



# SCH1333 — P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- 1.8V drive.
- Halogen free compliance.

### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-20	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		-2	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-8	A
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (900mm <sup>2</sup> ×0.8mm)	0.8	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =-1mA, V <sub>GS</sub> =0V	-20			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-20V, V <sub>GS</sub> =0V			-1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA	-0.4		-1.4	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1A		2.7		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-1A, V <sub>GS</sub> =-4.5V		100	130	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-0.5A, V <sub>GS</sub> =-2.5V		140	196	mΩ
	R <sub>DS(on)3</sub>	I <sub>D</sub> =-0.1A, V <sub>GS</sub> =-1.8V		210	315	mΩ

Marking : YJ

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# SCH1333

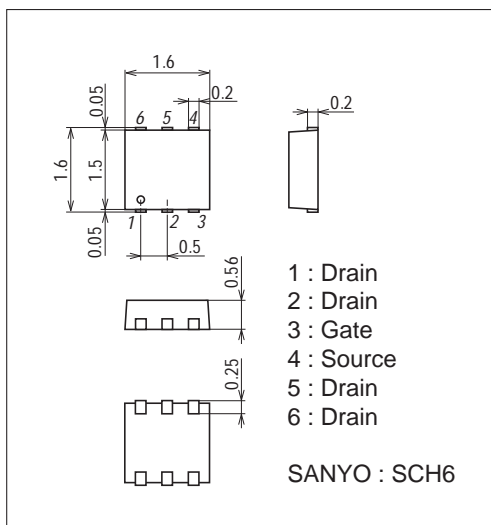
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS} = -10V, f = 1MHz$		250		pF
Output Capacitance	Coss	$V_{DS} = -10V, f = 1MHz$		60		pF
Reverse Transfer Capacitance	Crss	$V_{DS} = -10V, f = 1MHz$		45		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		5.7		ns
Rise Time	$t_r$	See specified Test Circuit.		11		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		34		ns
Fall Time	$t_f$	See specified Test Circuit.		20		ns
Total Gate Charge	Qg	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -2A$		3.3		nC
Gate-to-Source Charge	Qgs	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -2A$		0.65		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -2A$		0.72		nC
Diode Forward Voltage	VSD	$I_S = -2A, V_{GS} = 0V$		-0.85	-1.2	V

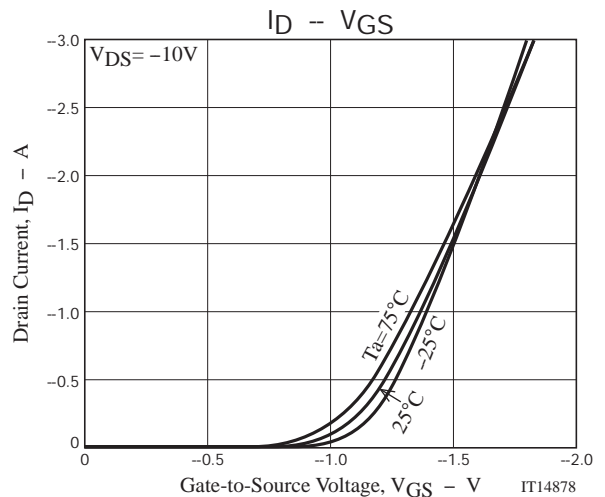
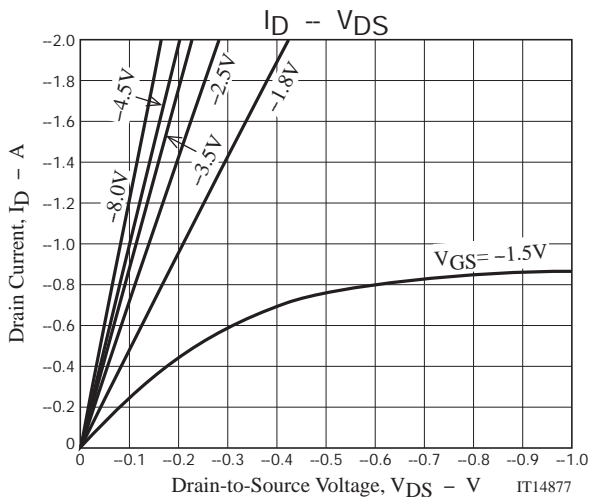
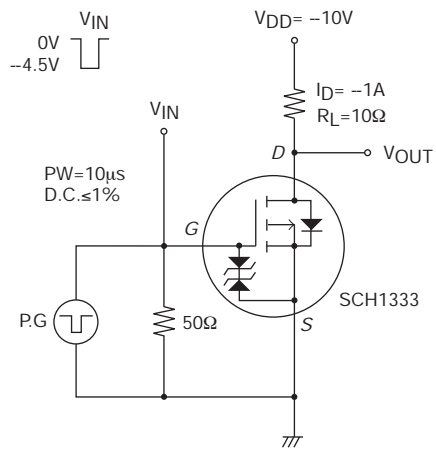
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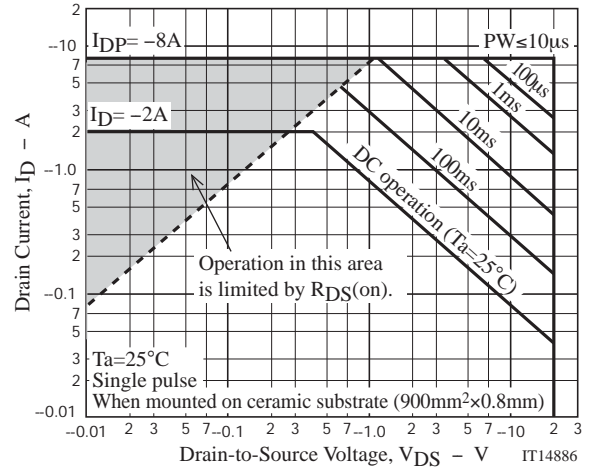
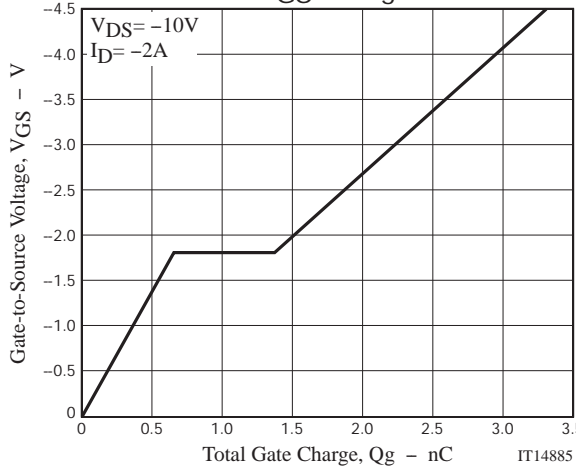
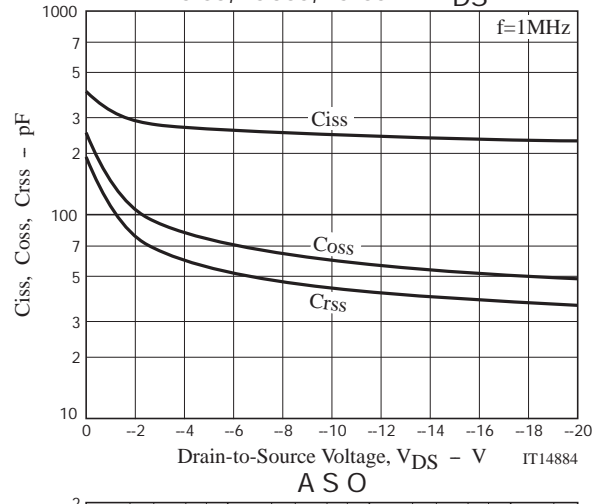
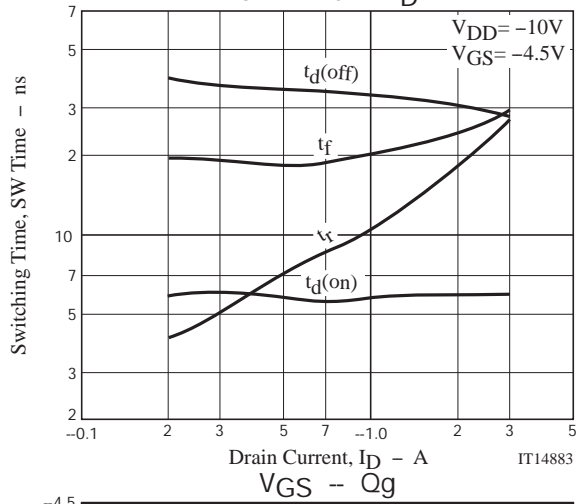
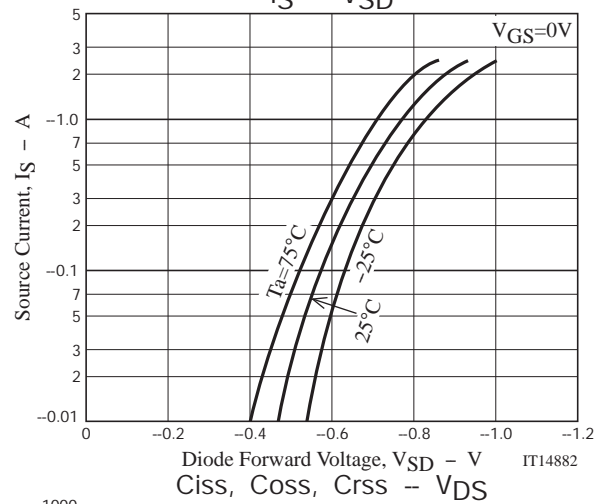
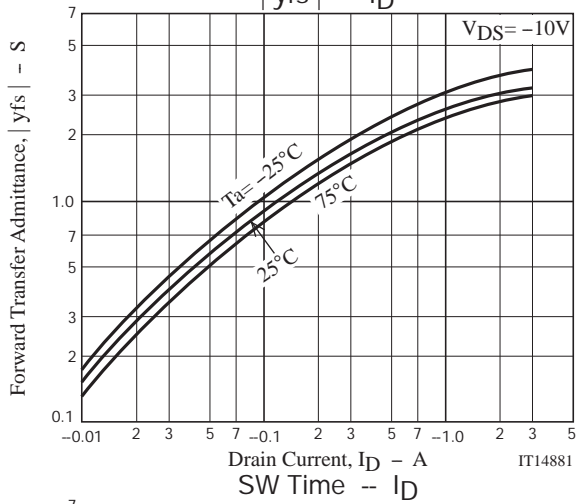
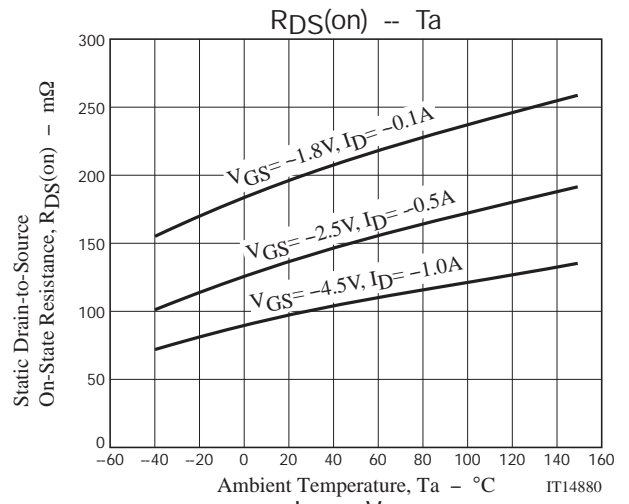
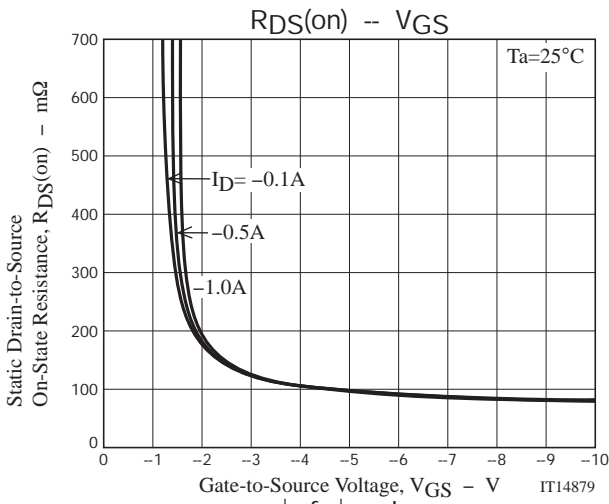
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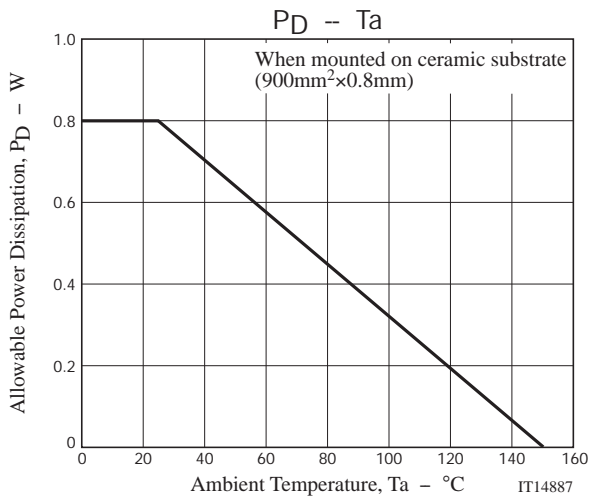
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## Switching Time Test Circuit







Note on usage : Since the SCH1333 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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