



SCH1337

P-Channel Power MOSFET -30V, -2A, 150mΩ, Single SCH6

ON Semiconductor®

<http://onsemi.com>

Features

- ON-resistance $R_{DS(on)1}=115m\Omega$ (typ.)
- 4V drive
- Halogen free compliance

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-----------|---------------------------------------------------------------|-------------|------|
| Drain to Source Voltage | V_{DSS} | | -30 | V |
| Gate to Source Voltage | V_{GSS} | | ± 20 | V |
| Drain Current (DC) | I_D | | -2 | A |
| Drain Current (Pulse) | I_{DP} | $PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$ | -8 | 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 |

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

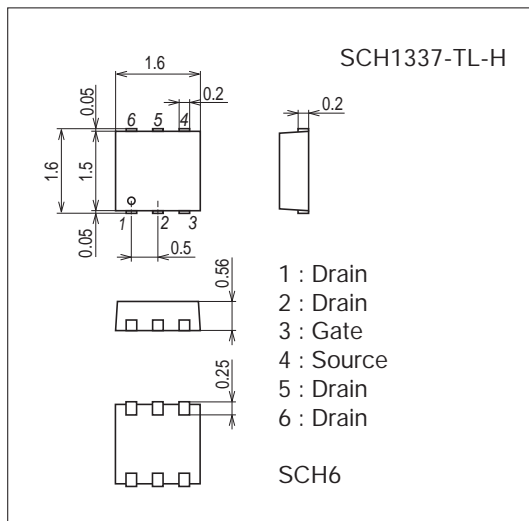
* Machine Model

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)

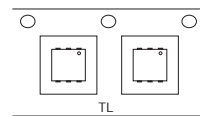
7028-002



Product & Package Information

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

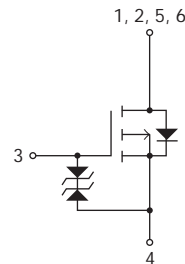
Packing Type : TL



Marking



Electrical Connection

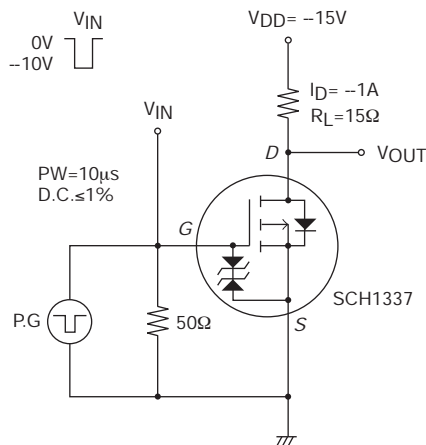


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Electrical Characteristics at Ta=25°C

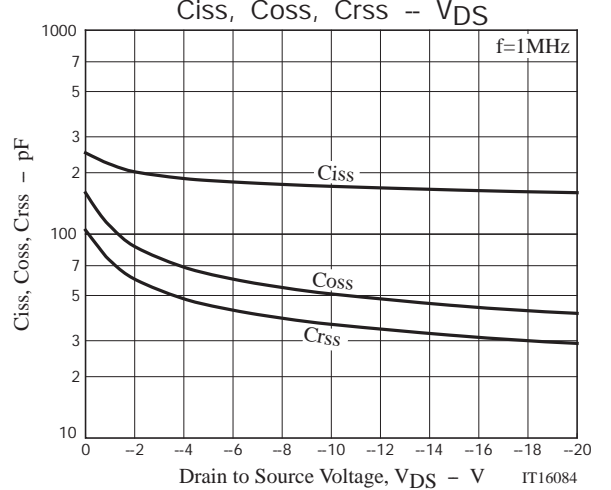
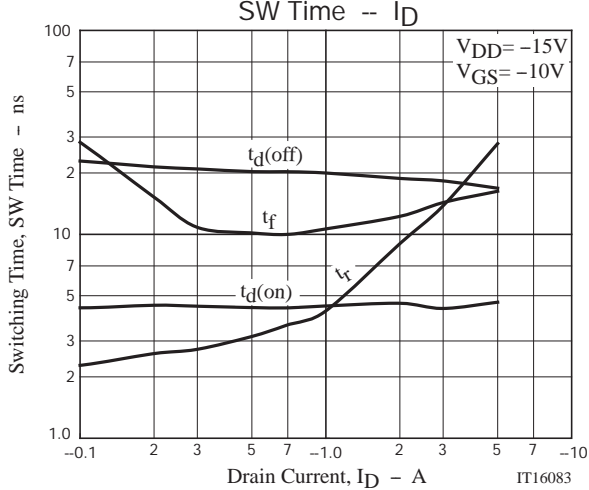
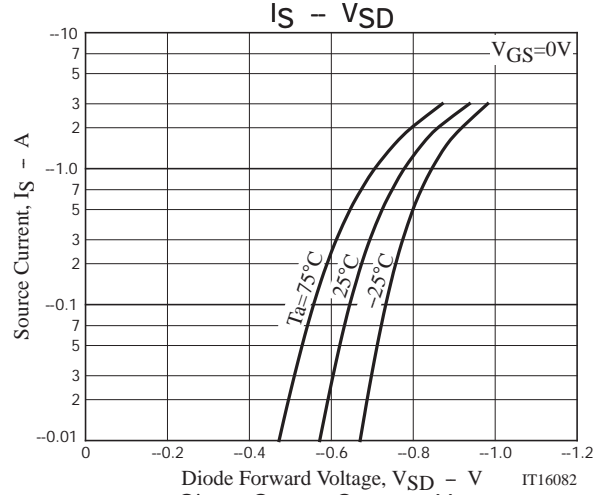
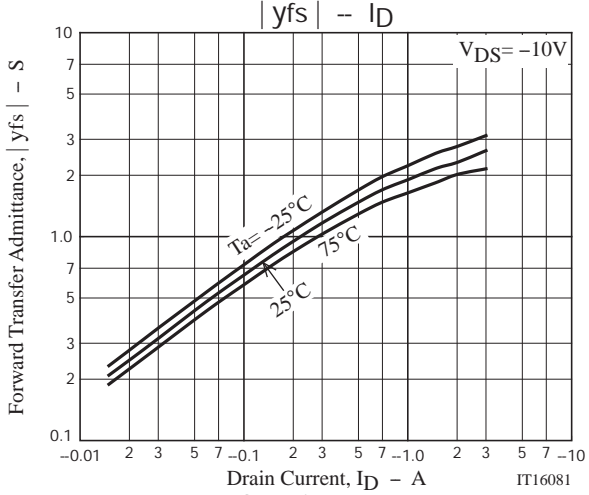
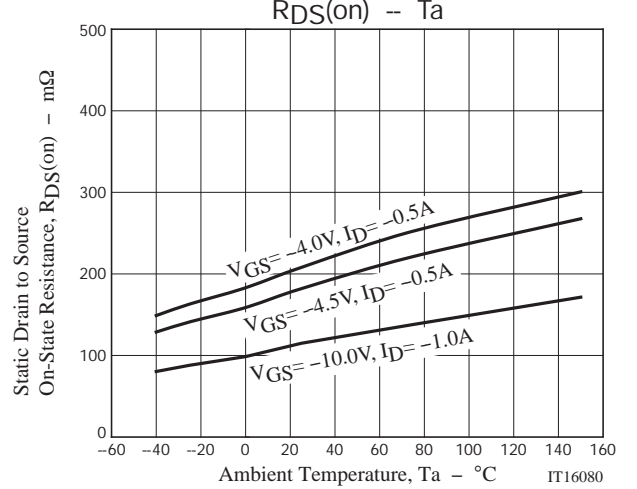
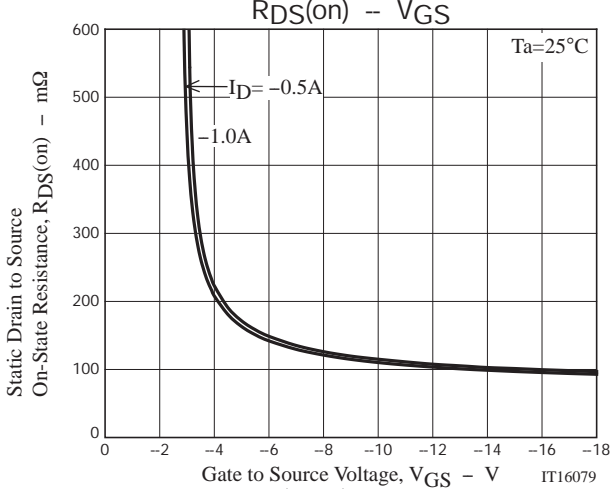
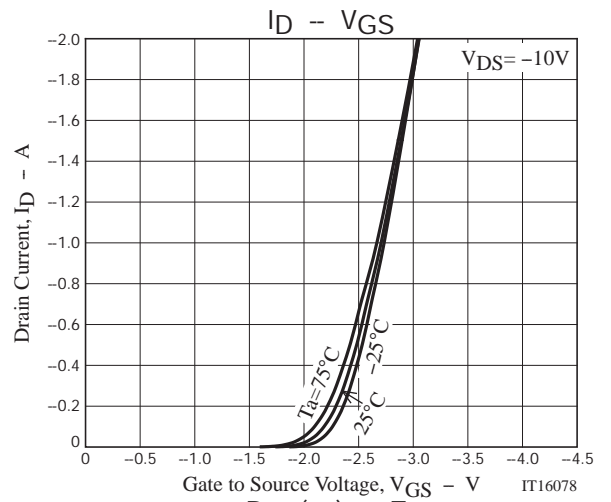
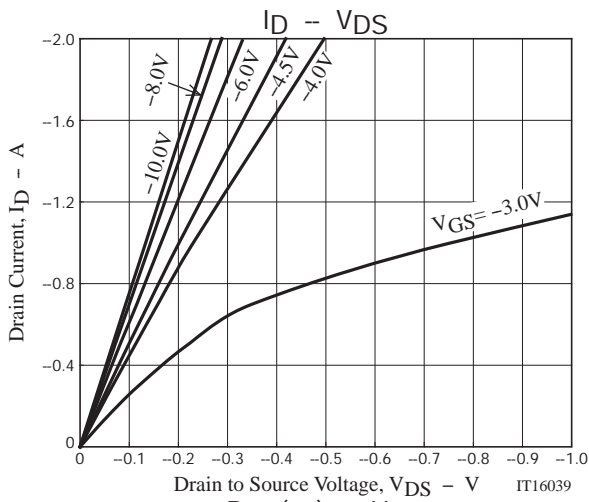
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------------------------------------|----------------------|-------------------------------------------------------------------|-----------------------------|-------|------|------|
| | | | min | typ | max | |
| Drain to Source Breakdown Voltage | V(BR)DSS | I _D =-1mA, V _{GS} =0V | -30 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =-30V, V _{GS} =0V | | | -1 | μA |
| Gate to Source Leakage Current | I _{GSS} | V _{GS} =±16V, V _{DS} =0V | | | ±10 | μA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =-10V, I _D =-1mA | -1.2 | | -2.6 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =-10V, I _D =-1A | | 1.9 | | S |
| Static Drain to Source On-State Resistance | R _{DS(on)1} | I _D =-1A, V _{GS} =-10V | | 115 | 150 | mΩ |
| | R _{DS(on)2} | I _D =-0.5A, V _{GS} =-4.5V | | 182 | 255 | mΩ |
| | R _{DS(on)3} | I _D =-0.5A, V _{GS} =-4V | | 208 | 292 | mΩ |
| Input Capacitance | C _{iss} | V _{DS} =-10V, f=1MHz | | 172 | | pF |
| Output Capacitance | C _{oss} | | | 51 | | pF |
| Reverse Transfer Capacitance | C _{rss} | | | 36 | | pF |
| Turn-ON Delay Time | t _{d(on)} | | See specified Test Circuit. | | 4.5 | |
| Rise Time | t _r | | | 4.2 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | | | 20 | | ns |
| Fall Time | t _f | | | 10.6 | | ns |
| Total Gate Charge | Q _g | V _{DS} =-15V, V _{GS} =-10V, I _D =-2A | | | 3.9 | |
| Gate to Source Charge | Q _{gs} | | | 0.6 | | nC |
| Gate to Drain "Miller" Charge | Q _{gd} | | | 0.8 | | nC |
| Diode Forward Voltage | V _{SD} | I _S =-2A, V _{GS} =0V | | -0.86 | -1.5 | V |

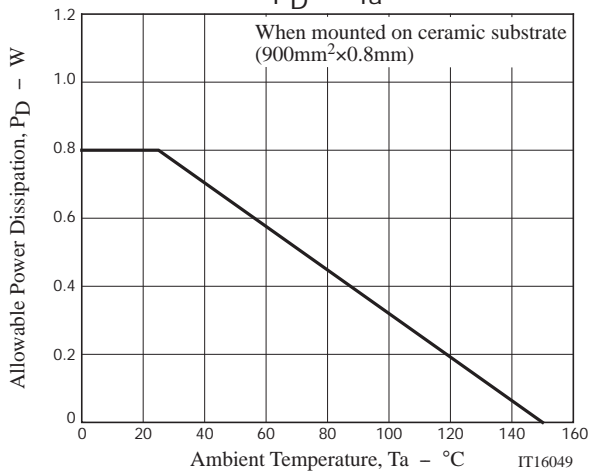
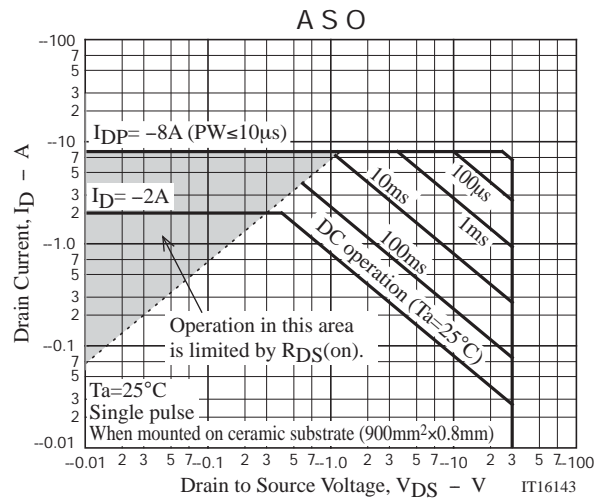
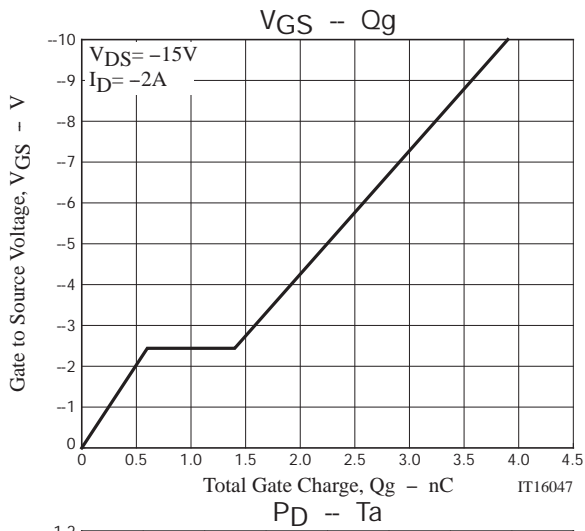
Switching Time Test Circuit



Ordering Information

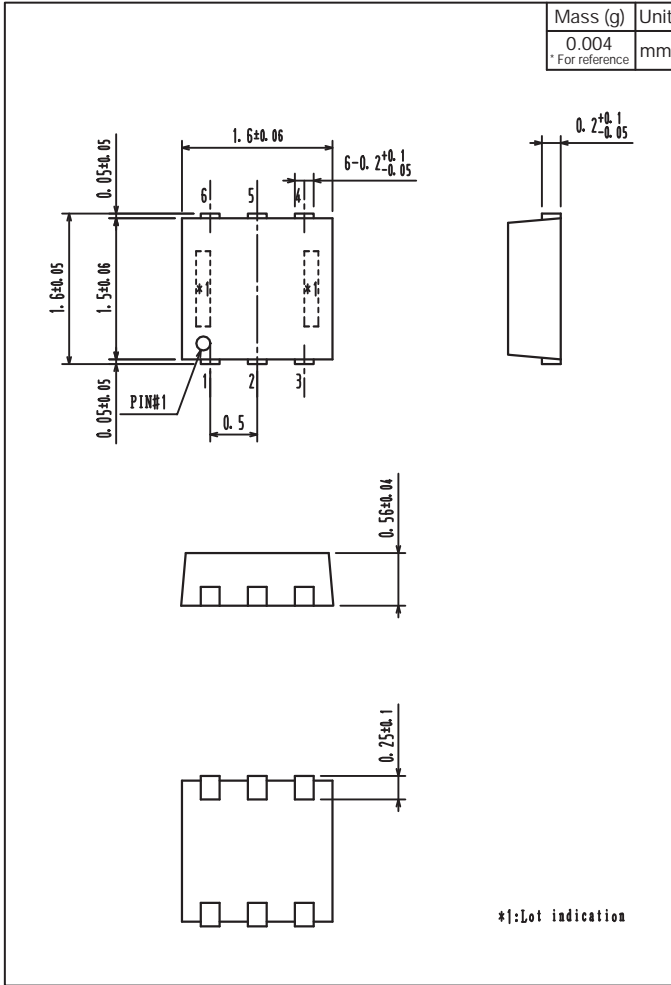
| Device | Package | Shipping | memo |
|--------------|---------|----------------|--------------------------|
| SCH1337-TL-H | SCH6 | 5,000pcs./reel | Pb-Free and Halogen Free |



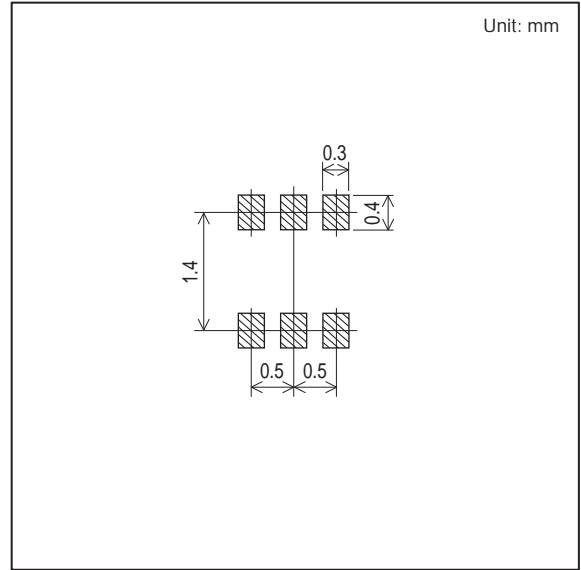


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Outline Drawing SCH1337-TL-H



Land Pattern Example



Note on usage : Since the SCH1337 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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