



SCH1331

P-Channel Power MOSFET -12V, -3A, 84mΩ, Single SCH6

ON Semiconductor®
<http://onsemi.com>

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 _{DSS}		-12	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		-3	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-12	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm)	1	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

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

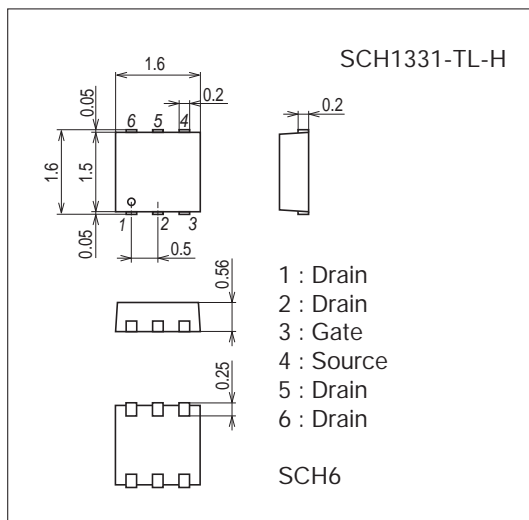
* Machine Model

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

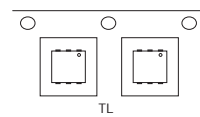
7028-002



Product & Package Information

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

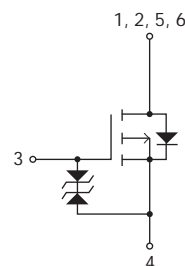
Packing Type : TL



Marking



Electrical Connection

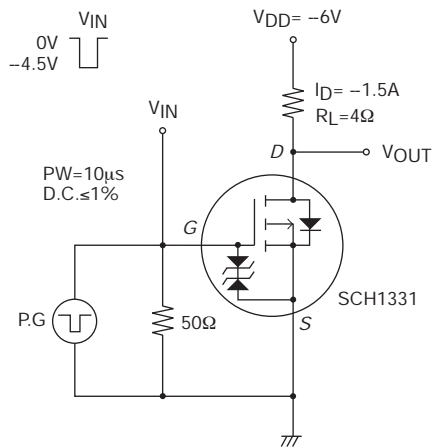


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Electrical Characteristics at Ta=25°C

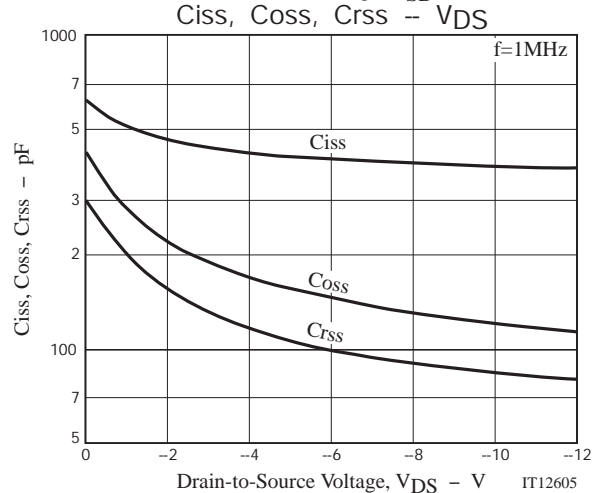
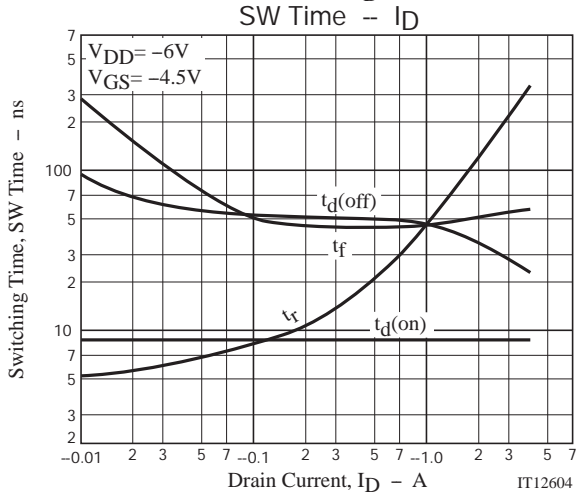
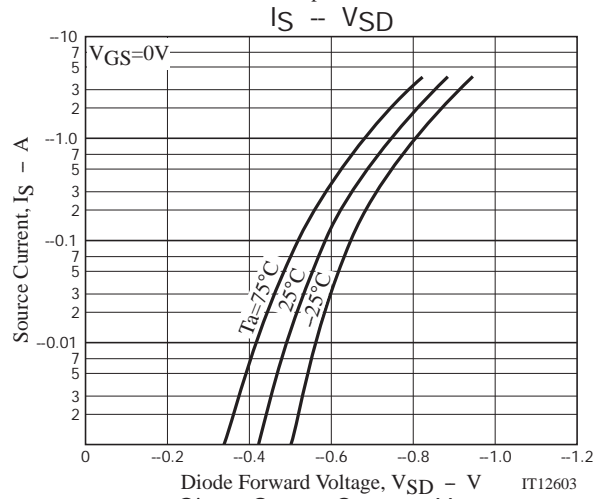
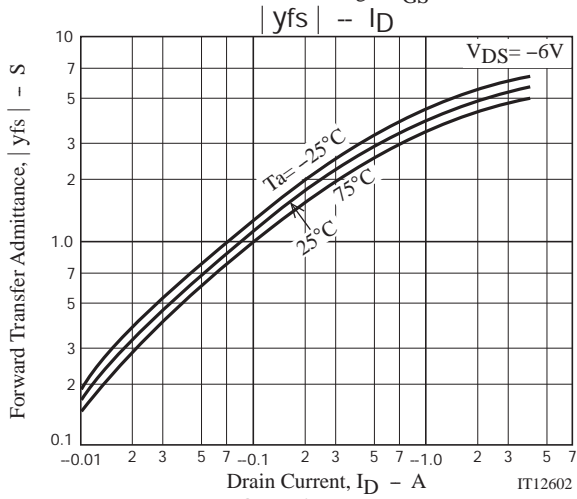
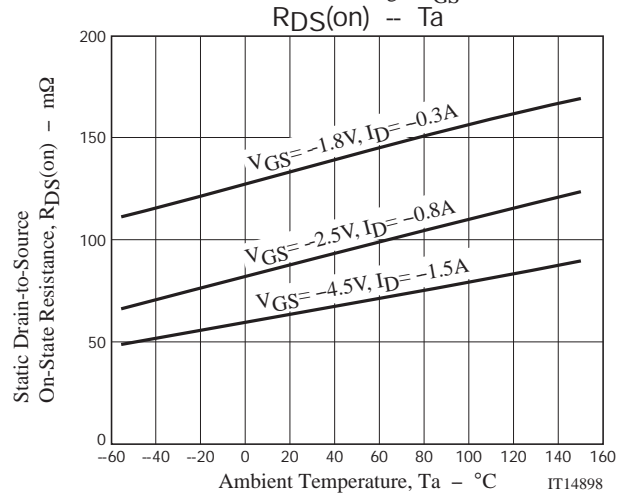
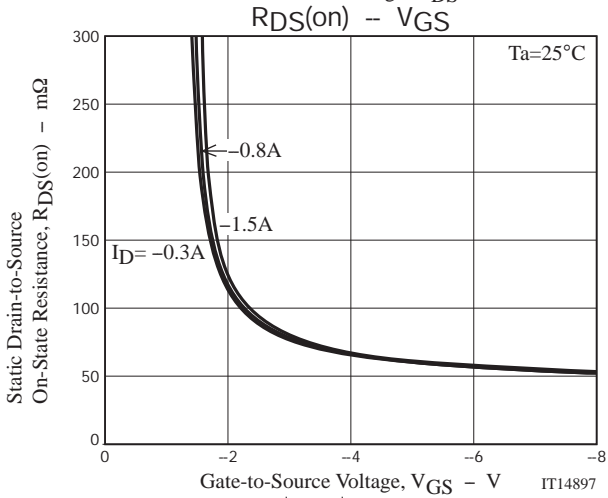
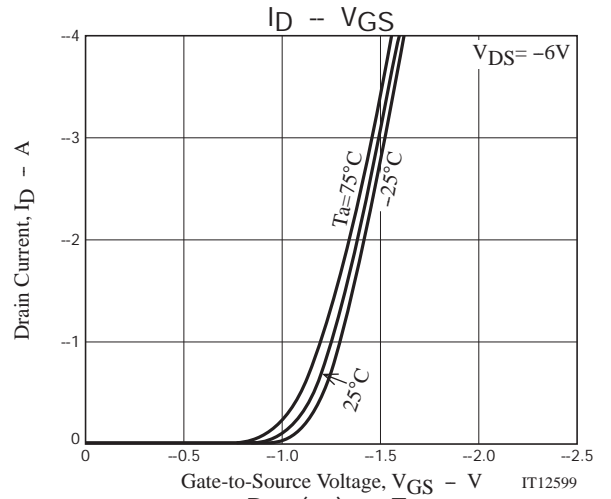
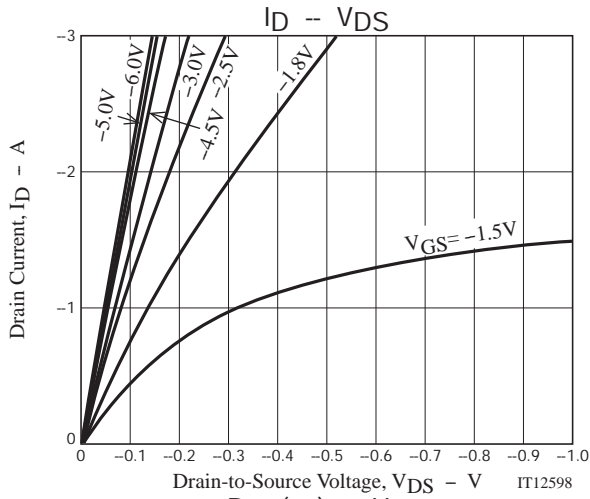
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-12			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-12V, V _{GS} =0V			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-6V, I _D =-1mA	-0.4		-1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-6V, I _D =-1.5A	2.7	4.5		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-1.5A, V _{GS} =-4.5V		64	84	mΩ
	R _{DS(on)2}	I _D =-0.8A, V _{GS} =-2.5V		90	126	mΩ
	R _{DS(on)3}	I _D =-0.3A, V _{GS} =-1.8V		135	230	mΩ
Input Capacitance	C _{iss}	V _{DS} =-6V, f=1MHz		405		pF
Output Capacitance	C _{oss}			145		pF
Reverse Transfer Capacitance	C _{rss}			100		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		8.8	
Rise Time	t _r			80		ns
Turn-OFF Delay Time	t _{d(off)}			41		ns
Fall Time	t _f			50		ns
Total Gate Charge	Q _g	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-2.5A			5.6	
Gate-to-Source Charge	Q _{gs}			0.7		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			1.6		nC
Diode Forward Voltage	V _{SD}	I _S =-2.5A, V _{GS} =0V		-0.82	-1.2	V

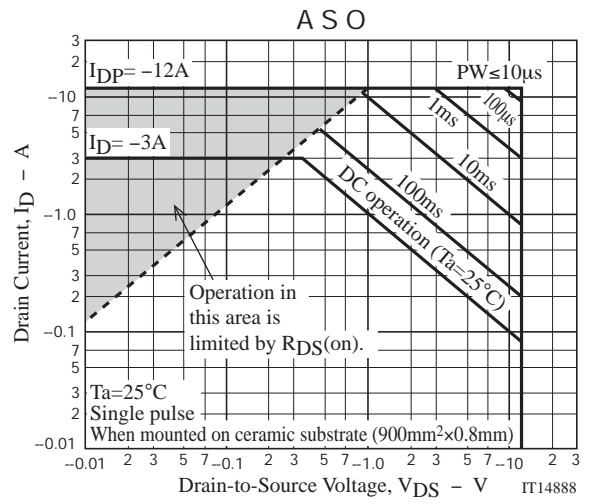
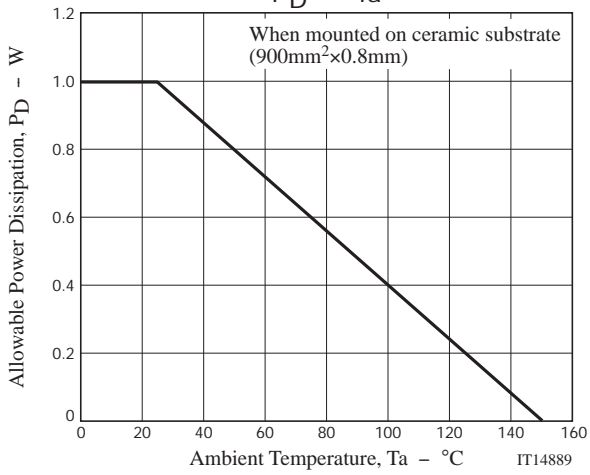
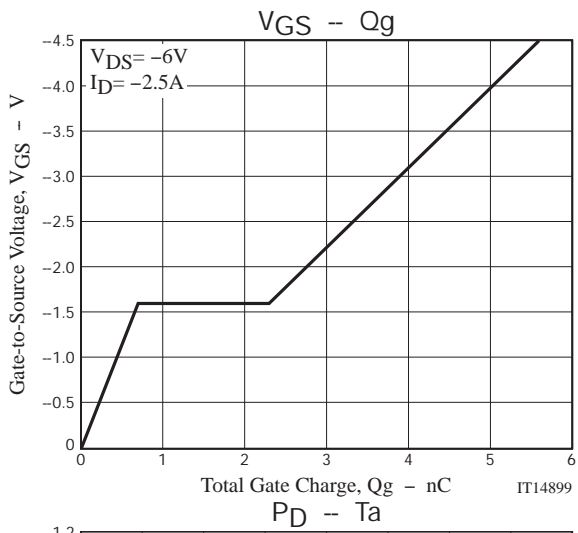
Switching Time Test Circuit



Ordering Information

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





Taping Specification

SCH1331-TL-H

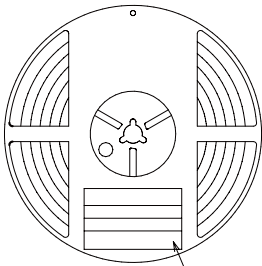
1. Packing Format

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)

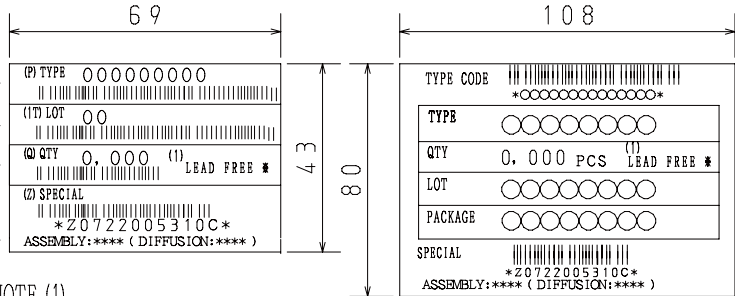
Outer box label
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



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

Reel label



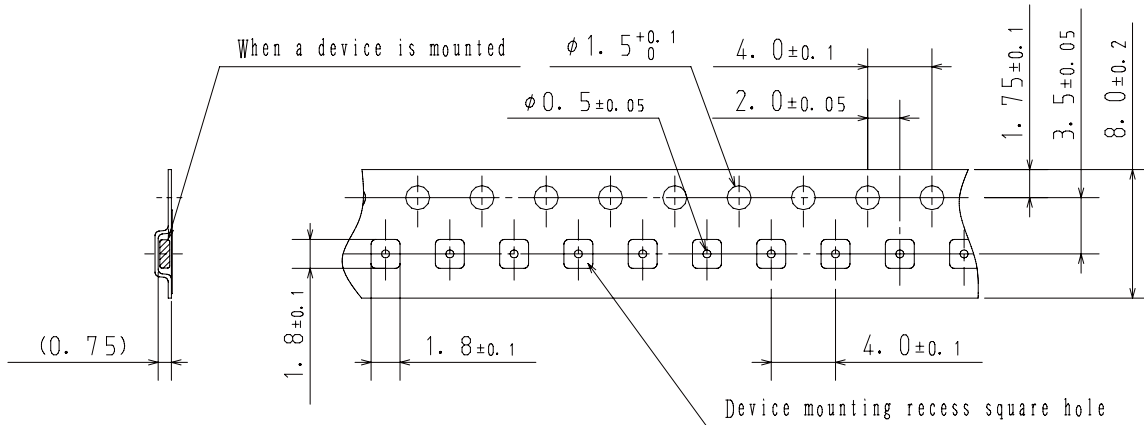
NOTE (1)

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

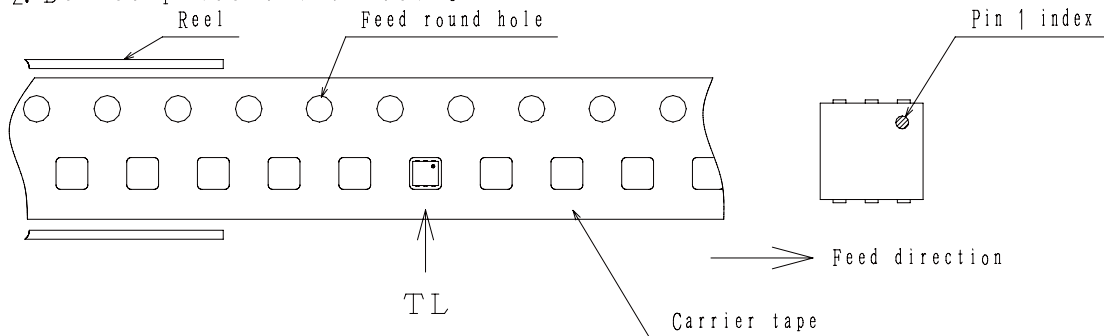
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



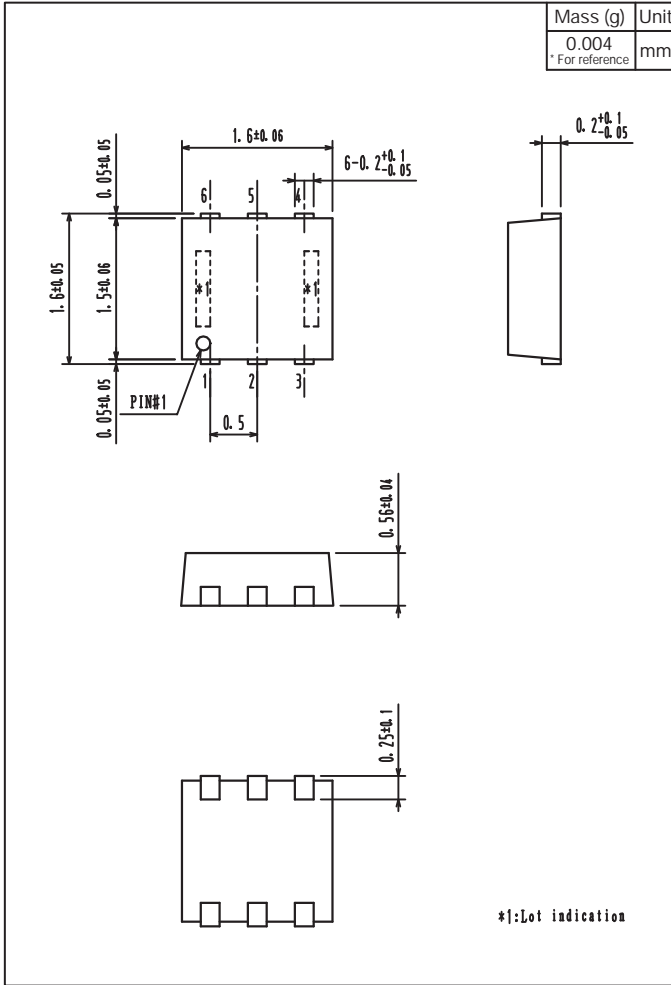
2-2. Device placement direction



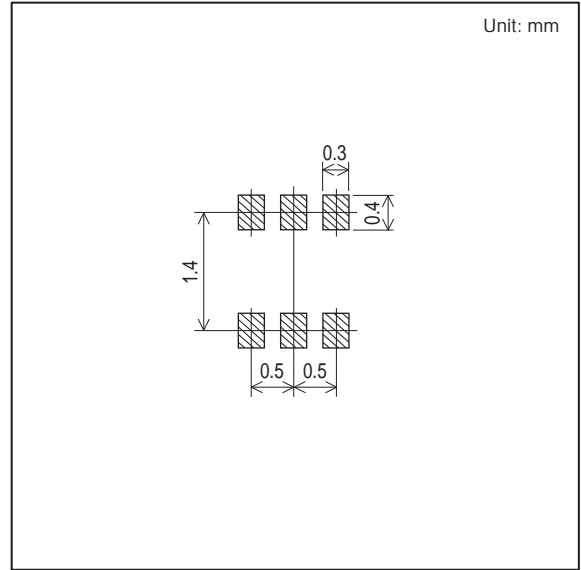
Those with pin 1 index on the feed hole side.....TL

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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