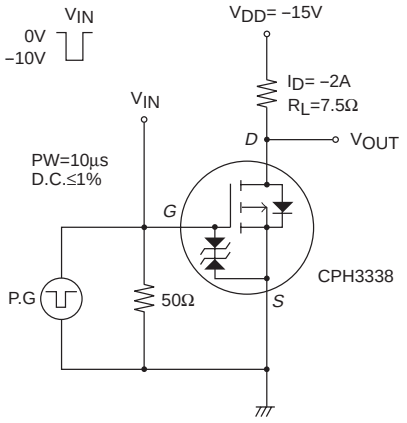
Package Dimensions

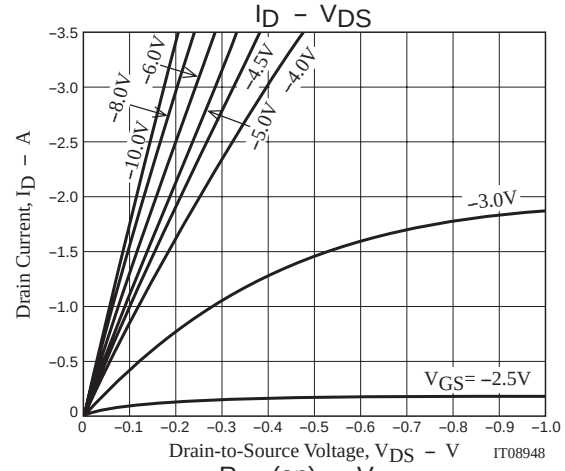
unit : mm

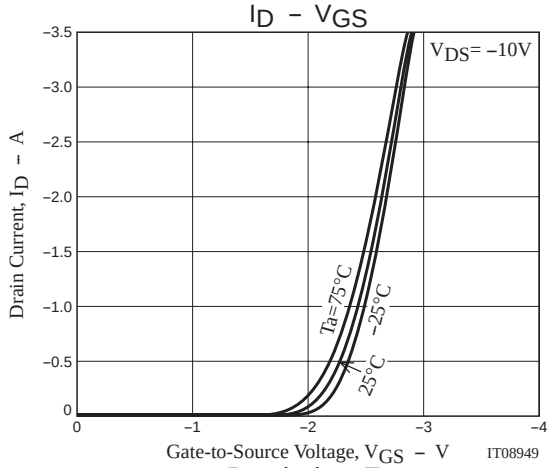
2152A

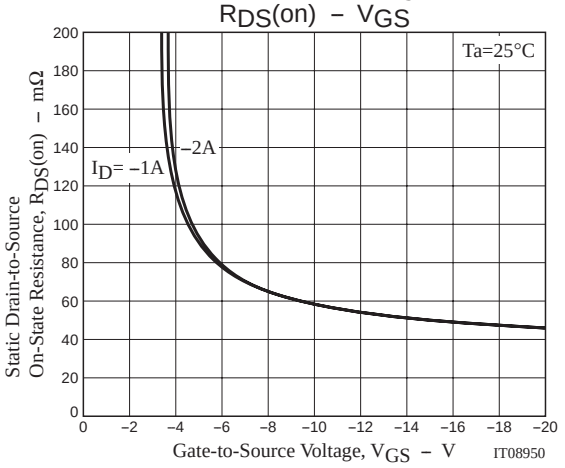


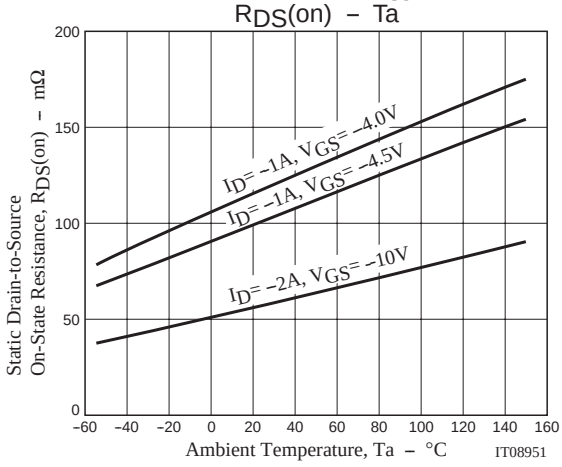
Switching Time Test Circuit

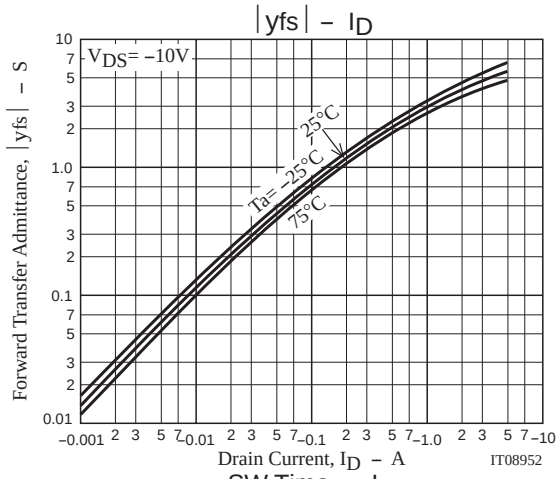


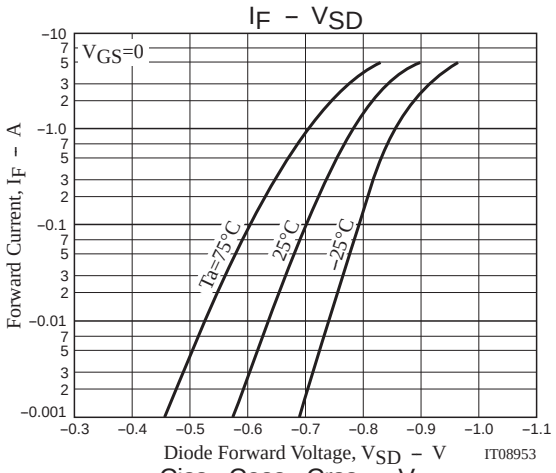


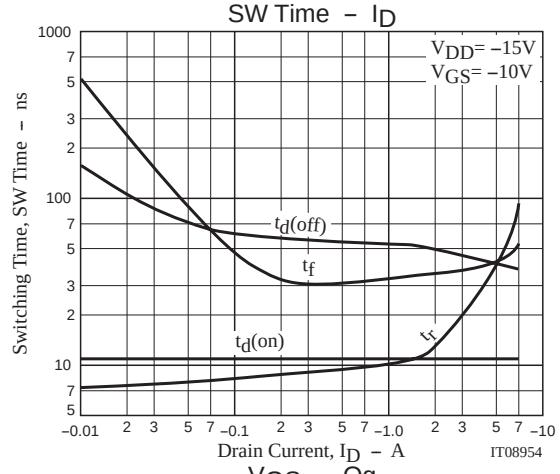


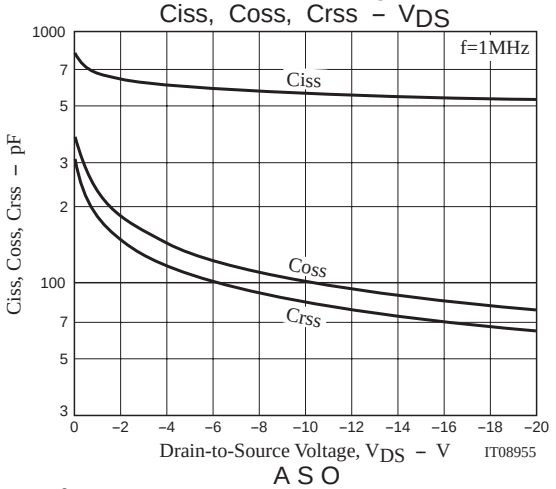


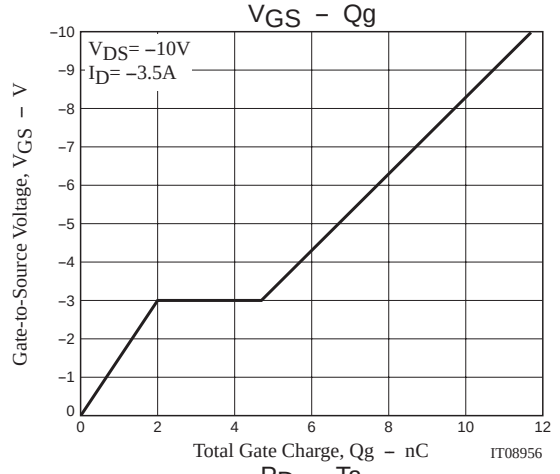


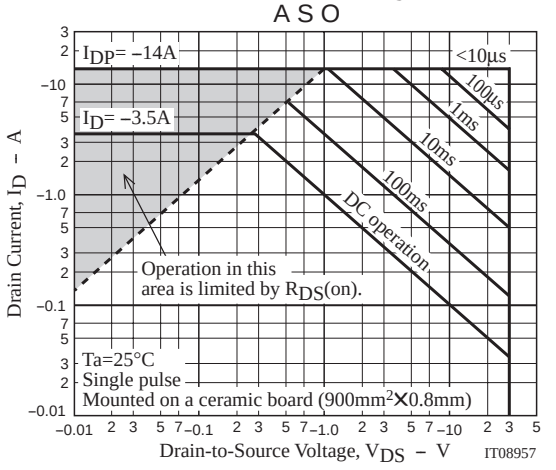


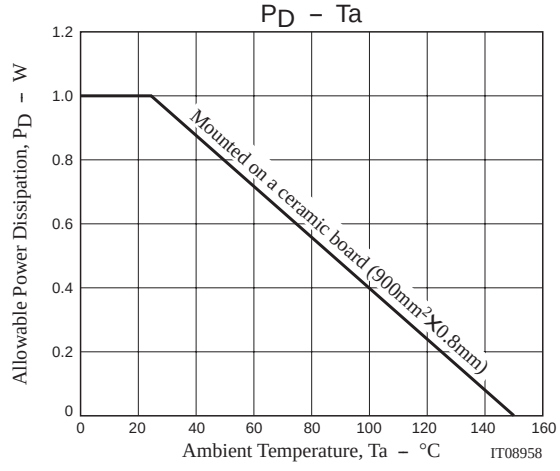












Note on usage : Since the CPH3338 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.