



SANYO Semiconductors

## DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

# SCH1430 — General-Purpose Switching Device Applications

## Features

- 1.8V drive
- Halogen free compliance

## Specifications

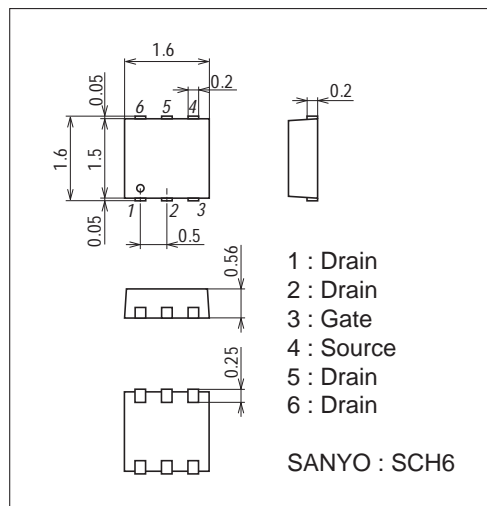
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		20	V
Gate-to-Source Voltage	$V_{GS}$		$\pm 12$	V
Drain Current (DC)	$I_D$		2	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	8	A
Allowable Power Dissipation	$P_D$	When mounted on ceramic substrate (900mm <sup>2</sup> ×0.8mm)	0.8	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

## Package Dimensions

unit : mm (typ)

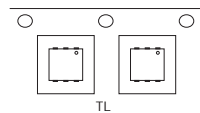
7028-002



## Product & Package Information

- Package : SCH6
- JEITA, JEDEC : SOT-563
- Minimum Packing Quantity : 5,000 pcs./reel

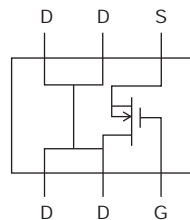
## Packing Type : TL



## Marking



## Electrical Connection

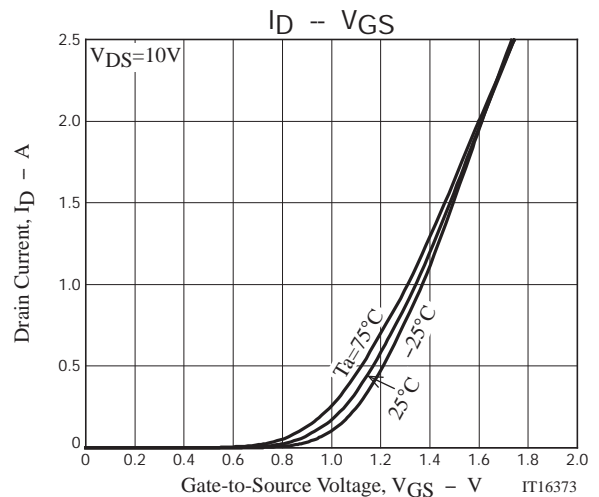
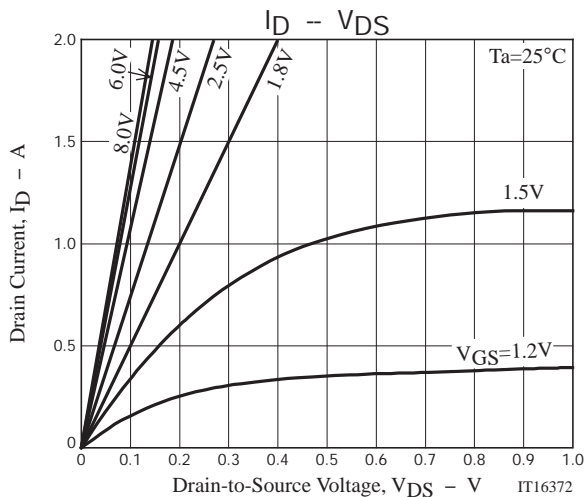
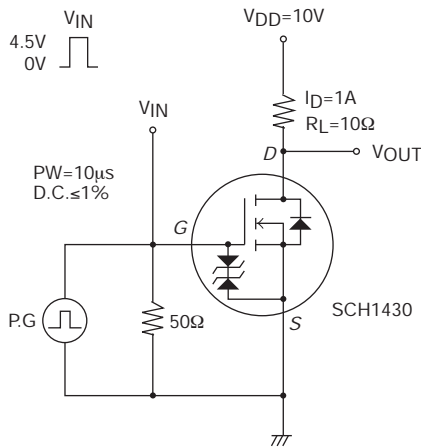


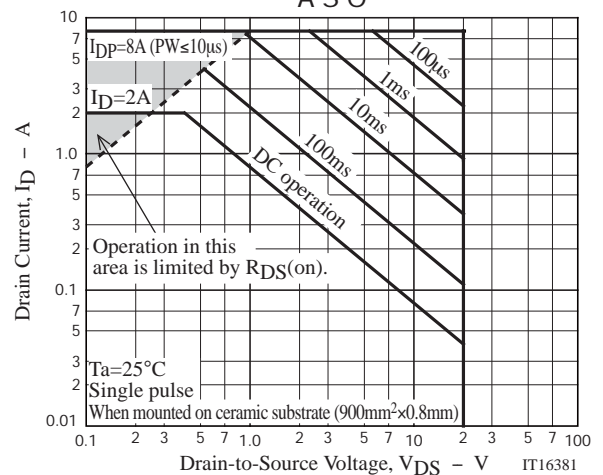
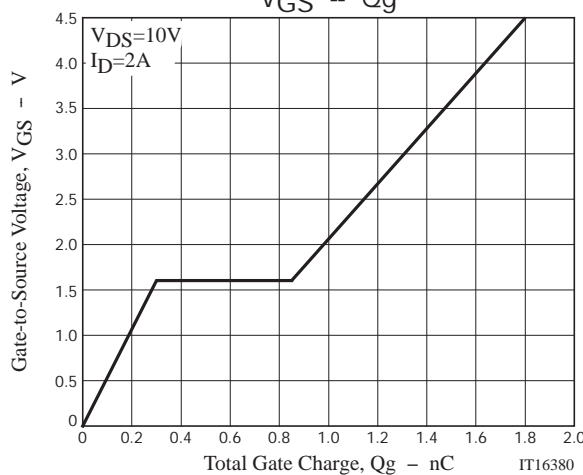
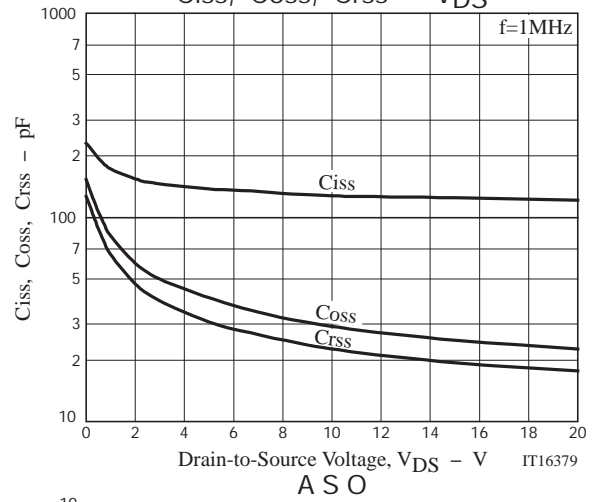
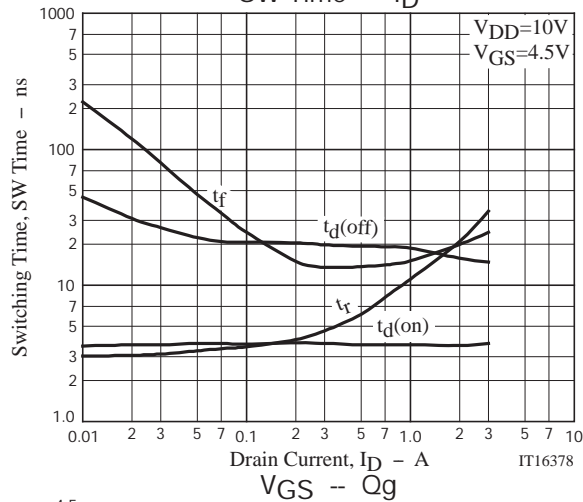
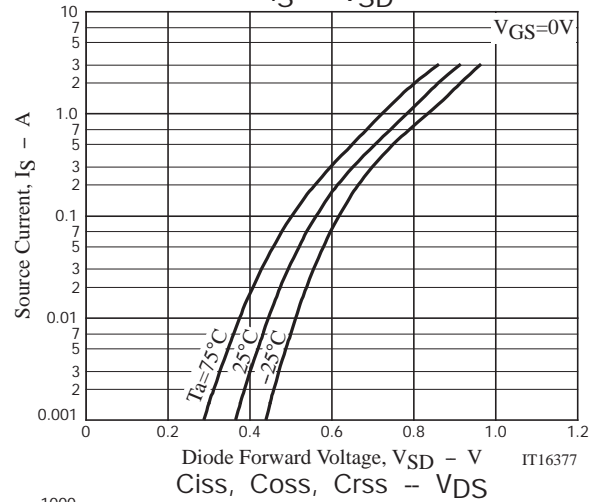
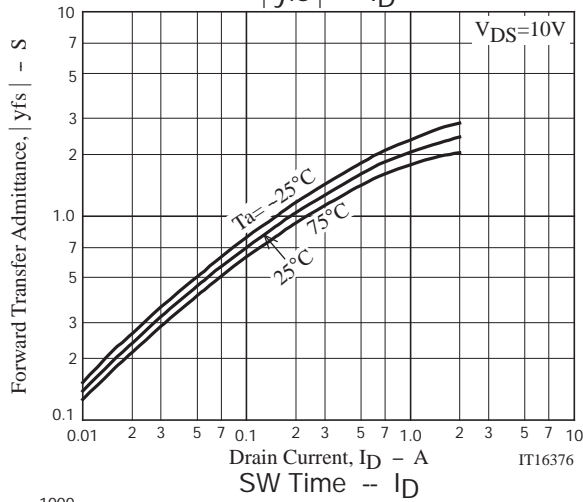
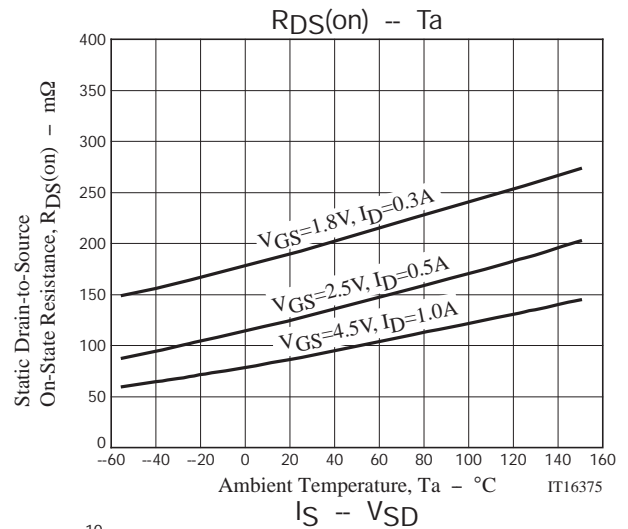
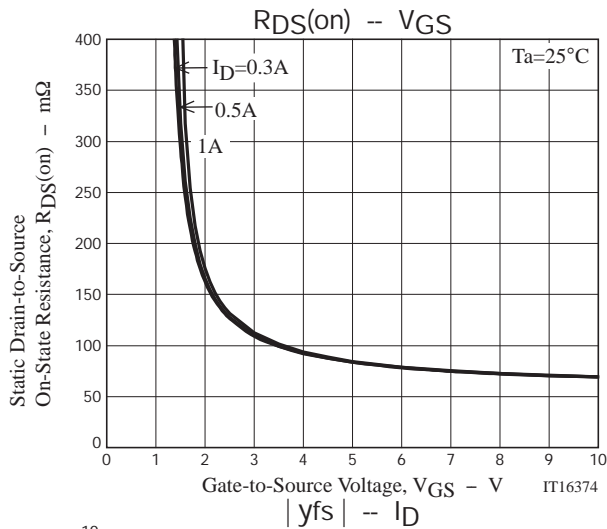
# SCH1430

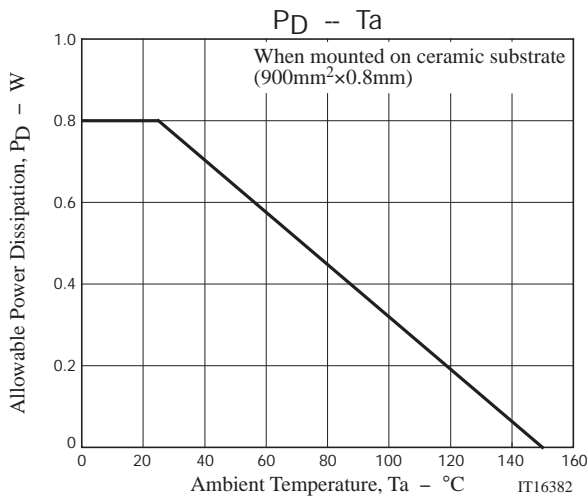
## Electrical Characteristics at Ta=25°C

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	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 8V, V_{DS}=0V$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=1A$		1.9		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=1A, V_{GS}=4.5V$		93	125	$m\Omega$
	$R_{DS(on)2}$	$I_D=0.5A, V_{GS}=2.5V$		135	190	$m\Omega$
	$R_{DS(on)3}$	$I_D=0.3A, V_{GS}=1.8V$		200	310	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=10V, f=1MHz$		128		pF
Output Capacitance	$C_{oss}$	$V_{DS}=10V, f=1MHz$		28		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10V, f=1MHz$		21		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		5.1		ns
Rise Time	$t_r$	See specified Test Circuit.		11		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		14.5		ns
Fall Time	$t_f$	See specified Test Circuit.		12		ns
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=4.5V, I_D=2A$		1.8		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=10V, V_{GS}=4.5V, I_D=2A$		0.3		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=10V, V_{GS}=4.5V, I_D=2A$		0.55		nC
Diode Forward Voltage	$V_{SD}$	$I_S=2A, V_{GS}=0V$		0.85	1.2	V

## Switching Time Test Circuit







Note on usage : Since the SCH1430 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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