



# SCH1305

P-Channel Silicon MOSFET  
General-Purpose Switching Device Applications

## Featurest

- Low ON-resistance.
- High-speed switching.
- 1.8V drive.

## Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-12	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		-1.5	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-6	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (900mm <sup>2</sup> X0.8mm)	0.7	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(BR)DSS	I <sub>D</sub> =-1mA, V <sub>GS</sub> =0	-12			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-12V, V <sub>GS</sub> =0			-10	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-6V, I <sub>D</sub> =-1mA	-0.3		-1.0	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-6V, I <sub>D</sub> =-0.8A	1.08	1.8		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-0.8A, V <sub>GS</sub> =-4.5V		235	310	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-0.4A, V <sub>GS</sub> =-2.5V		335	470	mΩ
	R <sub>DS(on)3</sub>	I <sub>D</sub> =-0.1A, V <sub>GS</sub> =-1.8V		445	670	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-6V, f=1MHz		160		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =-6V, f=1MHz		45		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =-6V, f=1MHz		35		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit		11		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit		45		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit		29		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit		30		ns

Marking : JE

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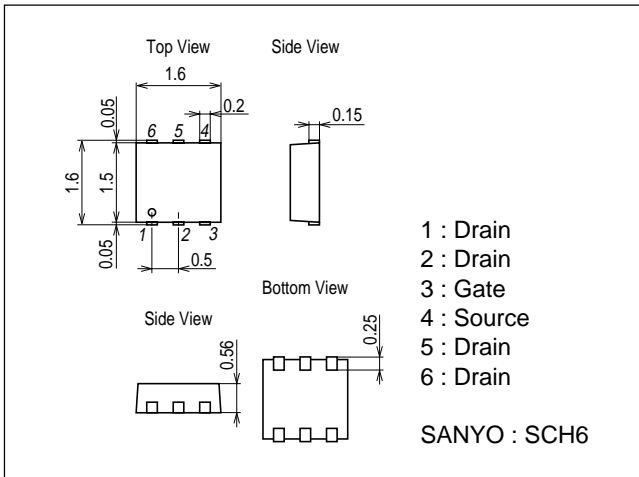
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-1.5A$		2.6		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-1.5A$		0.25		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-1.5A$		0.65		nC
Diode Forward Voltage	VSD	$I_S=-1.5A, V_{GS}=0$		-0.92	-1.5	V

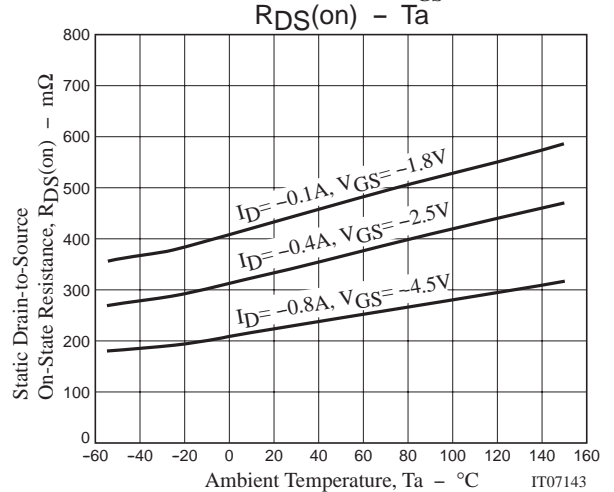
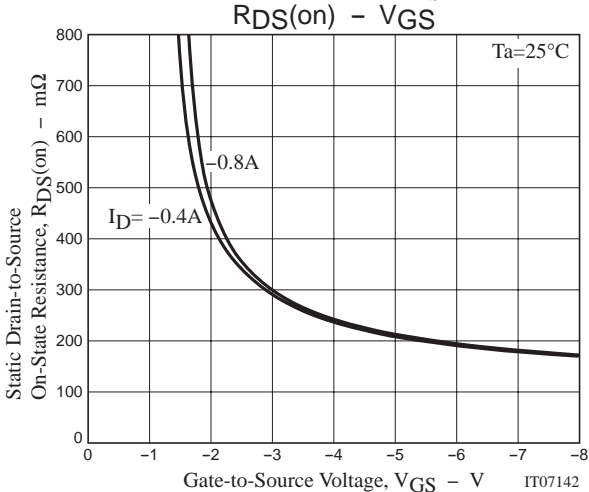
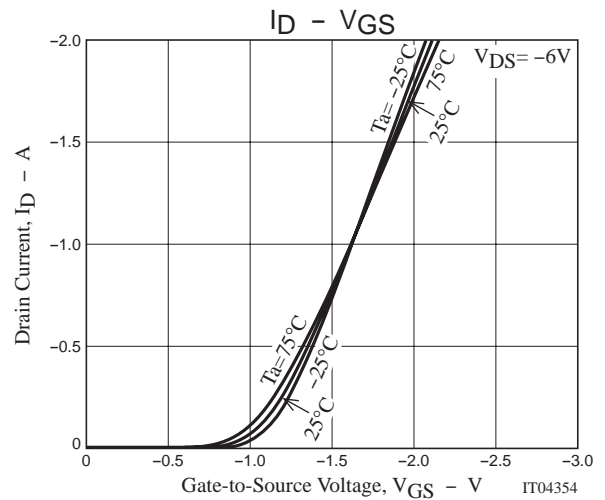
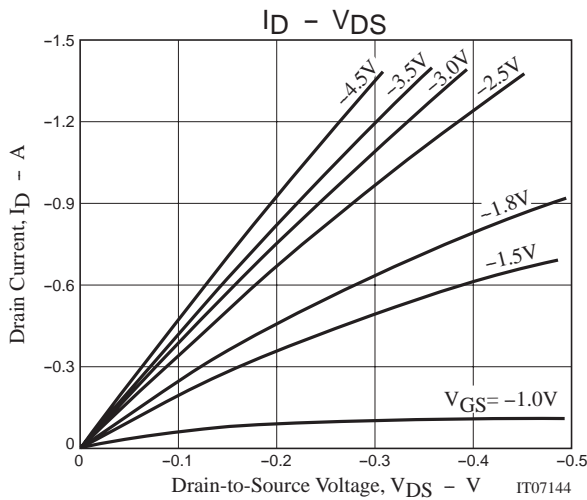
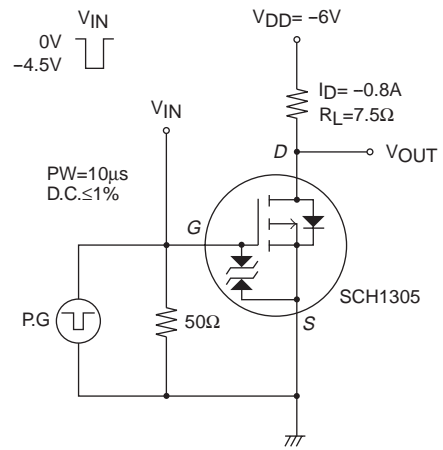
## Package Dimensions

unit : mm

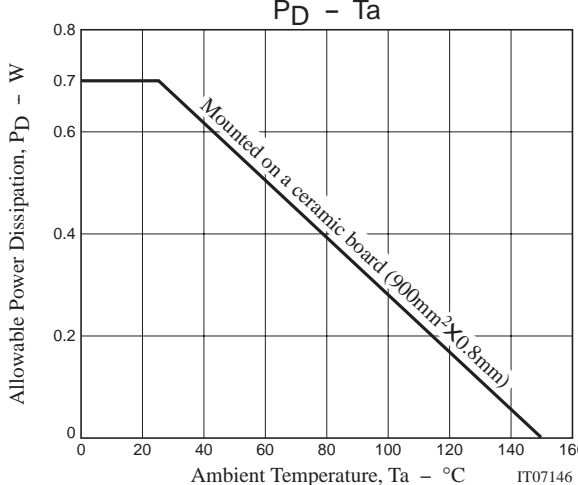
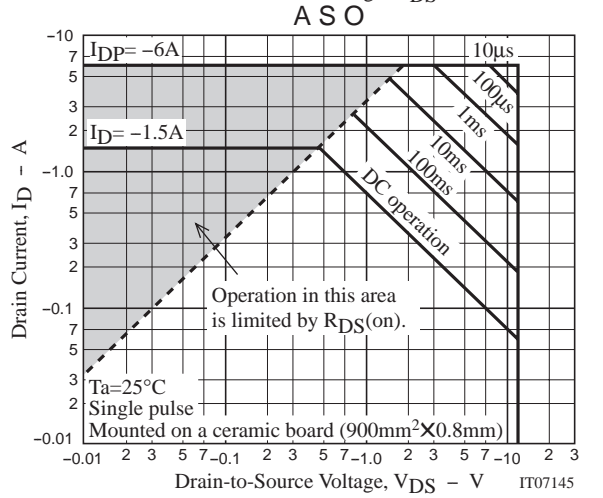
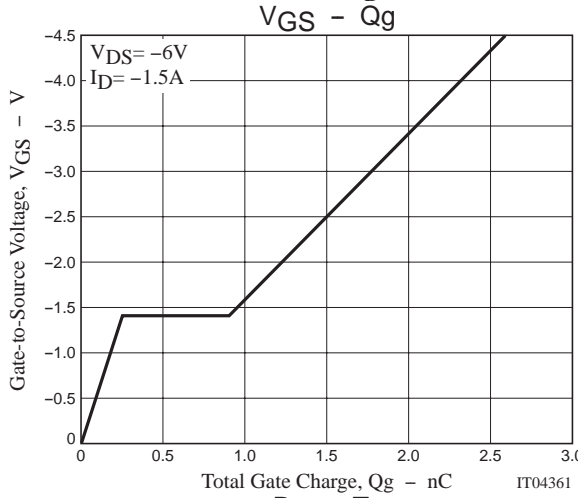
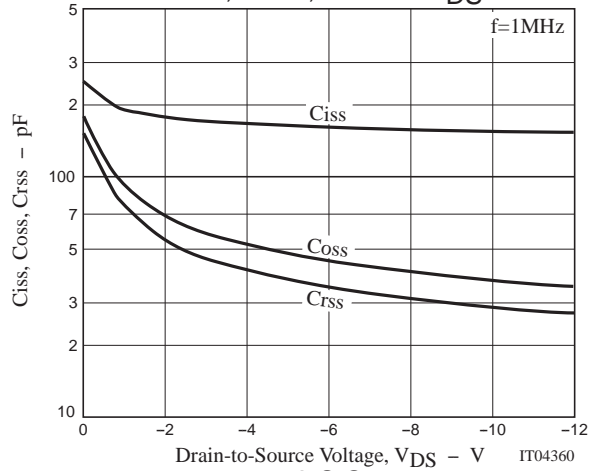
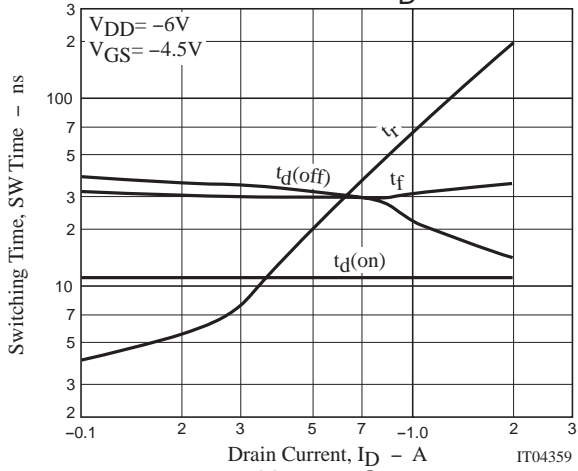
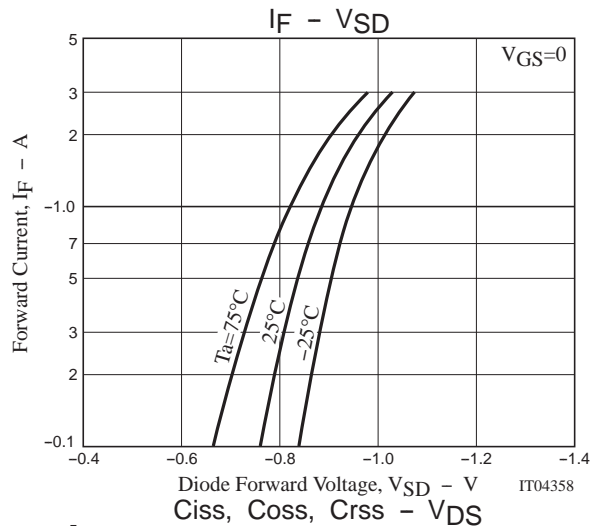
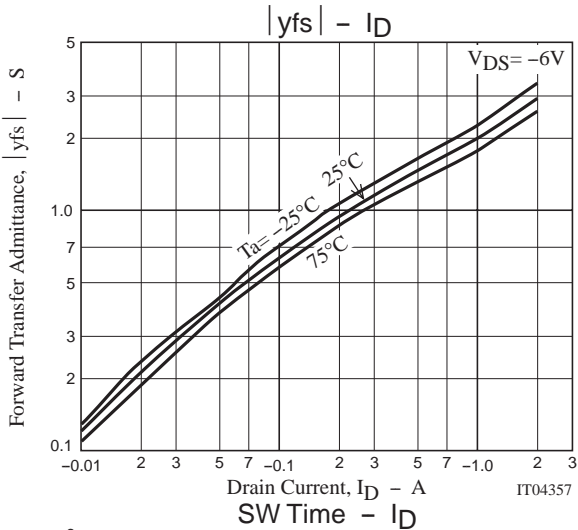
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## Switching Time Test Circuit



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