



SANYO Semiconductors

DATA SHEET

3LP04MH — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- 1.5V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|--|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | -30 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±10 | V |
| Drain Current (DC) | I _D | | -200 | mA |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | -800 | mA |
| Allowable Power Dissipation | P _D | Mounted on a ceramic board (900mm ² ×0.8mm) | 0.6 | W |
| Channel Temperature | T _{ch} | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

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} =±8V, V _{DS} =0V | | | ±10 | μA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =-10V, I _D =-100μA | -0.4 | | -1.4 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =-10V, I _D =-100mA | 190 | 320 | | mS |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-100mA, V _{GS} =-4V | | 1.8 | 2.4 | Ω |
| | R _{DS(on)2} | I _D =-50mA, V _{GS} =-2.5V | | 2.4 | 3.4 | Ω |
| | R _{DS(on)3} | I _D =-10mA, V _{GS} =-1.5V | | 4.5 | 9.0 | Ω |
| Input Capacitance | C _{iss} | V _{DS} =-10V, f=1MHz | | 35 | | pF |
| Output Capacitance | C _{oss} | V _{DS} =-10V, f=1MHz | | 7.2 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} =-10V, f=1MHz | | 2.1 | | pF |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit. | | 75 | | ns |
| Rise Time | t _r | See specified Test Circuit. | | 170 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | See specified Test Circuit. | | 550 | | ns |
| Fall Time | t _f | See specified Test Circuit. | | 350 | | ns |

Marking : QD

Continued on next page.

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3LP04MH

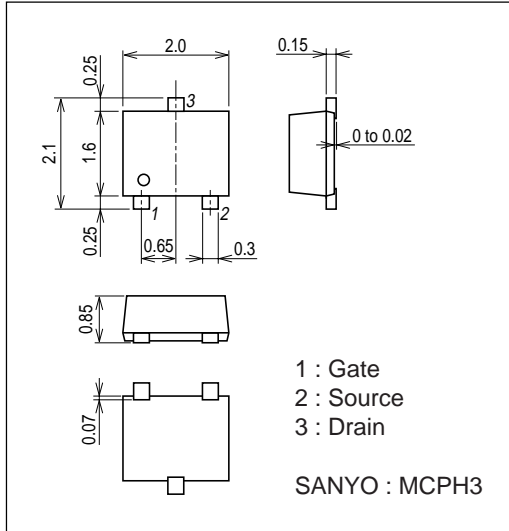
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|----------|---------------------------------------|---------|-------|------|------|
| | | | min | typ | max | |
| Total Gate Charge | Qg | $V_{DS}=-10V, V_{GS}=-4V, I_D=-200mA$ | | 0.58 | | nC |
| Gate-to-Source Charge | Qgs | $V_{DS}=-10V, V_{GS}=-4V, I_D=-200mA$ | | 0.17 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | $V_{DS}=-10V, V_{GS}=-4V, I_D=-200mA$ | | 0.12 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=-200mA, V_{GS}=0V$ | | -0.89 | -1.2 | V |

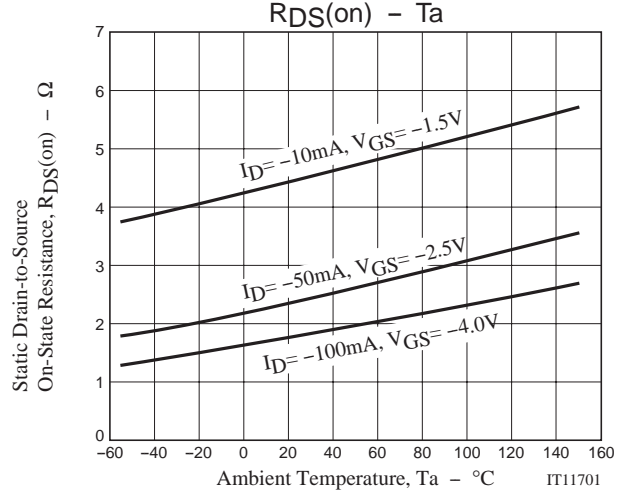
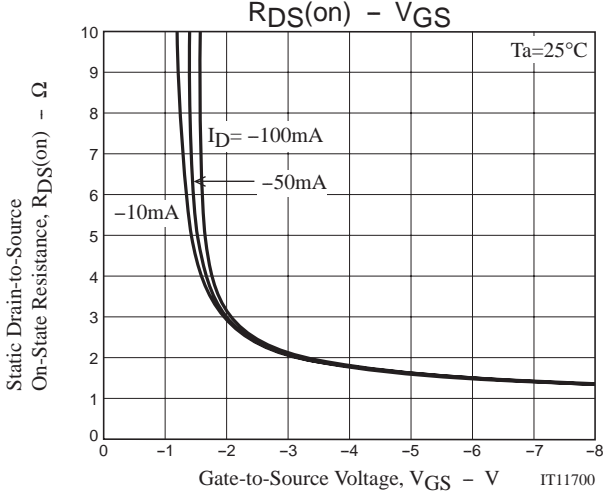
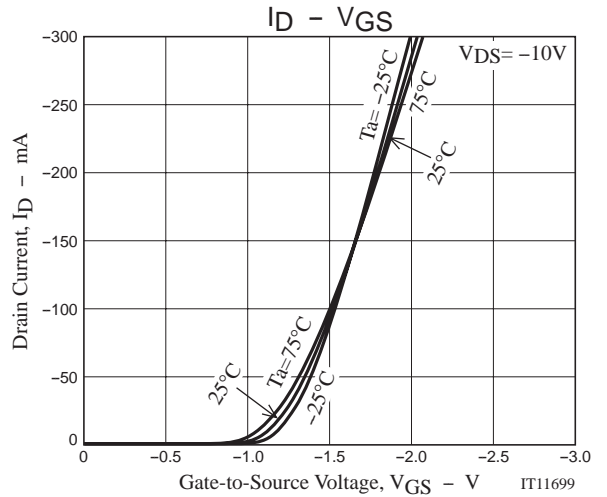
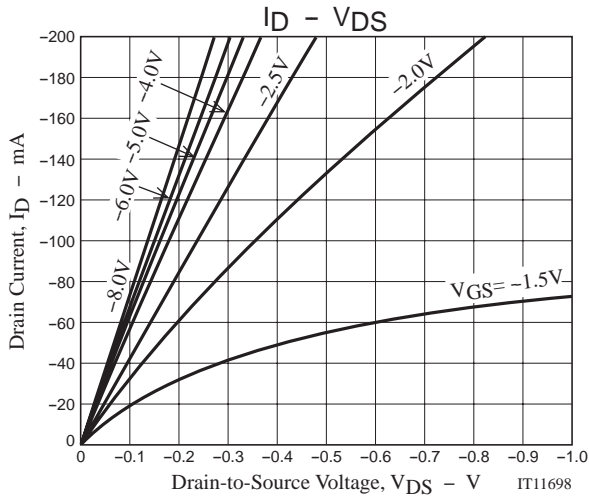
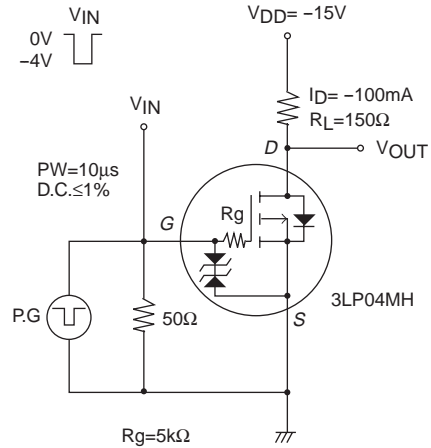
Package Dimensions

unit : mm (typ)

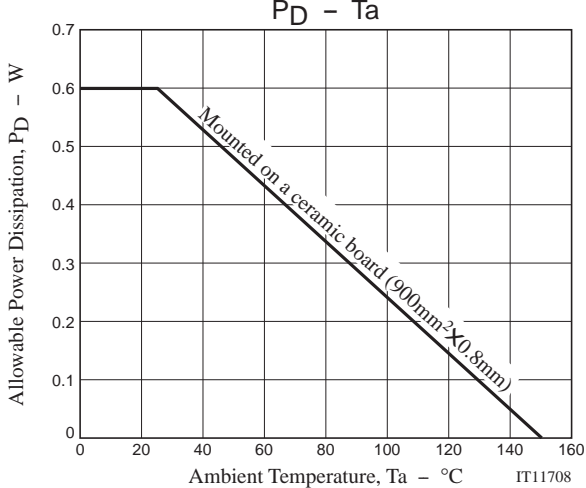
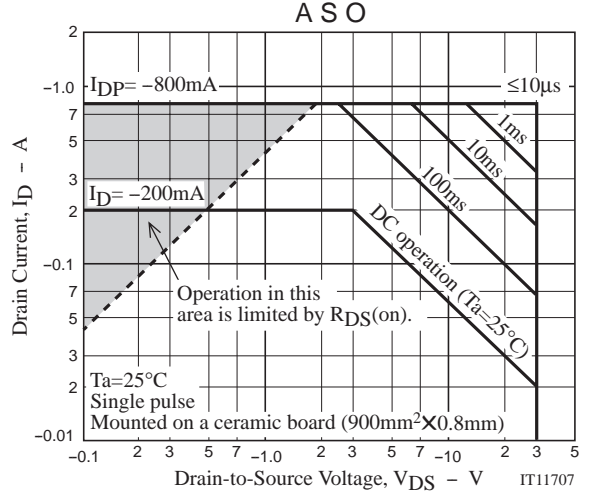
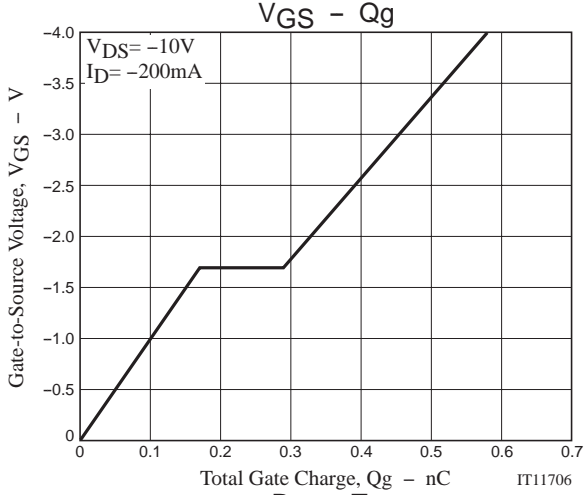
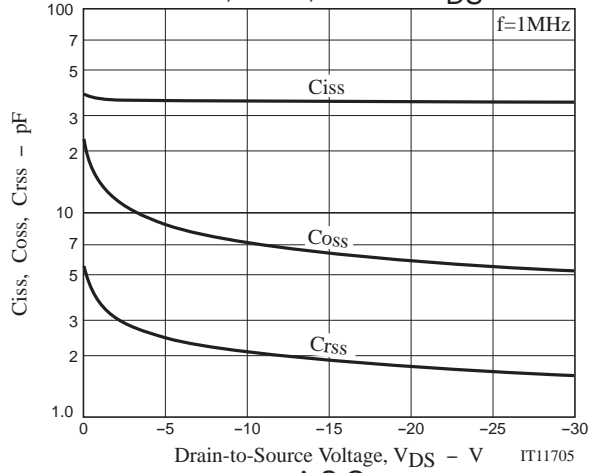
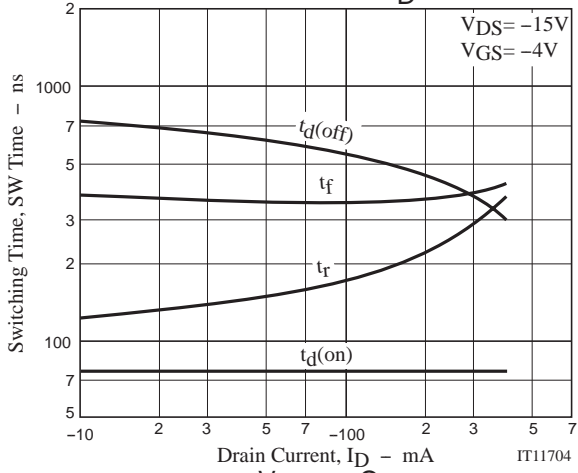
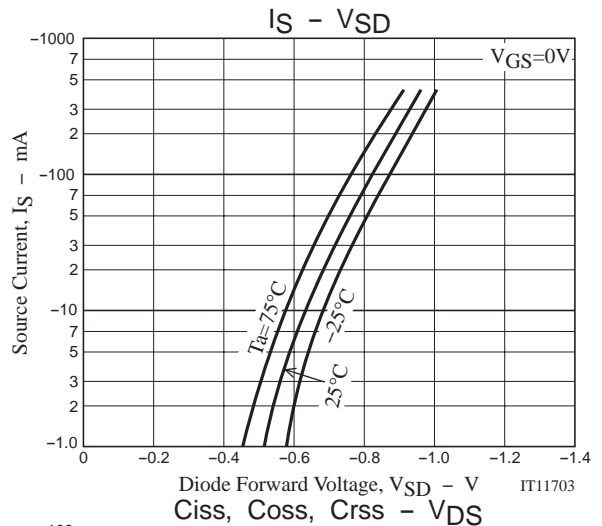
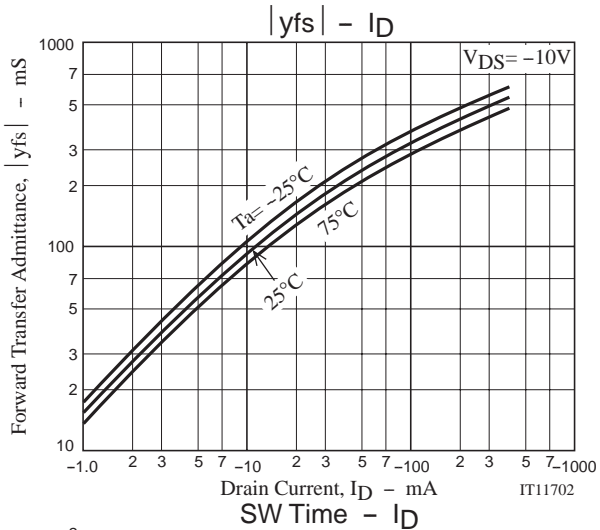
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Switching Time Test Circuit



3LP04MH



Note on usage : Since the 3LP04MH is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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