



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

SCH1433 — N-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 _{DSS}		20	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		3.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	14	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm)	0.8	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		1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =1.5A	1.68	2.8		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =1.5A, V _{GS} =4.5V		49	64	mΩ
	R _{DS(on)2}	I _D =1A, V _{GS} =2.5V		68	95	mΩ
	R _{DS(on)3}	I _D =0.5A, V _{GS} =1.8V		99	149	mΩ

Marking : ZJ

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SCH1433

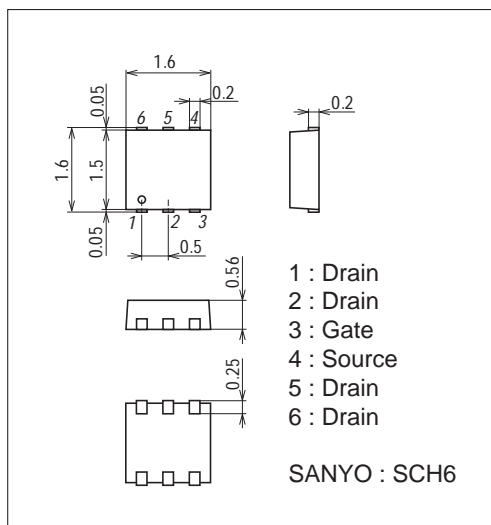
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		260		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		65		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		50		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		6.2		ns
Rise Time	t _r	See specified Test Circuit.		19		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		30		ns
Fall Time	t _f	See specified Test Circuit.		28		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4.5V, I _D =3.5A		2.8		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =10V, V _{GS} =4.5V, I _D =3.5A		0.6		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =10V, V _{GS} =4.5V, I _D =3.5A		0.9		nC
Diode Forward Voltage	V _{SD}	I _S =3.5A, V _{GS} =0V		0.85	1.2	V

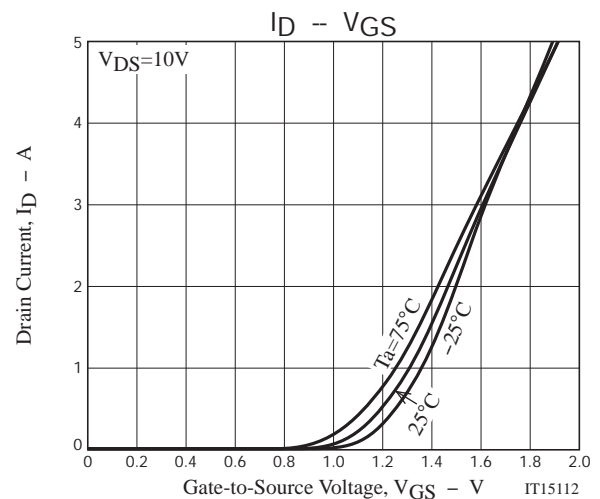
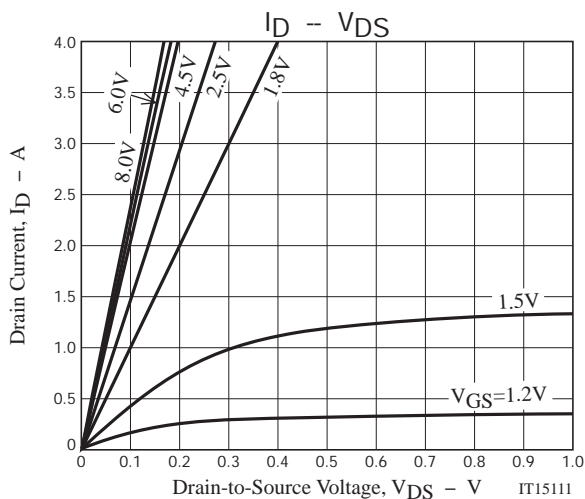
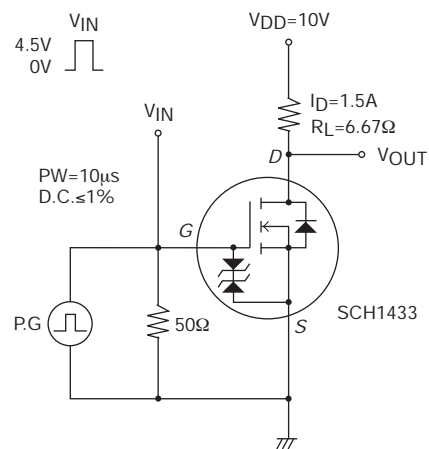
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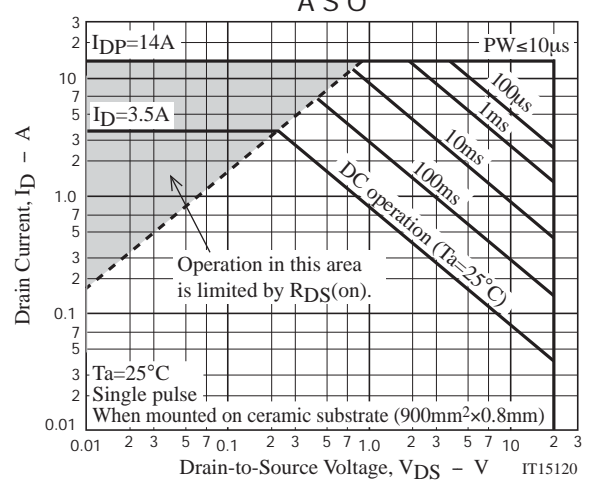
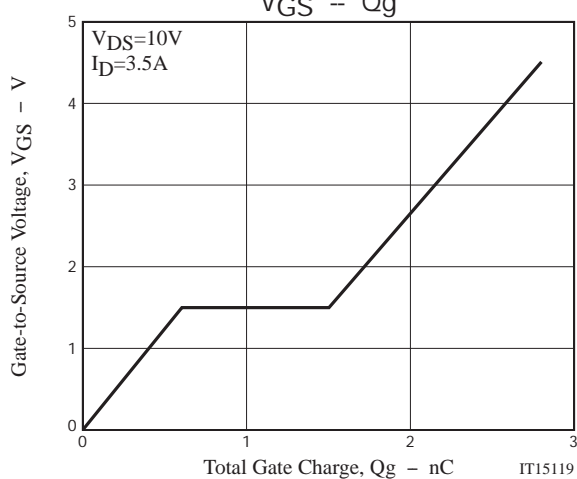
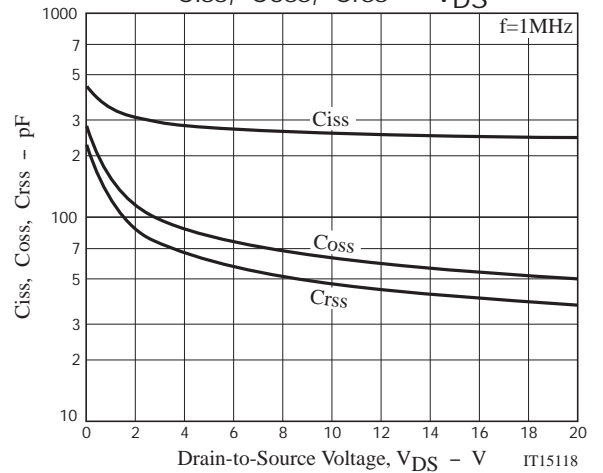
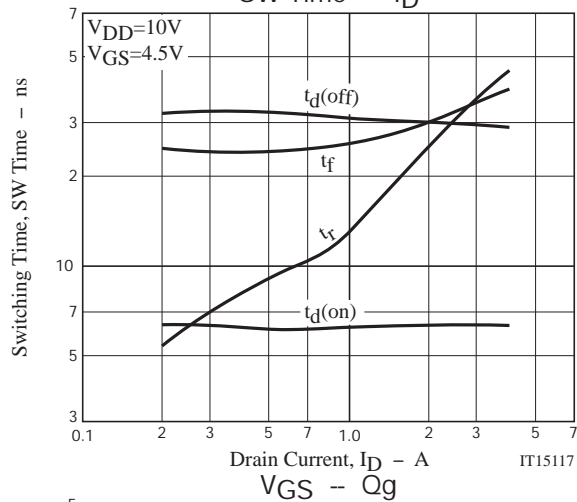
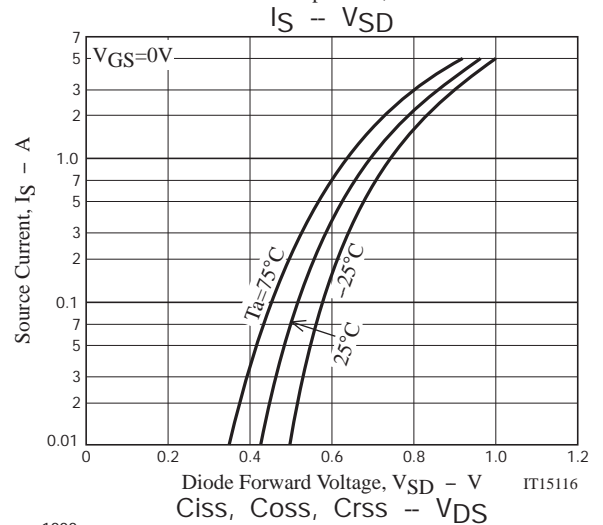
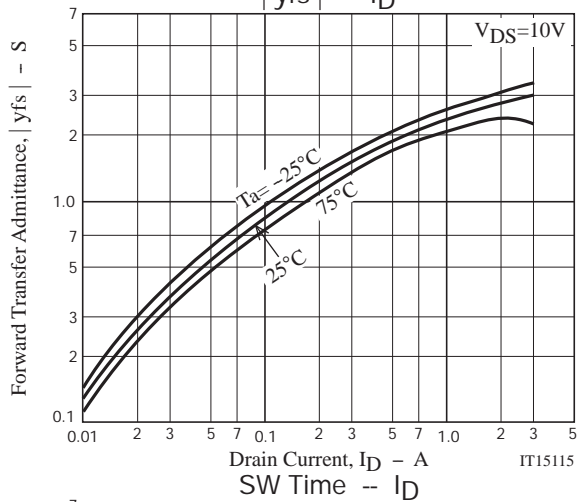
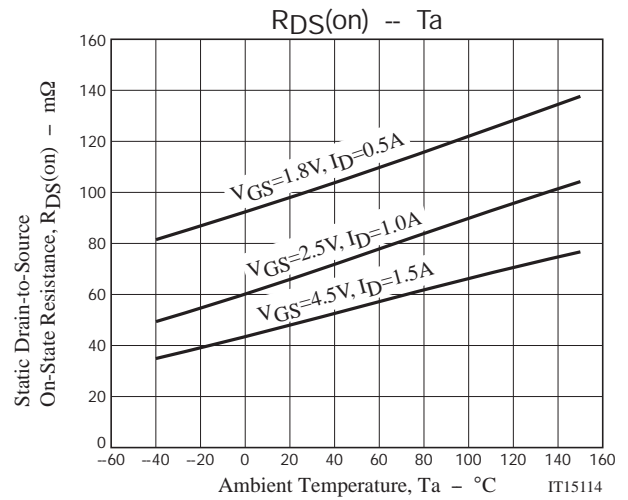
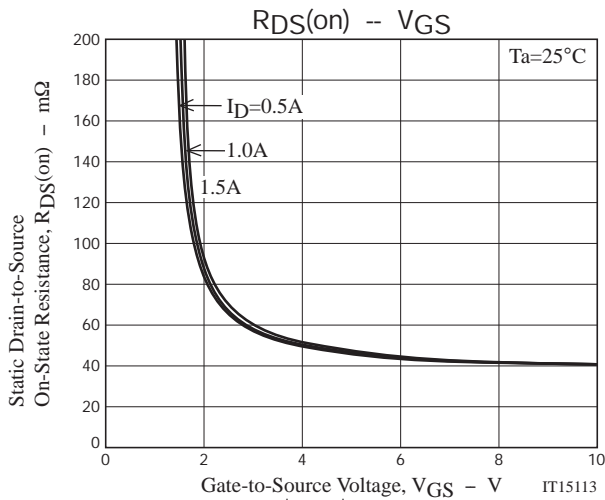
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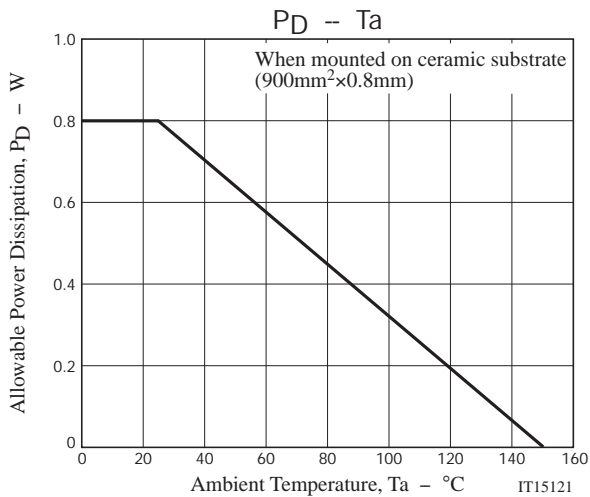
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Switching Time Test Circuit







Note on usage : Since the SCH1433 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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