



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

SCH1330 — P-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

- Low ON-resistance
- Ultrahigh-speed switching
- 1.8V drive
- Halogen free compliance
- Protection diode in

Specifications

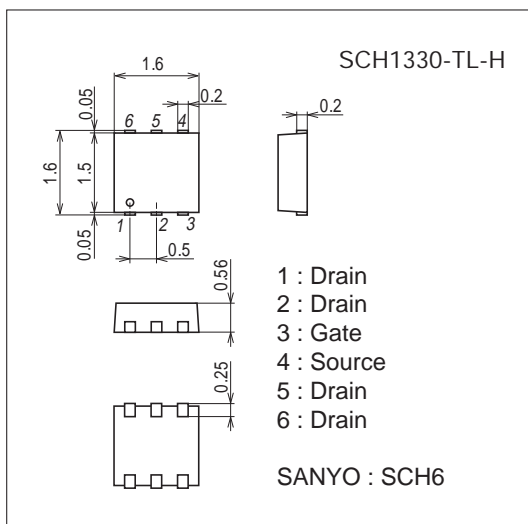
Absolute Maximum Ratings at Ta=25°C

| 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 | | -1.5 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycles≤1% | -6 | 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 |

Package Dimensions

unit : mm (typ)

7028-002

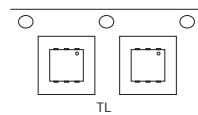


Product & Package Information

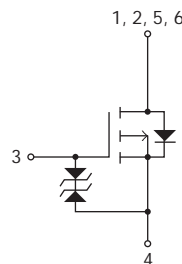
- Package : SCH6
- JEITA, JEDEC : SOT-563
- Minimum Packing Quantity : 5,000 pcs./reel

Packing Type : TL

Marking



Electrical Connection

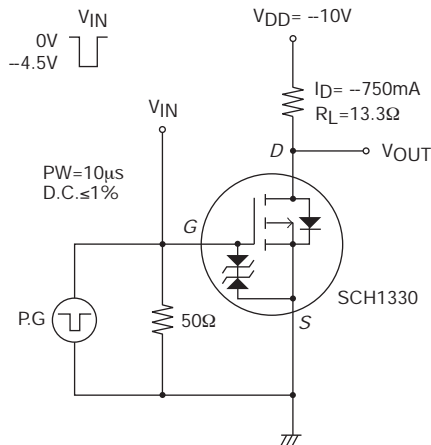


SCH1330

Electrical Characteristics at Ta=25°C

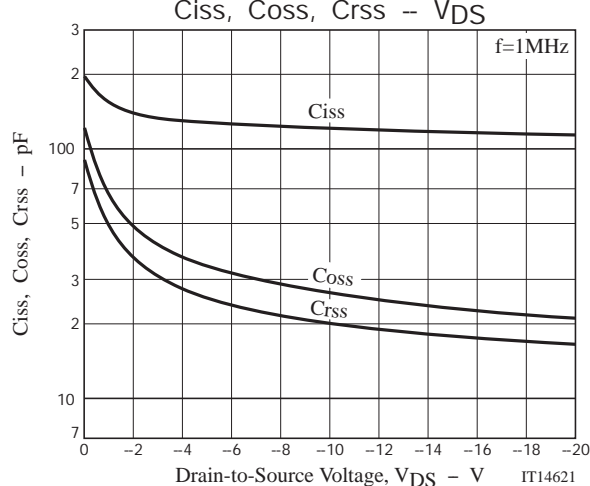
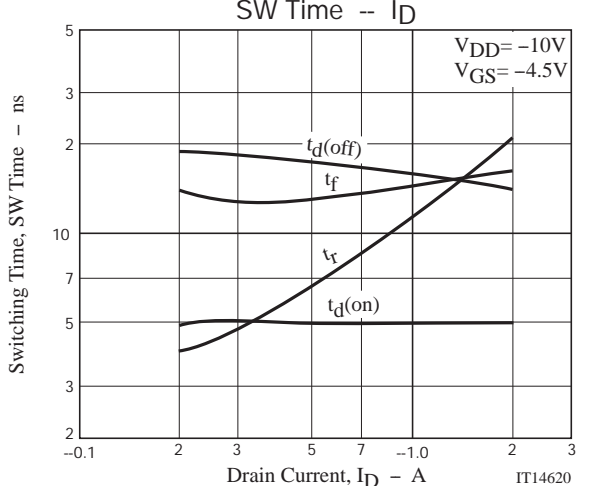
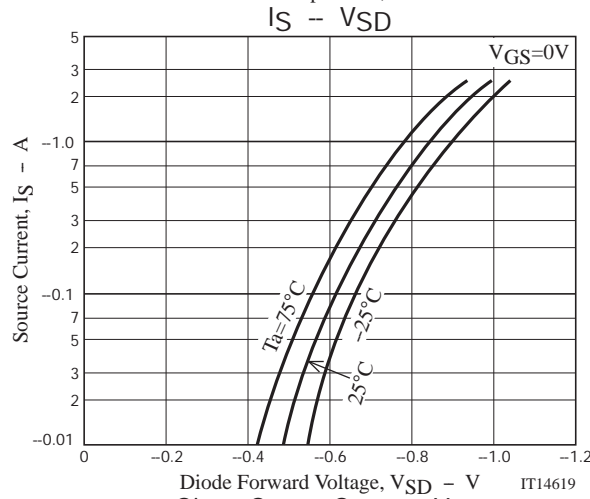
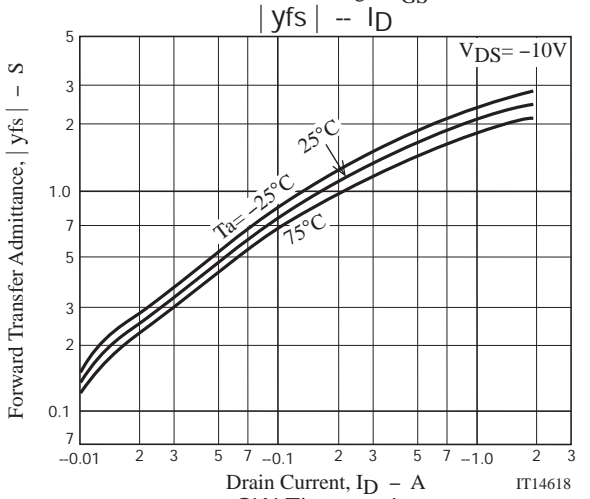
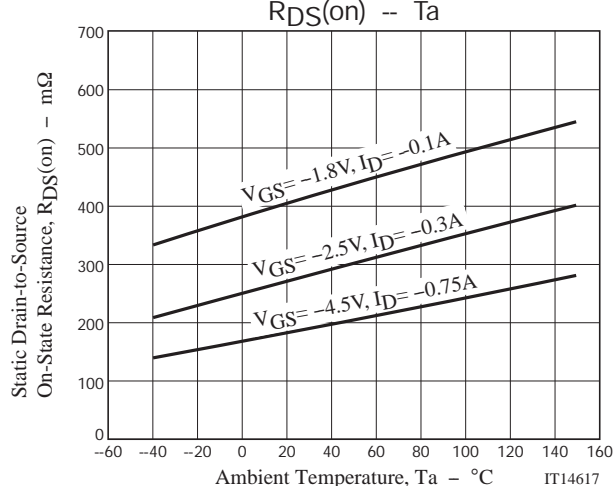
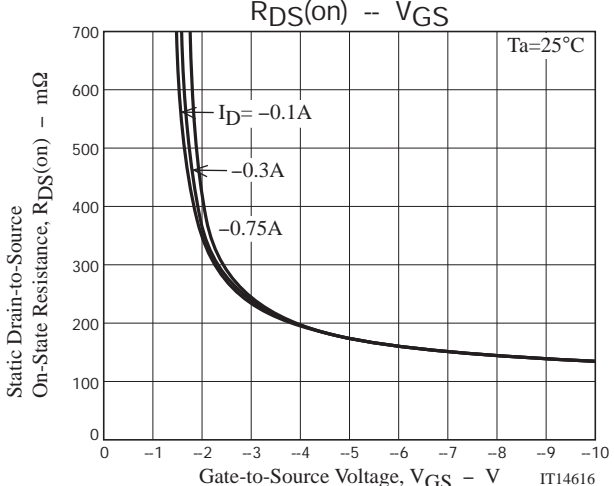
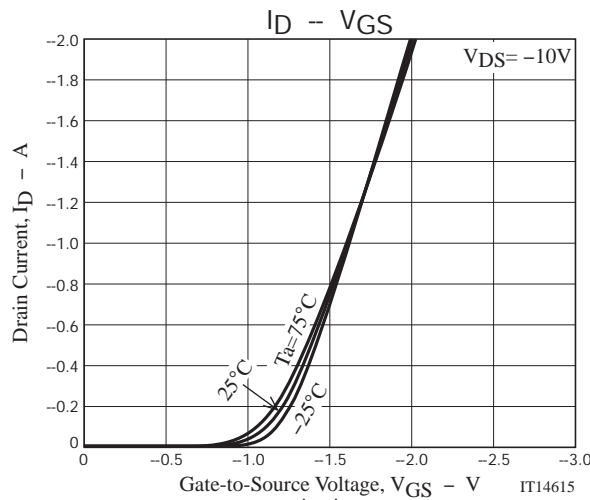
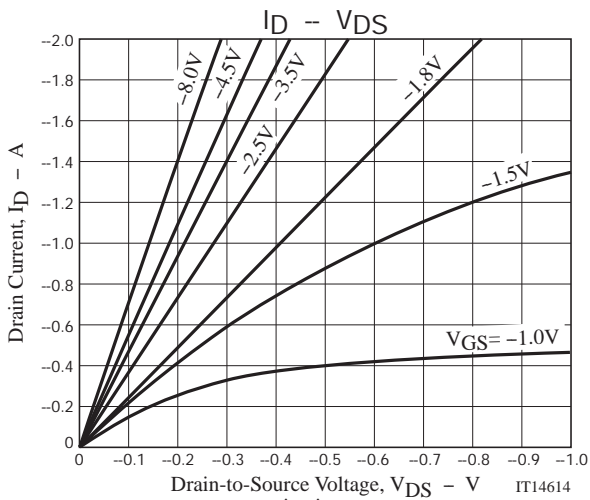
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|----------------------|--|-----------------------------|-------|------|------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | V(BR)DSS | I _D =-1mA, V _{GS} =0V | -20 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | 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 | | -1.4 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =-10V, I _D =-750mA | 1.14 | 1.9 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-750mA, V _{GS} =-4.5V | | 185 | 241 | mΩ |
| | R _{DS(on)2} | I _D =-300mA, V _{GS} =-2.5V | | 275 | 385 | mΩ |
| | R _{DS(on)3} | I _D =-100mA, V _{GS} =-1.8V | | 410 | 615 | mΩ |
| Input Capacitance | C _{iss} | V _{DS} =-10V, f=1MHz | | 120 | | pF |
| Output Capacitance | C _{oss} | | | 26 | | pF |
| Reverse Transfer Capacitance | C _{rss} | | | 20 | | pF |
| Turn-ON Delay Time | t _{d(on)} | | See specified Test Circuit. | | 5.3 | |
| Rise Time | t _r | | | 9.7 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | | | 16 | | ns |
| Fall Time | t _f | | | 14 | | ns |
| Total Gate Charge | Q _g | V _{DS} =-10V, V _{GS} =-4.5V, I _D =-1.5A | | | 1.7 | |
| Gate-to-Source Charge | Q _{gs} | | | 0.28 | | nC |
| Gate-to-Drain "Miller" Charge | Q _{gd} | | | 0.47 | | nC |
| Diode Forward Voltage | V _{SD} | I _S =-1.5A, V _{GS} =0V | | -0.89 | -1.2 | V |

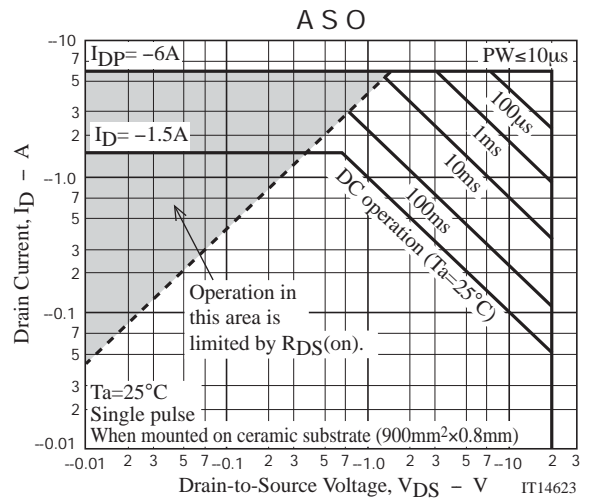
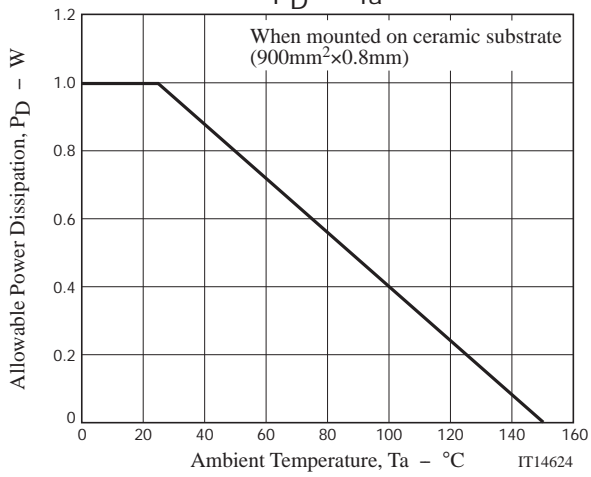
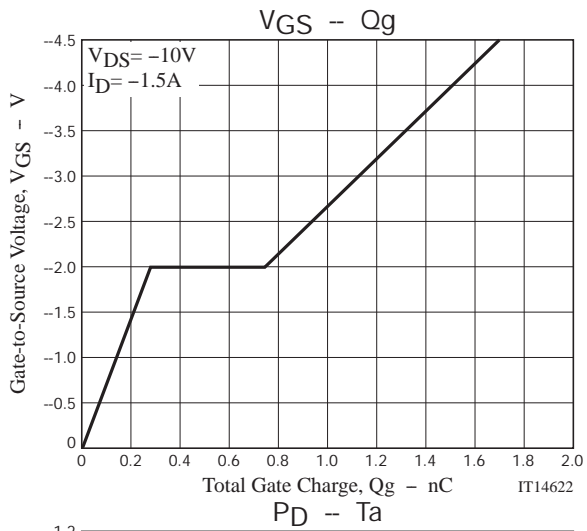
Switching Time Test Circuit



Ordering Information

| Device | Package | Shipping | memo |
|--------------|---------|----------------|--------------------------|
| SCH1330-TL-H | SCH6 | 5,000pcs./reel | Pb Free and Halogen Free |





SCH1330

Taping Specification

SCH1330-TL-H

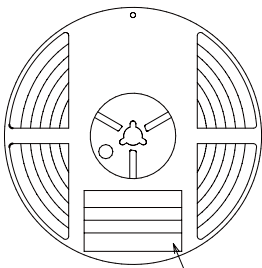
1. Packing Format

| 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)

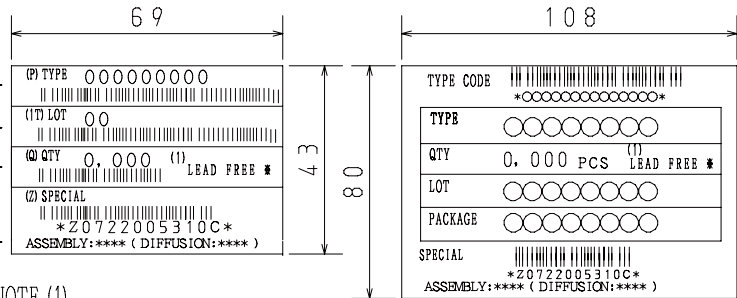
Outer box label
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



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

Reel label



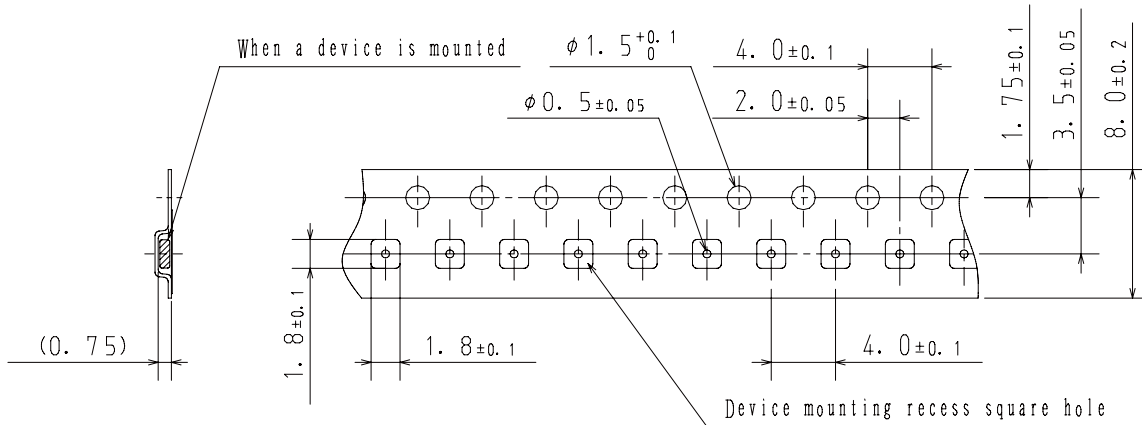
NOTE (1)

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

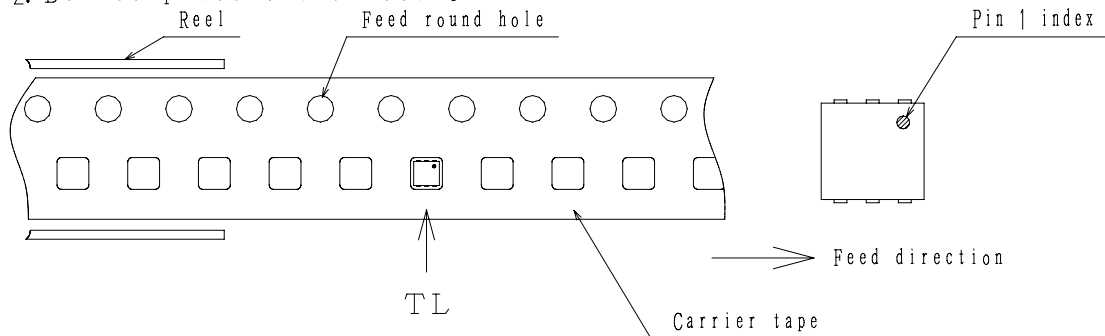
| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

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

Note on usage : Since the SCH1330 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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