



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

SCH1330 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.
- Halogen free compliance.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-20	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		-1.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-6	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm)	1	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-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} =0V	-20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-0.4		-1.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-750mA	1.14	1.9		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-750mA, V _{GS} =-4.5V		185	241	mΩ
	R _{DS(on)2}	I _D =-300mA, V _{GS} =-2.5V		275	385	mΩ
	R _{DS(on)3}	I _D =-100mA, V _{GS} =-1.8V		410	615	mΩ

Marking : YF

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SCH1330

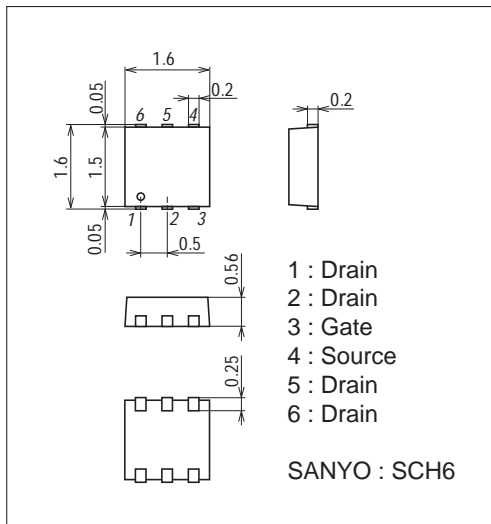
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS} = -10V, f = 1MHz$		120		pF
Output Capacitance	Coss	$V_{DS} = -10V, f = 1MHz$		26		pF
Reverse Transfer Capacitance	Crss	$V_{DS} = -10V, f = 1MHz$		20		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		5.3		ns
Rise Time	t_r	See specified Test Circuit.		9.7		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		16		ns
Fall Time	t_f	See specified Test Circuit.		14		ns
Total Gate Charge	Qg	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -1.5A$		1.7		nC
Gate-to-Source Charge	Qgs	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -1.5A$		0.28		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -1.5A$		0.47		nC
Diode Forward Voltage	VSD	$I_S = -1.5A, V_{GS} = 0V$		-0.89	-1.2	V

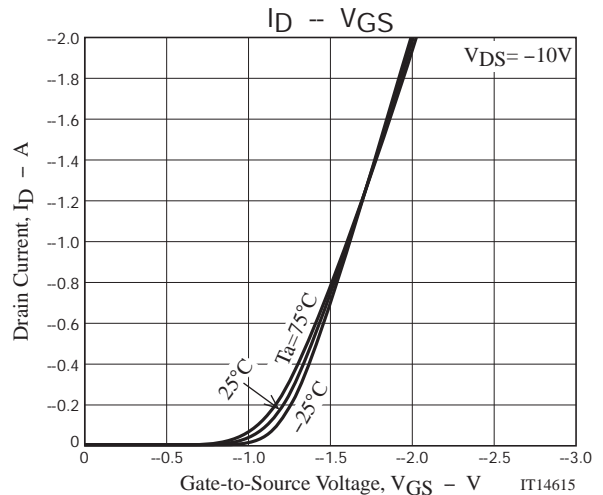
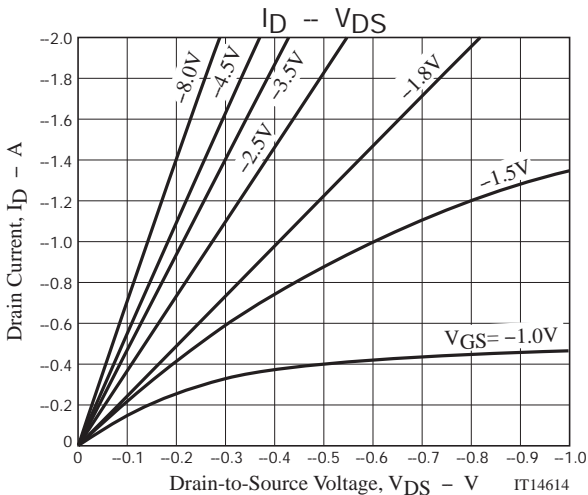
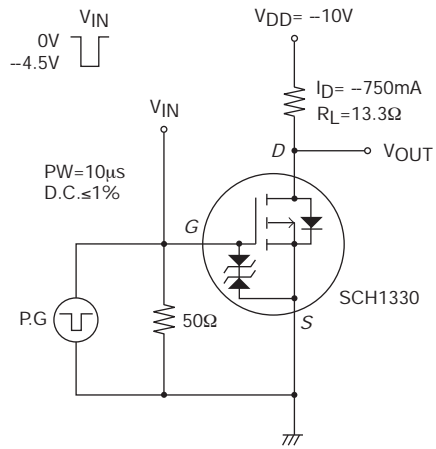
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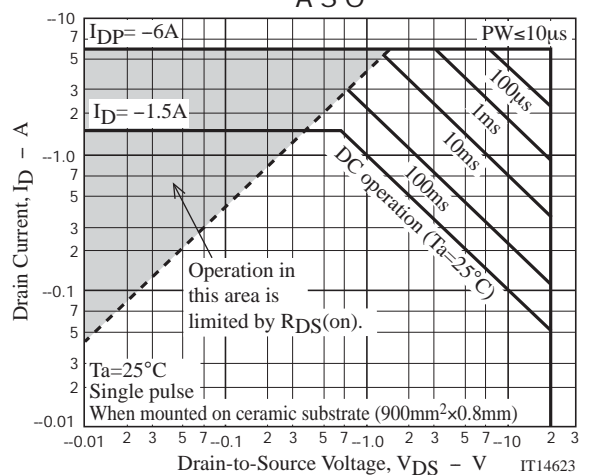
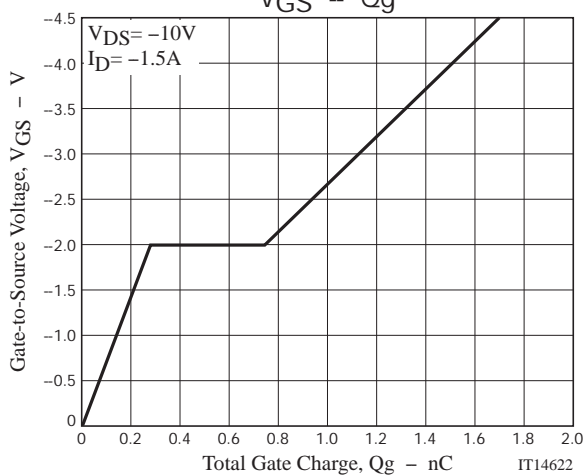
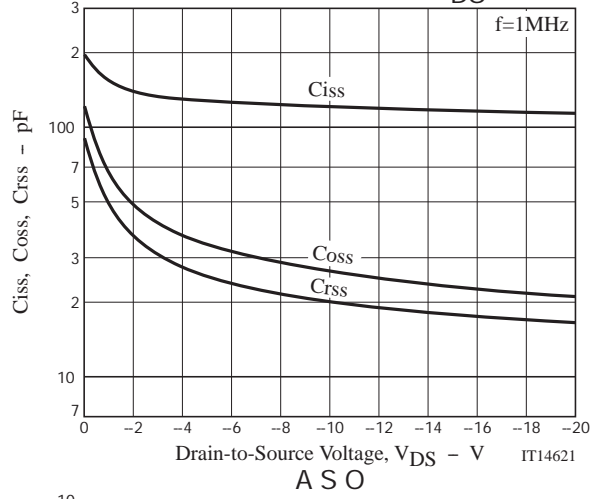
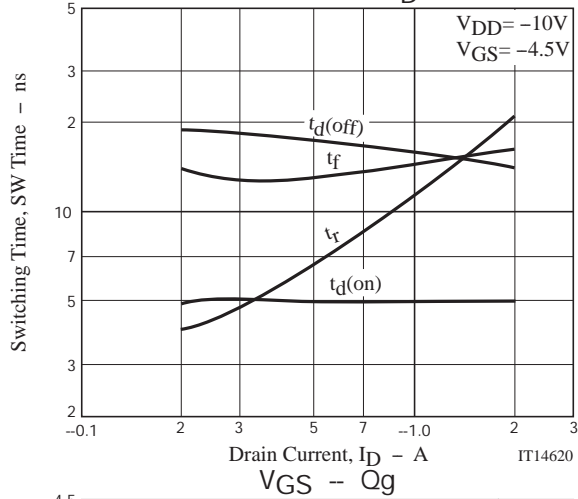
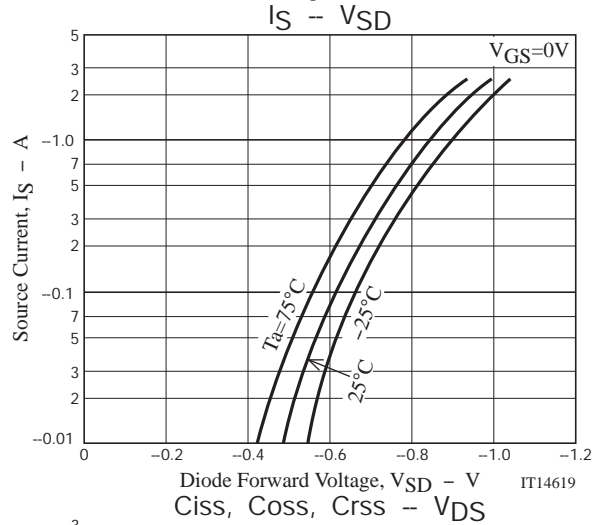
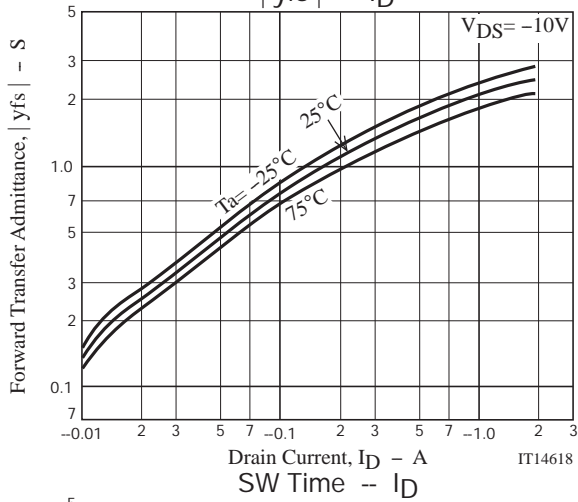
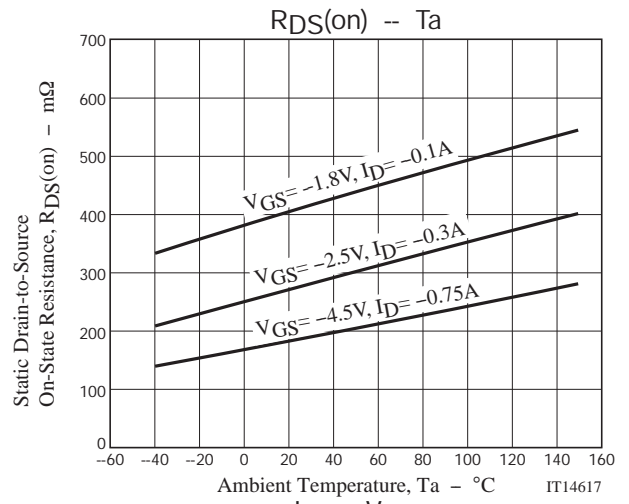
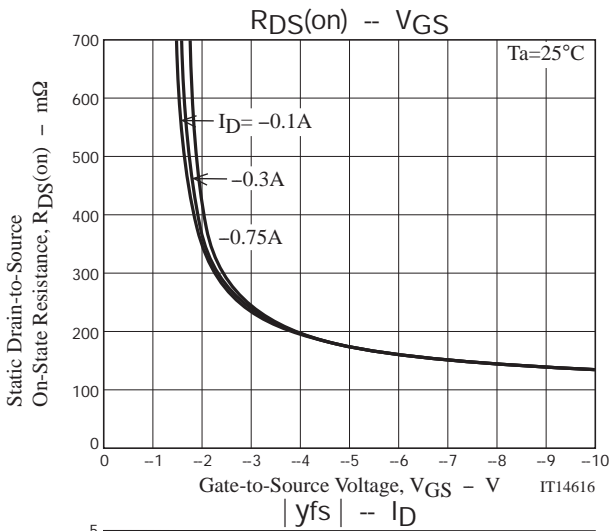
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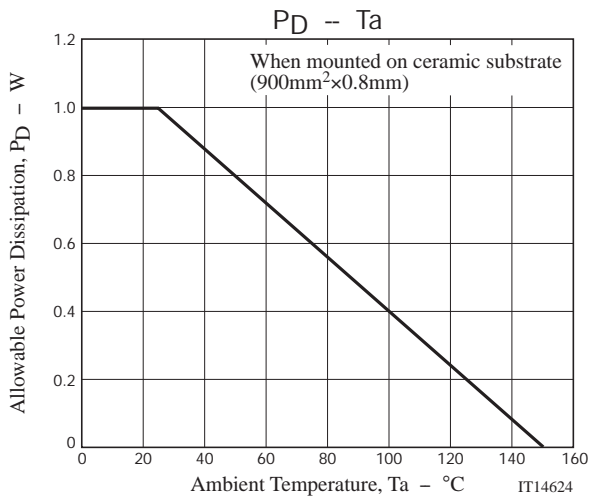
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Switching Time Test Circuit







Note on usage : Since the SCH1330 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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