



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

SCH1433 — General-Purpose Switching Device Applications

Features

- 1.8V drive
- Halogen free compliance
- Protection diode in

Specifications

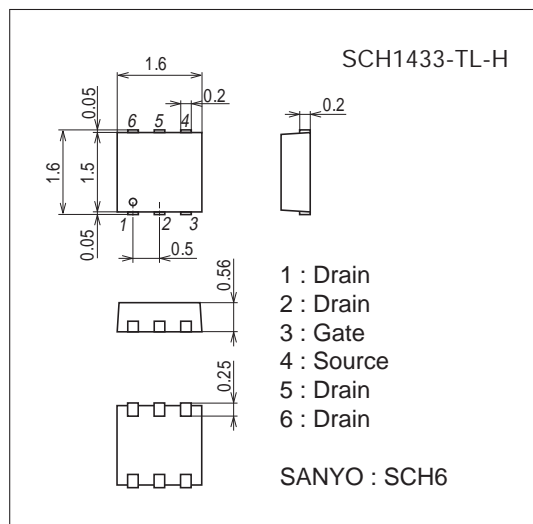
Absolute Maximum Ratings at Ta=25°C

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}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	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

Package Dimensions

unit : mm (typ)

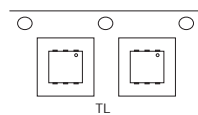
7028-002



Product & Package Information

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

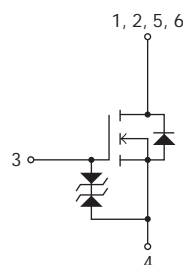
Packing Type : TL



Marking



Electrical Connection

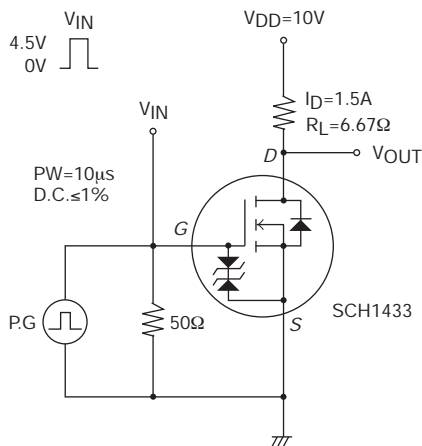


SCH1433

Electrical Characteristics at Ta=25°C

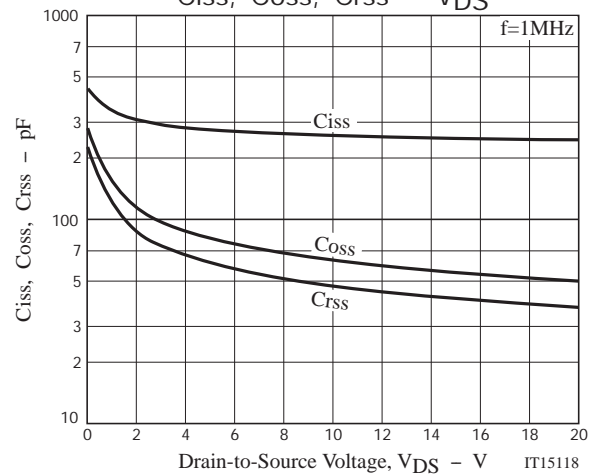
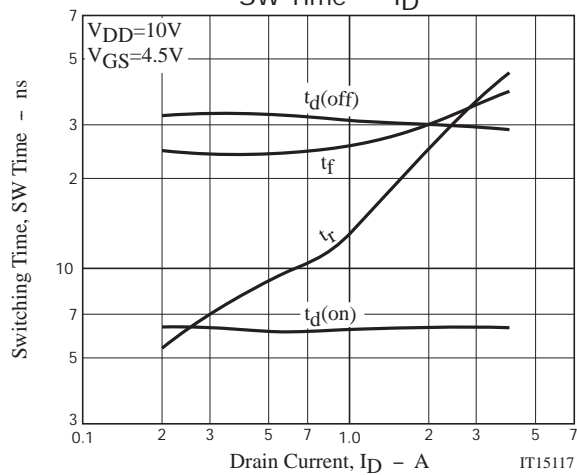
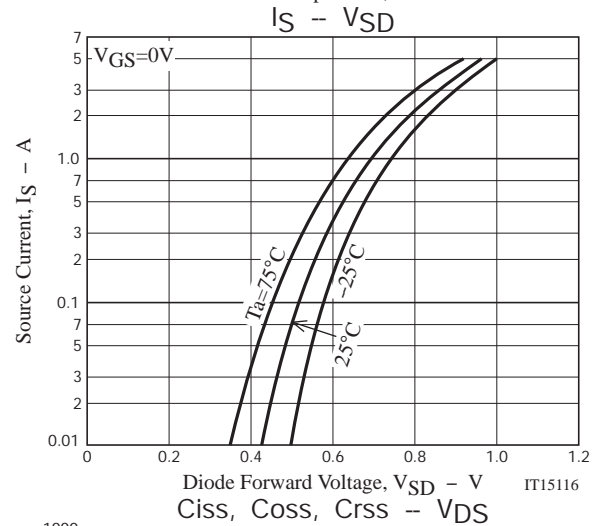
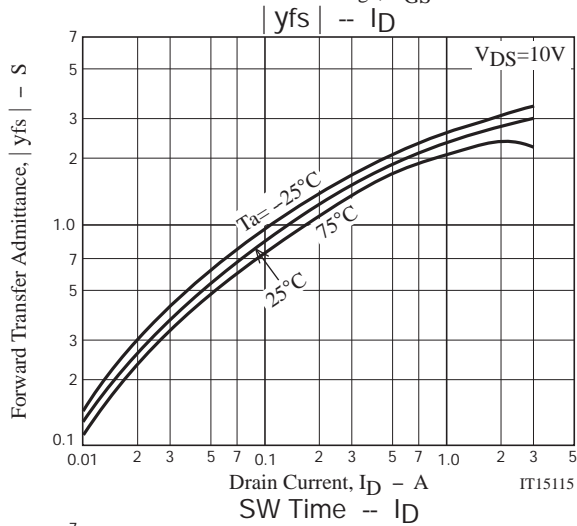
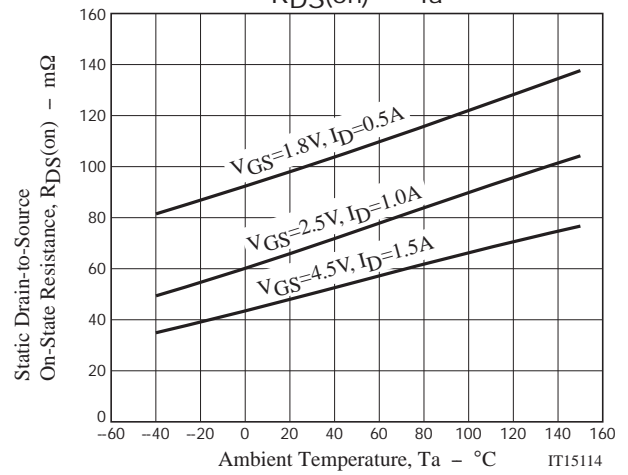
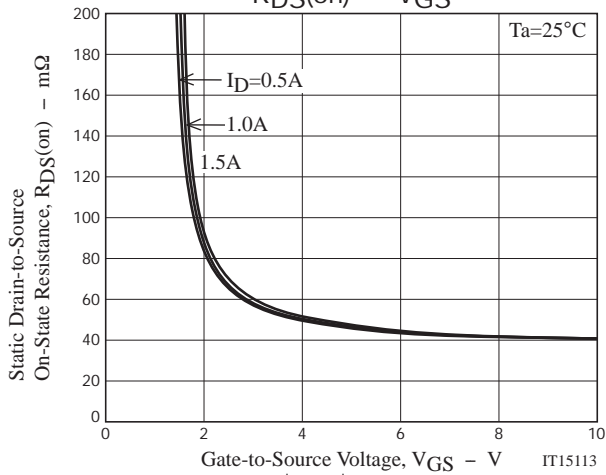
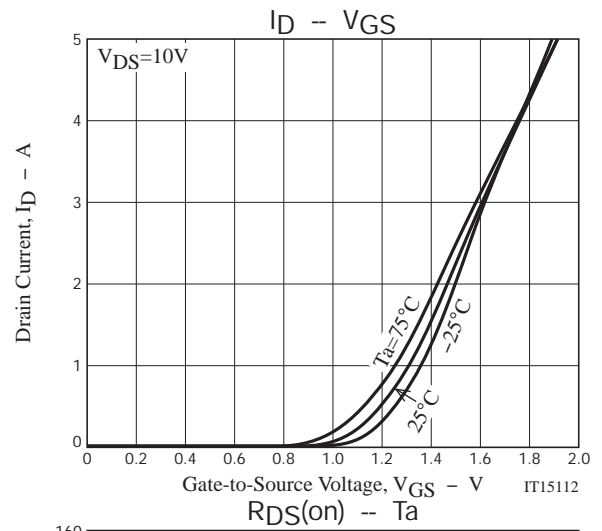
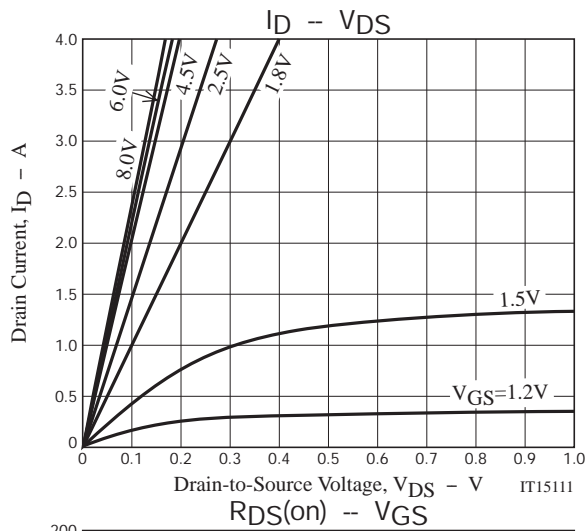
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	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	m Ω
	$R_{DS(on)2}$	$I_D=1A, V_{GS}=2.5V$		68	95	m Ω
	$R_{DS(on)3}$	$I_D=0.5A, V_{GS}=1.8V$		99	149	m Ω
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		260		pF
Output Capacitance	C_{oss}			65		pF
Reverse Transfer Capacitance	C_{rss}			50		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		6.2		ns
Rise Time	t_r			19		ns
Turn-OFF Delay Time	$t_{d(off)}$			30		ns
Fall Time	t_f			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}			0.6		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			0.9		nC
Diode Forward Voltage	V_{SD}	$I_S=3.5A, V_{GS}=0V$		0.85	1.2	V

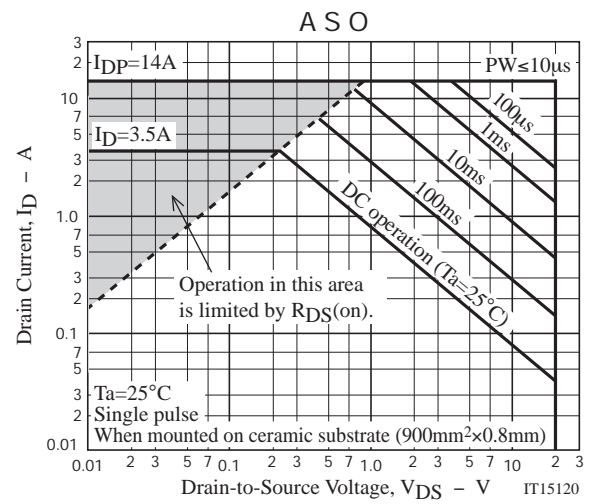
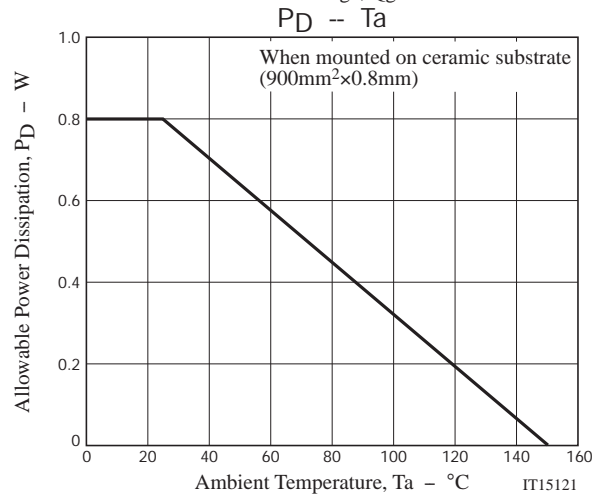
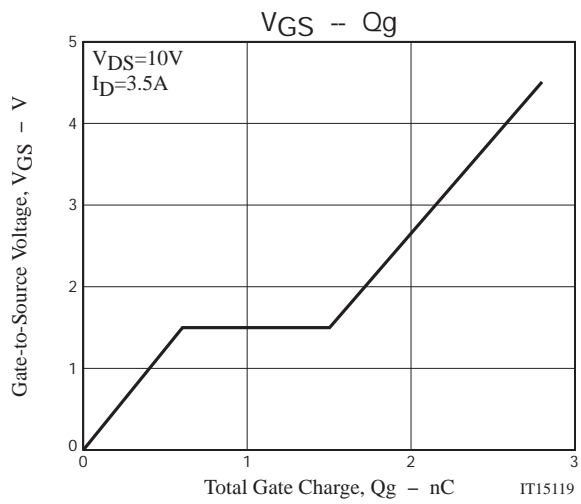
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
SCH1433-TL-H	SCH6	5,000pcs./reel	Pb Free and Halogen Free





Taping Specification

SCH1433-TL-H

1. Packing Format

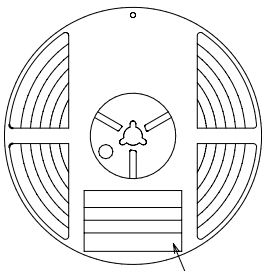
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
SCH6	SCH6	5,000	25,000	150,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Reel label, Inner box label
(unit:mm)

Outer box label

It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Reel label

Type No. →
LOT No. →
Quantity →
Origin →

(P) TYPE	000000000
(1) LOT	00
(Q) QTY	0,000 (1) LEAD FREE *
(Z) SPECIAL	*Z0722005310C*
ASSEMBLY	**** (DIFFUSION:****)

TYPE CODE	*****
TYPE	*****
QTY	0,000 PCS (1) LEAD FREE *
LOT	*****
PACKAGE	*****
SPECIAL	*Z0722005310C*
ASSEMBLY	**** (DIFFUSION:****)

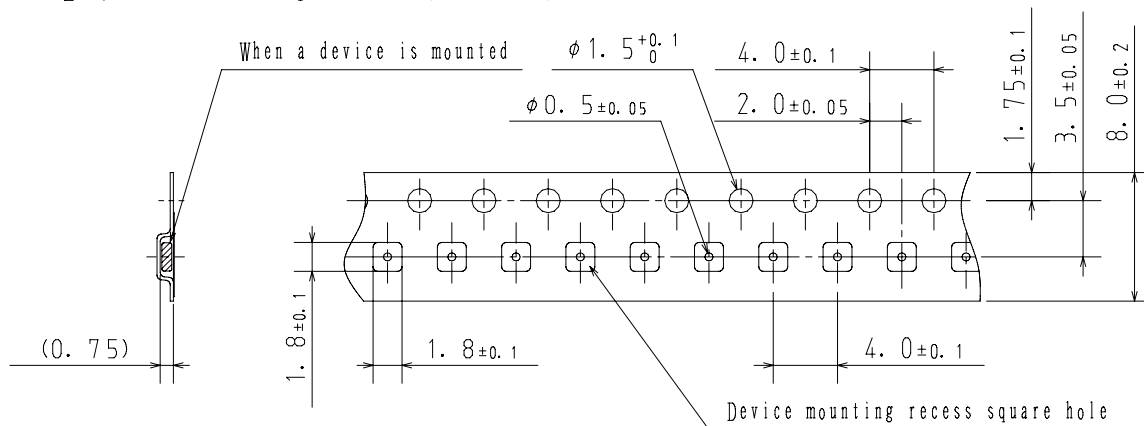
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

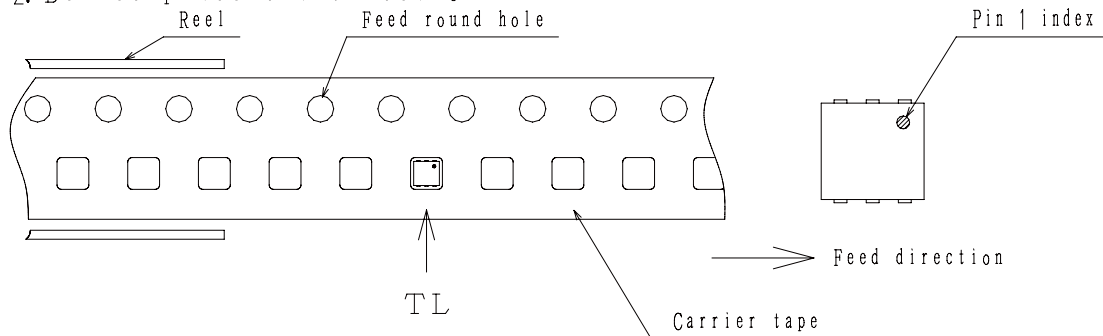
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)

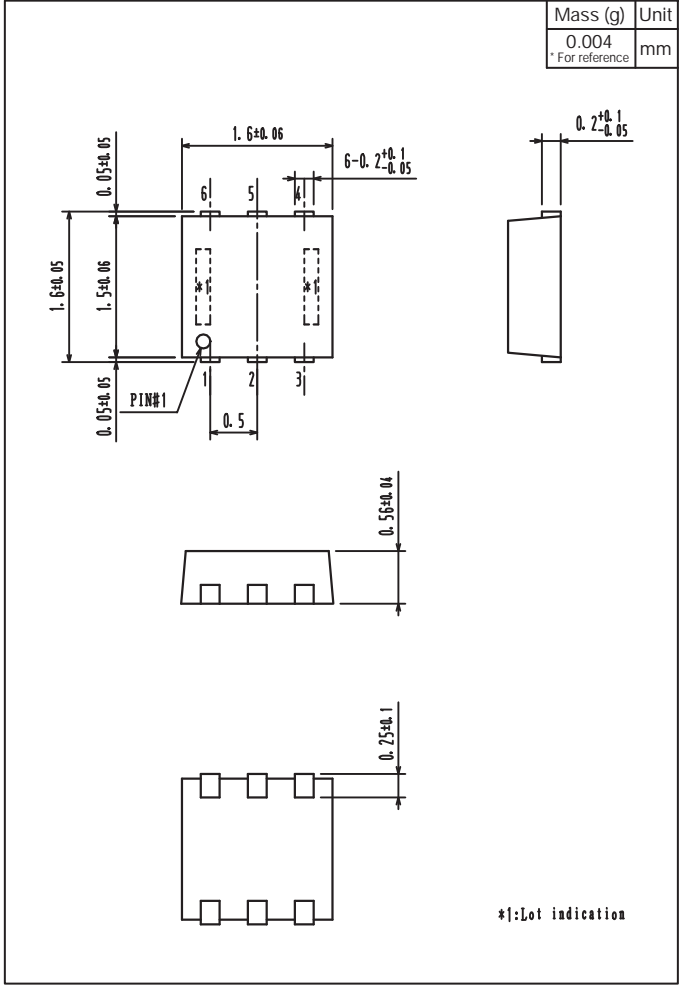


2-2. Device placement direction

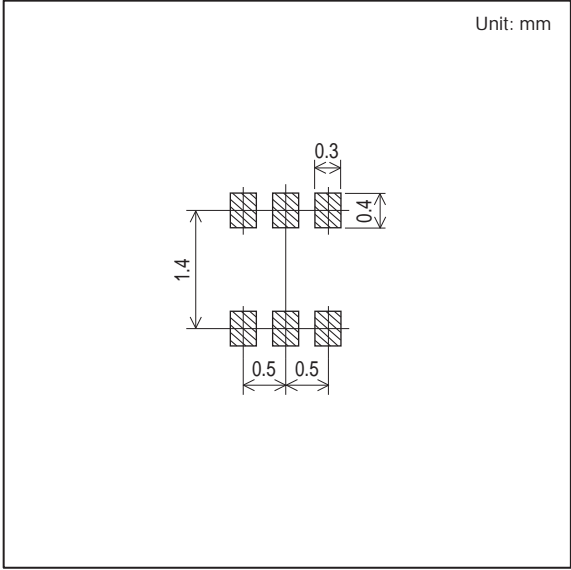


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
SCH1433-TL-H



Land Pattern Example



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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