



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

## SCH1434 — General-Purpose Switching Device Applications

### Features

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

### Specifications

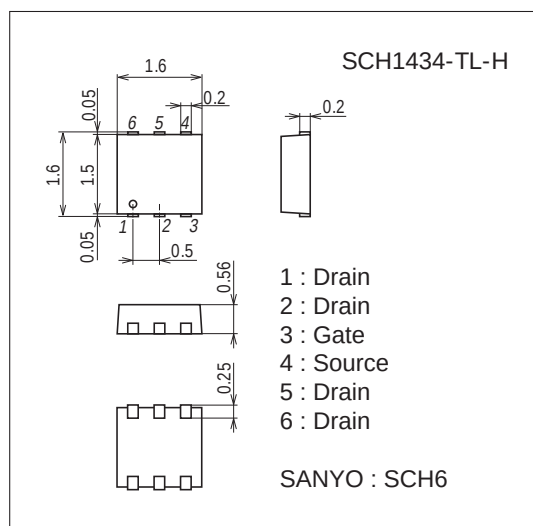
Absolute Maximum Ratings at Ta=25°C

| Parameter                   | Symbol    | Conditions                                                     | Ratings     | Unit |
|-----------------------------|-----------|----------------------------------------------------------------|-------------|------|
| Drain-to-Source Voltage     | $V_{DS}$  |                                                                | 30          | V    |
| Gate-to-Source Voltage      | $V_{GS}$  |                                                                | $\pm 12$    | V    |
| Drain Current (DC)          | $I_D$     |                                                                | 2           | A    |
| Drain Current (Pulse)       | $I_{DP}$  | $PW \leq 10\mu s$ , duty cycle $\leq 1\%$                      | 8           | A    |
| Allowable Power Dissipation | $P_D$     | When mounted on ceramic substrate (900mm <sup>2</sup> × 0.8mm) | 0.8         | W    |
| Channel Temperature         | $T_{ch}$  |                                                                | 150         | °C   |
| Storage Temperature         | $T_{stg}$ |                                                                | -55 to +150 | °C   |

### Package Dimensions

unit : mm (typ)

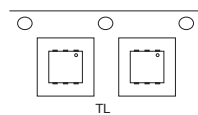
7028-002



### Product & Package Information

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

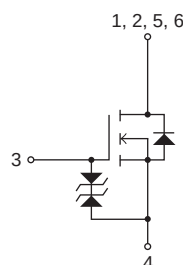
### Packing Type : TL



### Marking



### Electrical Connection

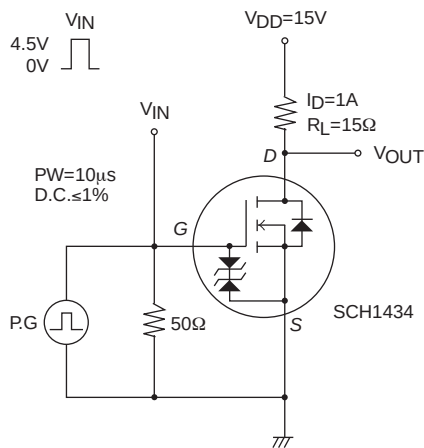


# SCH1434

## Electrical Characteristics at Ta=25°C

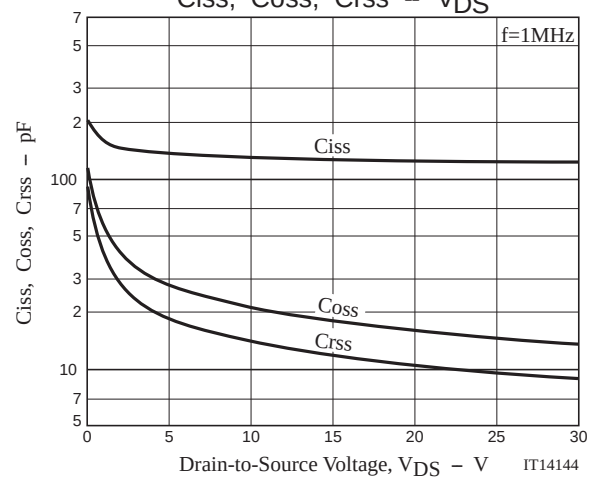
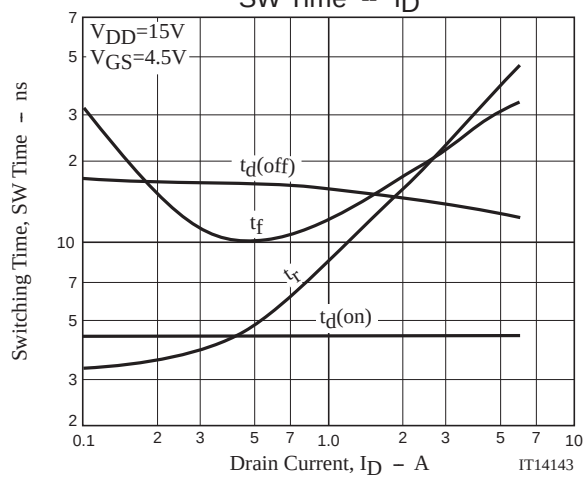
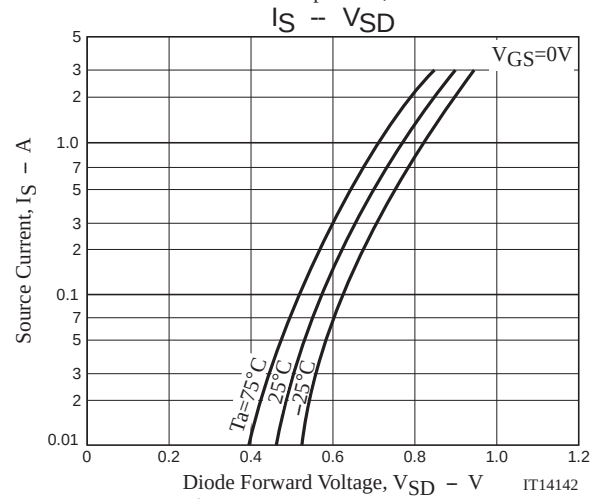
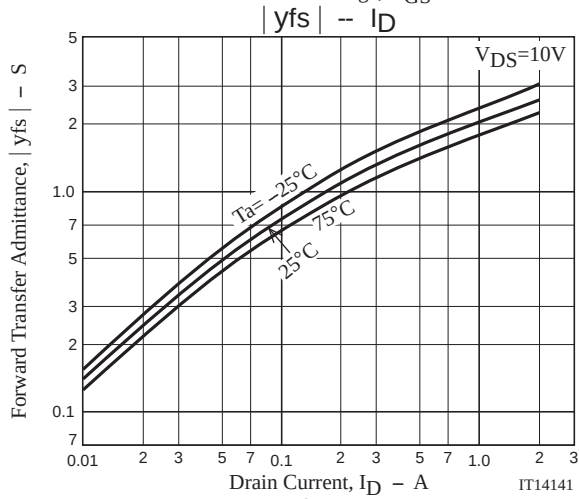
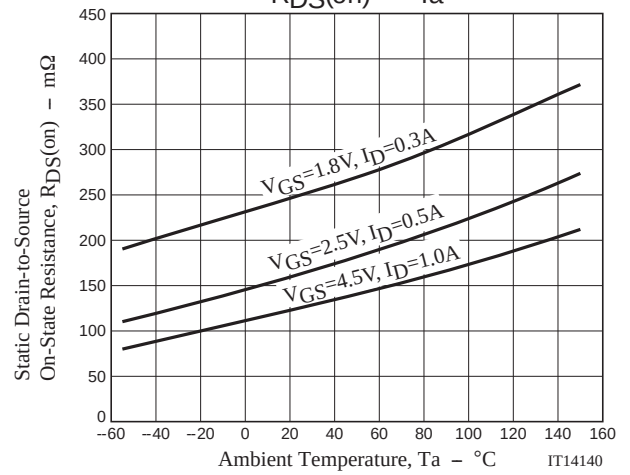
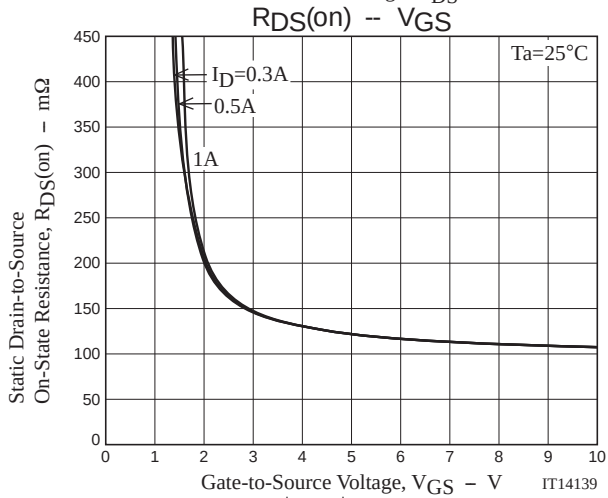
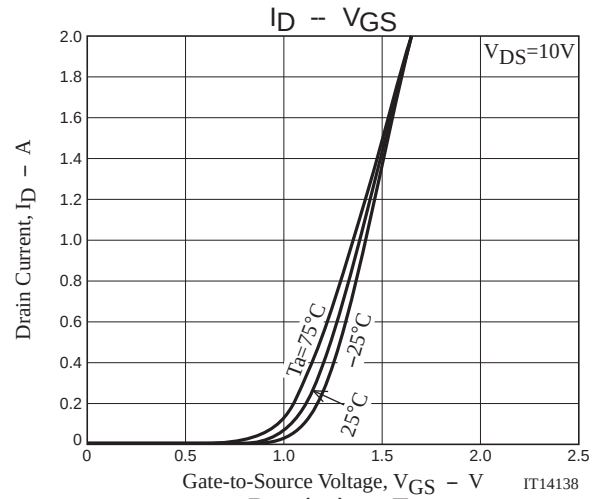
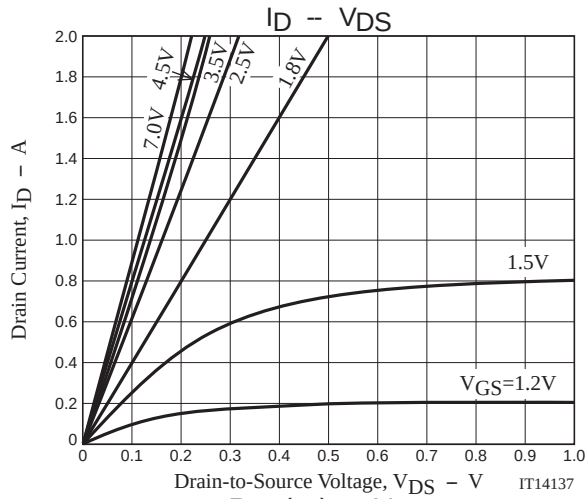
| Parameter                                  | Symbol        | Conditions                        | Ratings |      |          | Unit       |
|--------------------------------------------|---------------|-----------------------------------|---------|------|----------|------------|
|                                            |               |                                   | min     | typ  | max      |            |
| Drain-to-Source Breakdown Voltage          | $V_{(BR)DSS}$ | $I_D=1mA, V_{GS}=0V$              | 30      |      |          | V          |
| Zero-Gate Voltage Drain Current            | $I_{DSS}$     | $V_{DS}=30V, V_{GS}=0V$           |         |      | 1        | $\mu A$    |
| Gate-to-Source Leakage Current             | $I_{GSS}$     | $V_{GS}=\pm 8V, V_{DS}=0V$        |         |      | $\pm 10$ | $\mu A$    |
| Cutoff Voltage                             | $V_{GS(off)}$ | $V_{DS}=10V, I_D=1mA$             | 0.4     |      | 1.3      | V          |
| Forward Transfer Admittance                | $ y_{fs} $    | $V_{DS}=10V, I_D=1A$              |         | 2.0  |          | S          |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=1A, V_{GS}=4.5V$             |         | 125  | 165      | m $\Omega$ |
|                                            | $R_{DS(on)2}$ | $I_D=0.5A, V_{GS}=2.5V$           |         | 165  | 235      | m $\Omega$ |
|                                            | $R_{DS(on)3}$ | $I_D=0.3A, V_{GS}=1.8V$           |         | 250  | 375      | m $\Omega$ |
| Input Capacitance                          | $C_{iss}$     | $V_{DS}=10V, f=1MHz$              |         | 130  |          | pF         |
| Output Capacitance                         | $C_{oss}$     |                                   |         | 21   |          | pF         |
| Reverse Transfer Capacitance               | $C_{rss}$     |                                   |         | 14   |          | pF         |
| Turn-ON Delay Time                         | $t_d(on)$     | See specified Test Circuit.       |         | 4.4  |          | ns         |
| Rise Time                                  | $t_r$         |                                   |         | 8.7  |          | ns         |
| Turn-OFF Delay Time                        | $t_d(off)$    |                                   |         | 16   |          | ns         |
| Fall Time                                  | $t_f$         |                                   |         | 12   |          | ns         |
| Total Gate Charge                          | $Q_g$         | $V_{DS}=10V, V_{GS}=4.5V, I_D=2A$ |         | 1.7  |          | nC         |
| Gate-to-Source Charge                      | $Q_{gs}$      |                                   |         | 0.25 |          | nC         |
| Gate-to-Drain "Miller" Charge              | $Q_{gd}$      |                                   |         | 0.38 |          | nC         |
| Diode Forward Voltage                      | $V_{SD}$      | $I_S=2A, V_{GS}=0V$               |         | 0.85 | 1.2      | V          |

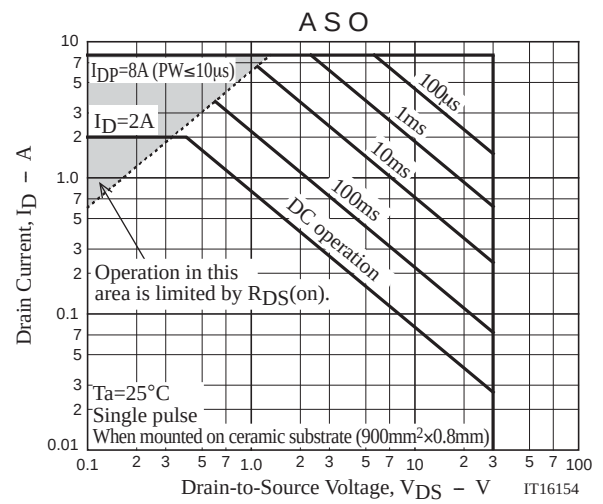
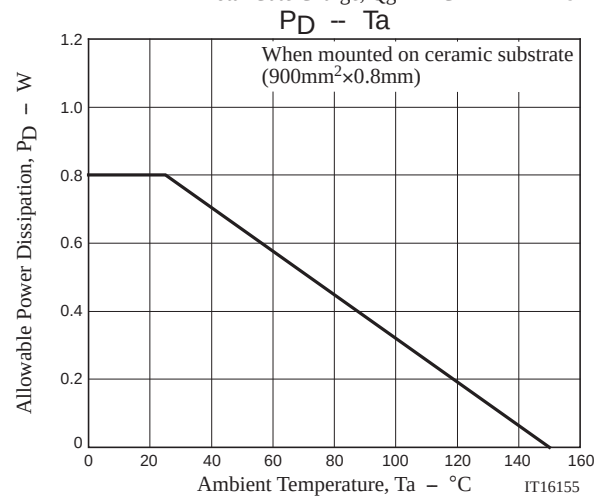
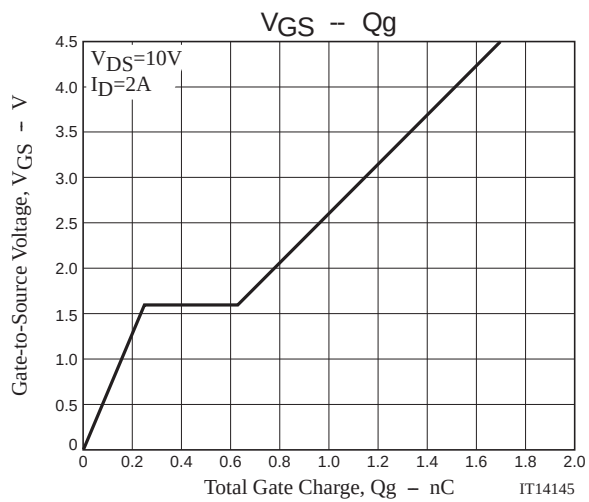
## Switching Time Test Circuit



## Ordering Information

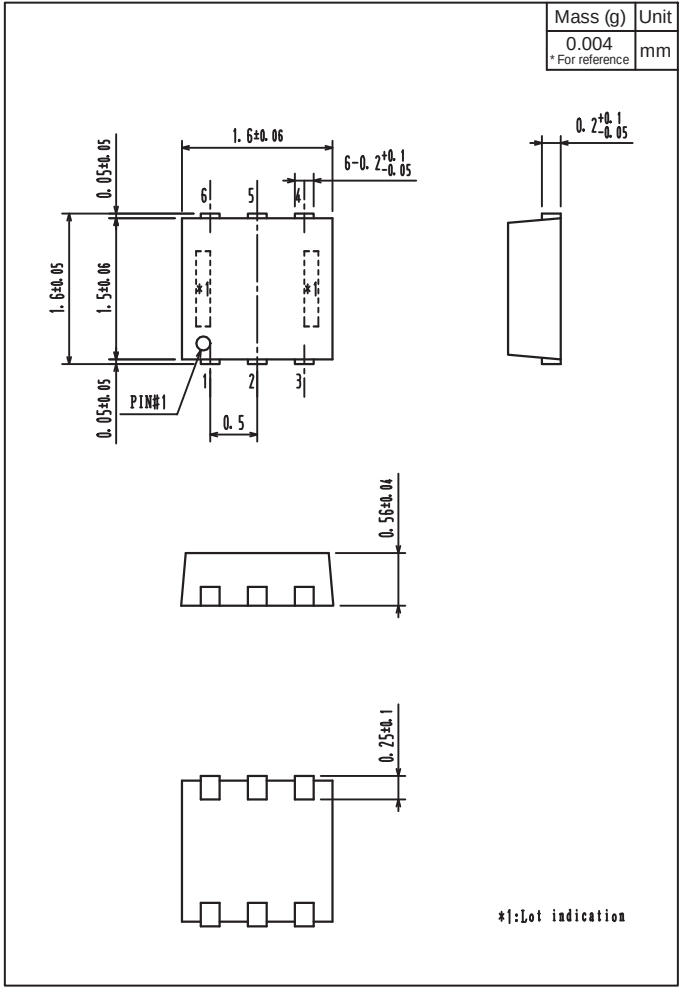
| Device       | Package | Shipping       | memo                     |
|--------------|---------|----------------|--------------------------|
| SCH1434-TL-H | SCH6    | 5,000pcs./reel | Pb Free and Halogen Free |



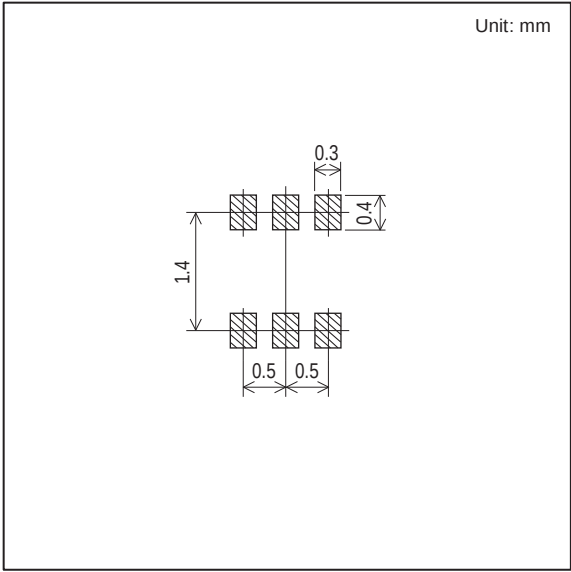




Outline Drawing  
SCH1434-TL-H



Land Pattern Example



Note on usage : Since the SCH1434 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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