

SANYO Semiconductors DATA SHEET

P-Channel Silicon MOSFET

MCH3314 — 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	VDSS		-60	V
Gate-to-Source Voltage	VGSS		±20	V
Drain Current (DC)	ID		-0.6	Α
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	-2.4	Α
Allowable Power Dissipation	PD	Mounted on a ceramic board (900mm ² X0.8mm)	0.8	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Llmit
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0	-60			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =-60V, V _{GS} =0			-1	μΑ
Gate-to-Source Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0			±10	μΑ
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-1.2		-2.6	V
Forward Transfer Admittance	yfs	V _{DS} =-10V, I _D =-0.3A	460	670		mS
Static Drain-to-Source On-State Resistance	R _{DS} (on)1	I _D =-0.3A, V _G S=-10V		1.3	1.7	Ω
	RDS(on)2	ID=-0.2A, VGS=-4V		1.6	2.3	Ω
Input Capacitance	Ciss	V _{DS} =-20V, f=1MHz		73		pF
Output Capacitance	Coss	V _{DS} =-20V, f=1MHz		7		pF
Reverse Transfer Capacitance	Crss	VDS=-20V, f=1MHz		4		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit.		6		ns
Rise Time	t _r	See specified Test Circuit.		3.5		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit.		12.5		ns
Fall Time	tf	See specified Test Circuit.		3		ns

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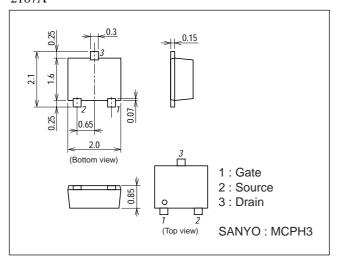
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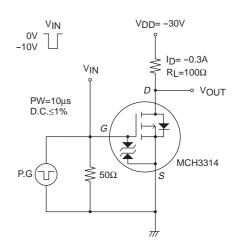
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Total Gate Charge	Qg	V _{DS} =-30V, V _{GS} =-10V, I _D =-0.6A		2.6		nC
Gate-to-Source Charge	Qgs	V _{DS} =-30V, V _{GS} =-10V, I _D =-0.6A		0.4		nC
Gate-to-Drain "Miller" Charge	Qgd	V _D S=-30V, V _G S=-10V, I _D =-0.6A		0.4		nC
Diode Forward Voltage	VSD	IS=-0.6A, VGS=0		-0.88	-1.2	V

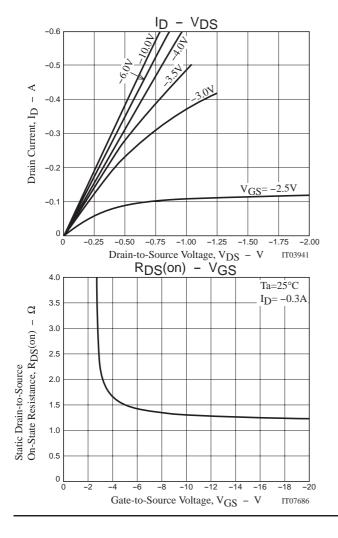
Package Dimensions

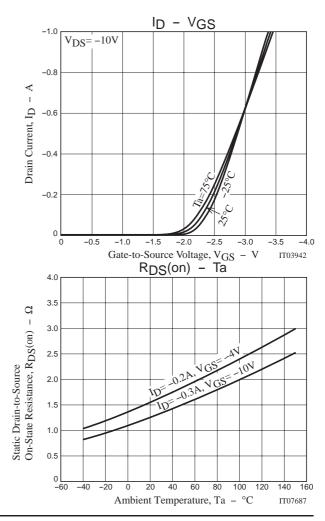
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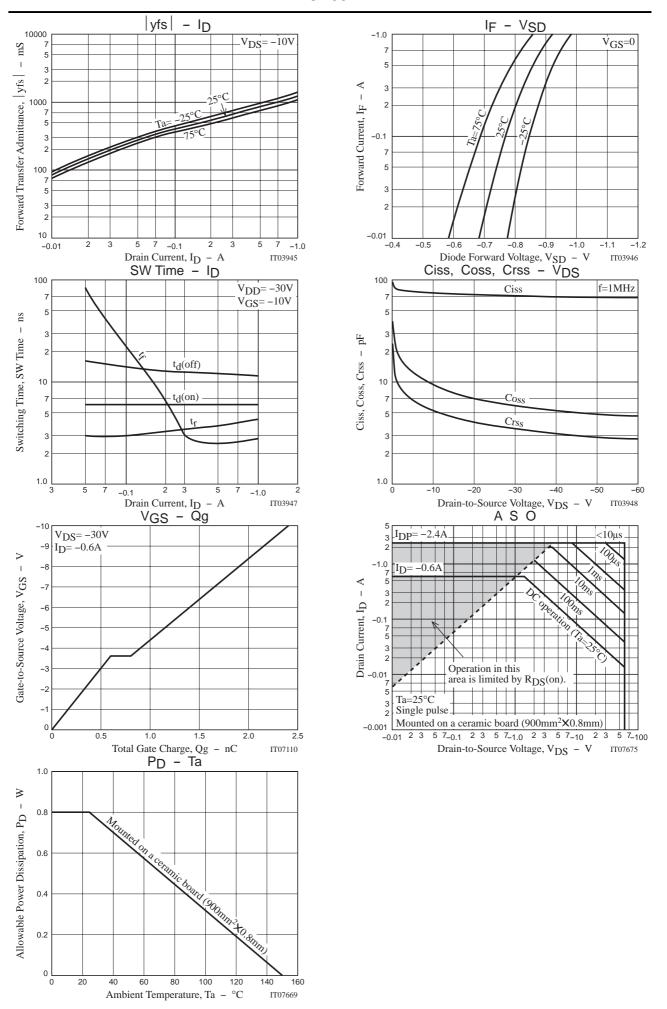


Switching Time Test Circuit









Note on usage: Since the MCH3314 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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