



# SCH1331 — P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance
- Ultrahigh-speed switching
- 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>		-12	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		-3	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-12	A
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (900mm <sup>2</sup> ×0.8mm)	1	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

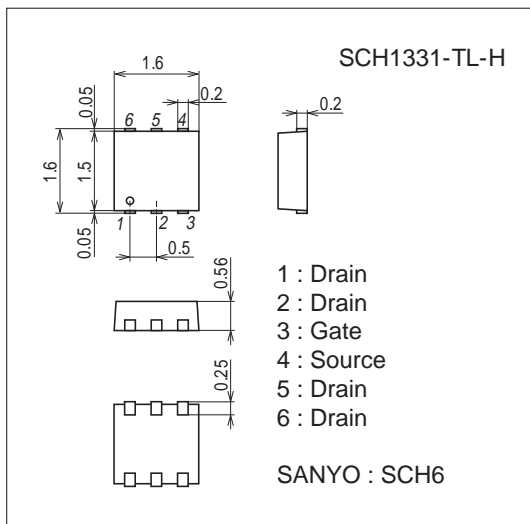
This product is designed to "ESD immunity < 200V\*\*", so please take care when handling.

\* Machine Model

### Package Dimensions

unit : mm (typ)

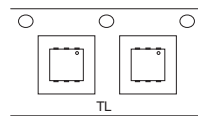
7028-002



### Product & Package Information

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

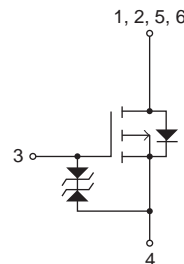
### Packing Type : TL



### Marking



### Electrical Connection

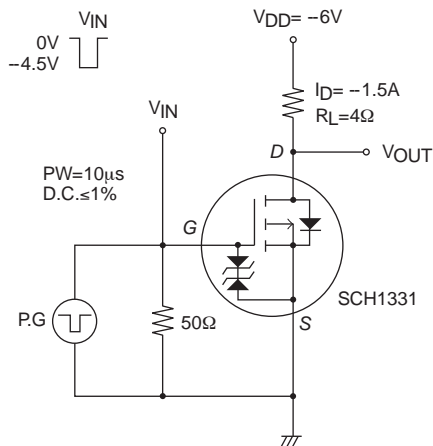


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## Electrical Characteristics at Ta=25°C

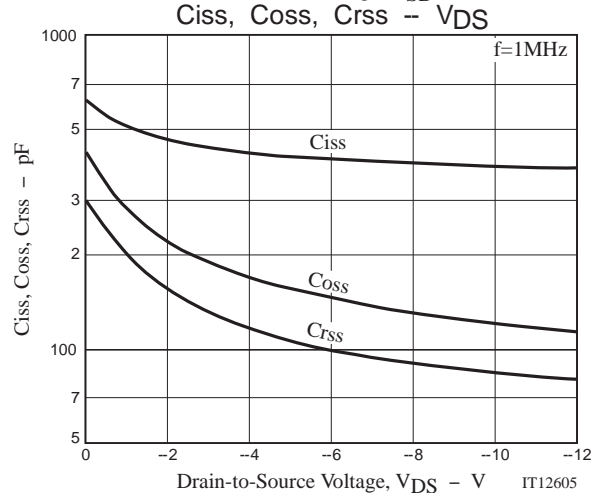
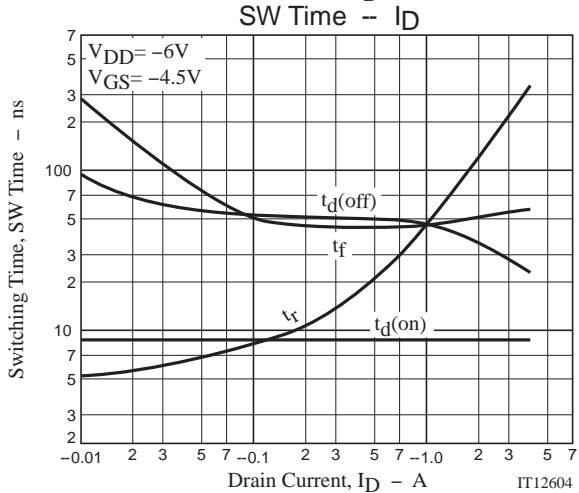
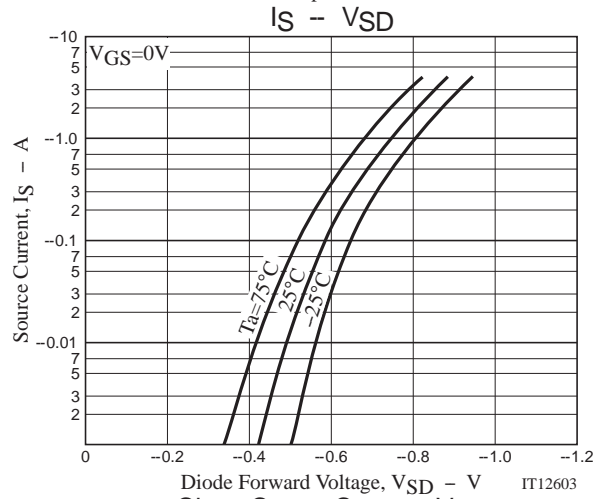
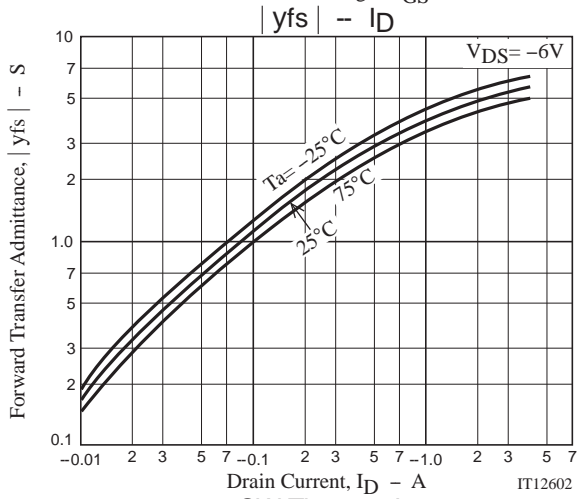
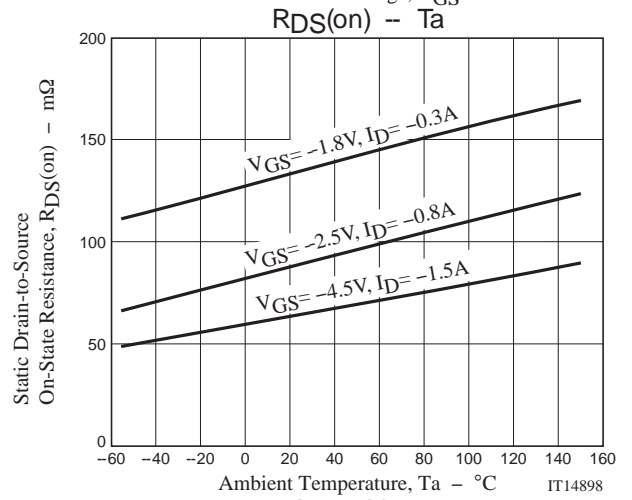
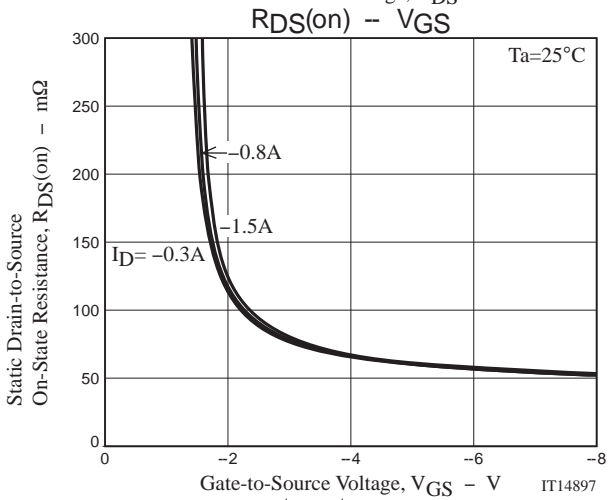
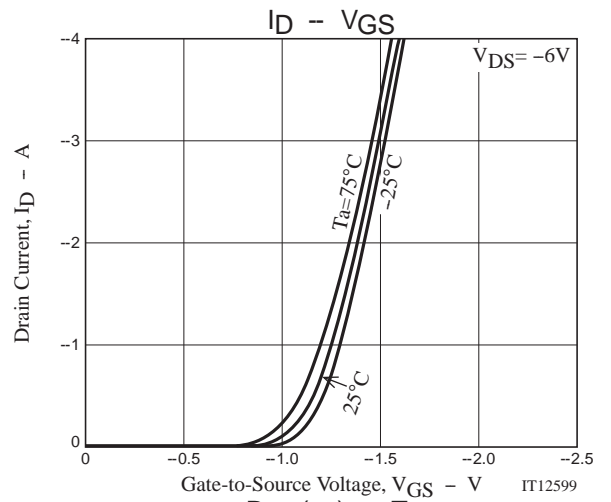
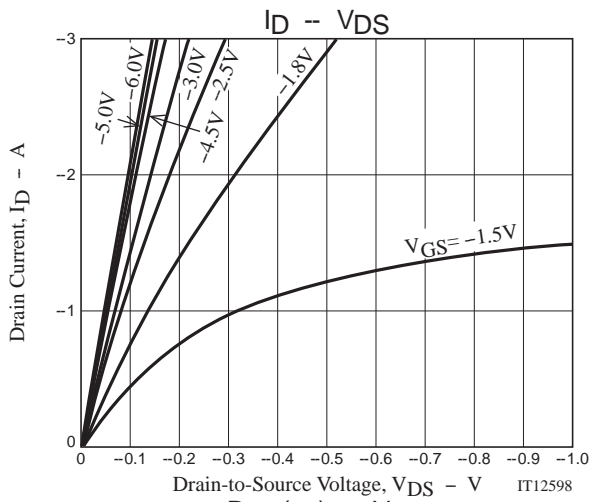
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-12			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-12V, VGS=0V			-10	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-6V, ID=-1mA	-0.4		-1.3	V
Forward Transfer Admittance	yfs	VDS=-6V, ID=-1.5A	2.7	4.5		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-1.5A, VGS=-4.5V		64	84	mΩ
	RDS(on)2	ID=-0.8A, VGS=-2.5V		90	126	mΩ
	RDS(on)3	ID=-0.3A, VGS=-1.8V		135	230	mΩ
Input Capacitance	Ciss	VDS=-6V, f=1MHz		405		pF
Output Capacitance	Coss			145		pF
Reverse Transfer Capacitance	Crss			100		pF
Turn-ON Delay Time	td(on)		See specified Test Circuit.		8.8	
Rise Time	tr			80		ns
Turn-OFF Delay Time	td(off)			41		ns
Fall Time	tf			50		ns
Total Gate Charge	Qg	VDS=-6V, VGS=-4.5V, ID=-2.5A			5.6	
Gate-to-Source Charge	Qgs			0.7		nC
Gate-to-Drain "Miller" Charge	Qgd			1.6		nC
Diode Forward Voltage	VSD	IS=-2.5A, VGS=0V		-0.82	-1.2	V

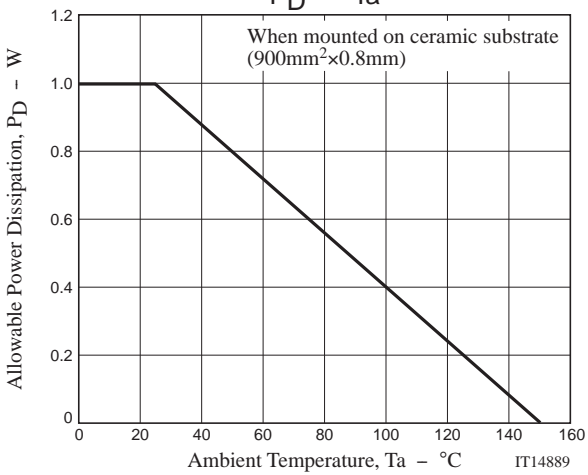
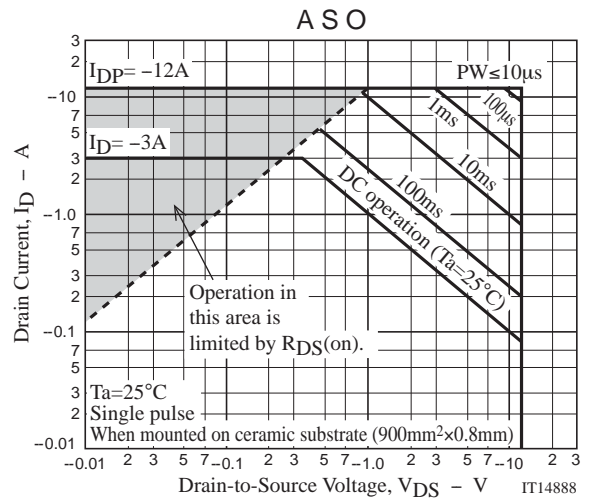
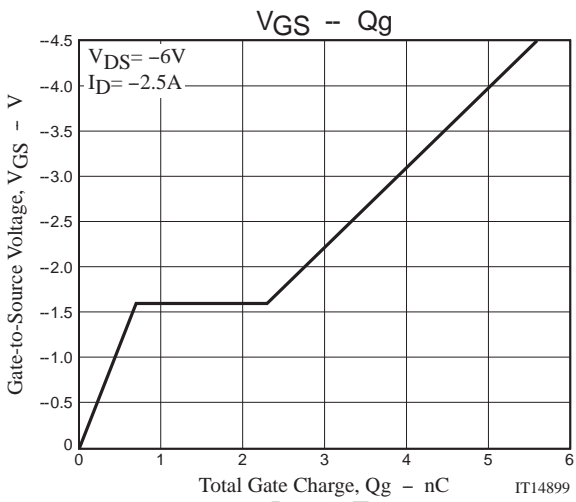
## Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
SCH1331-TL-H	SCH6	5,000pcs./reel	Pb Free and Halogen Free





**Taping Specification**

SCH1331-TL-H

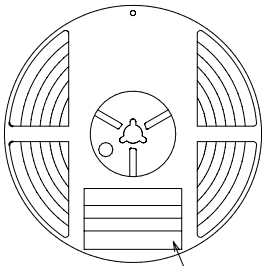
1. Packing Format

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)

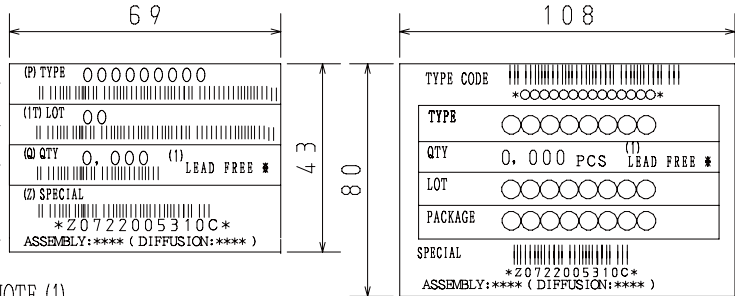
Outer box label  
It is a label at the time of factory shipments.  
The form of a label may change in physical distribution process.

Packing method



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

Reel label



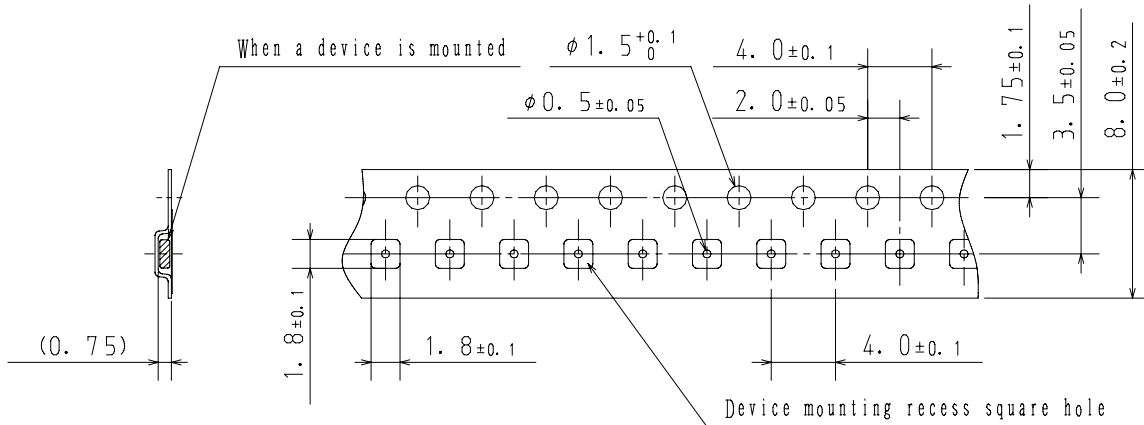
NOTE (1)

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

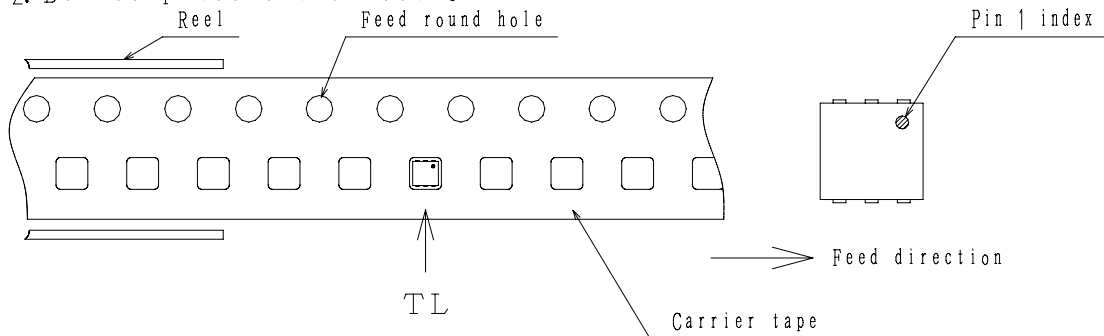
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

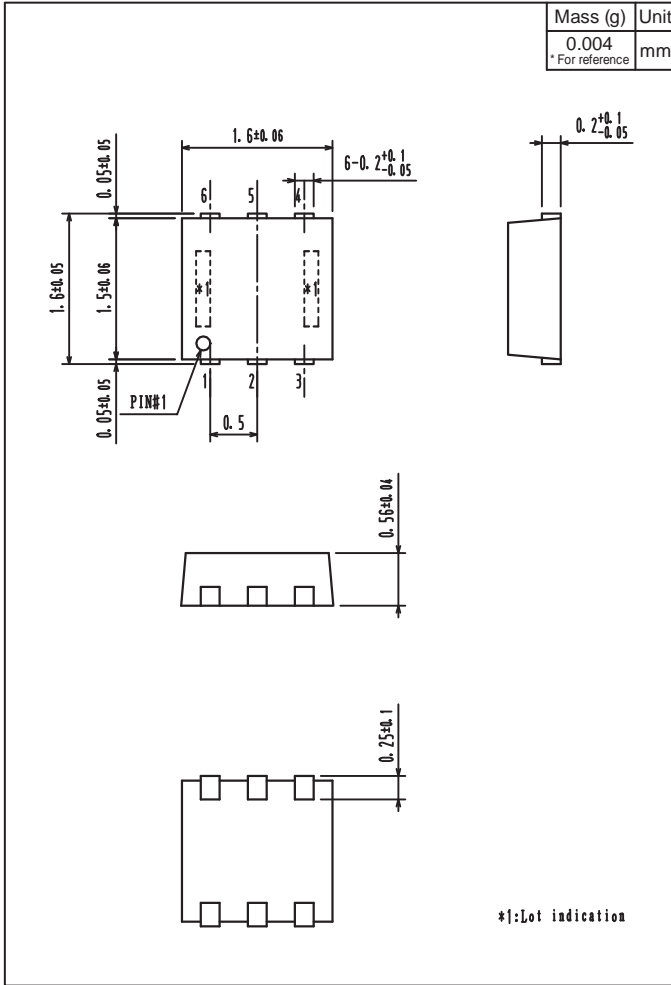


Those with pin 1 index on the feed hole side.....TL

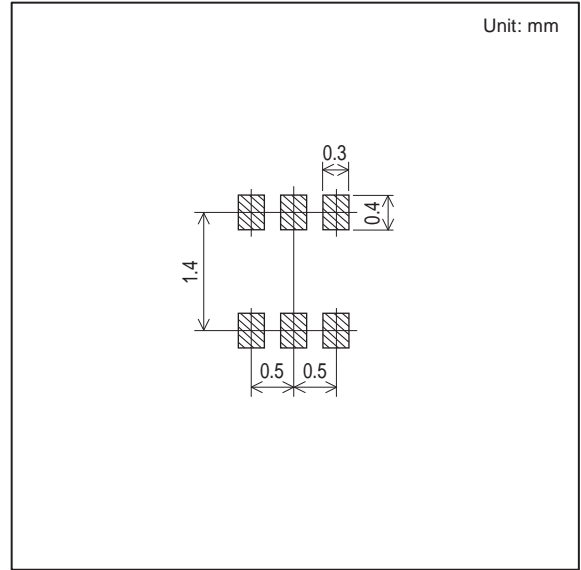
# SCH1331

## Outline Drawing

SCH1331-TL-H



## Land Pattern Example



Note on usage : Since the SCH1331 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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