



SANYO Semiconductors

DATA SHEET

6LN04MH — N-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} | | 60 | 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 (900mm²×0.8mm) | 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 | 60 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =60V, 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 | | 1.3 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =10V, I _D =100mA | 280 | 480 | | mS |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =100mA, V _{GS} =4V | | 2.2 | 2.9 | 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 | | 3.5 | 7.0 | Ω |
| Input Capacitance | C _{iss} | V _{DS} =20V, f=1MHz | | 26 | | pF |
| Output Capacitance | C _{oss} | V _{DS} =20V, f=1MHz | | 5.9 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} =20V, f=1MHz | | 3.2 | | pF |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit. | | 18.5 | | ns |
| Rise Time | t _r | See specified Test Circuit. | | 26 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | See specified Test Circuit. | | 146 | | ns |
| Fall Time | t _f | See specified Test Circuit. | | 69 | | ns |

Marking : FA

Continued on next page.

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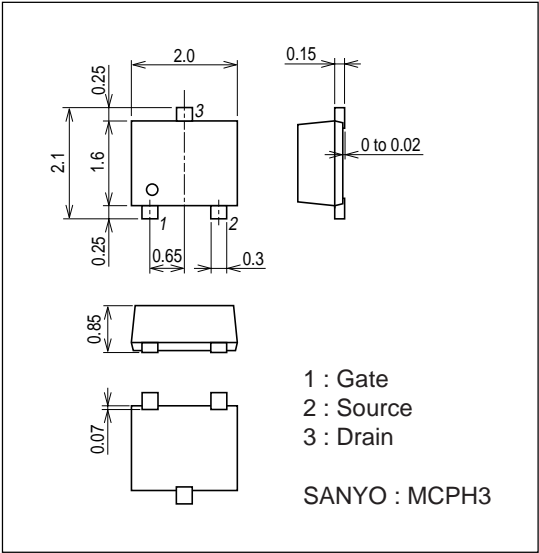
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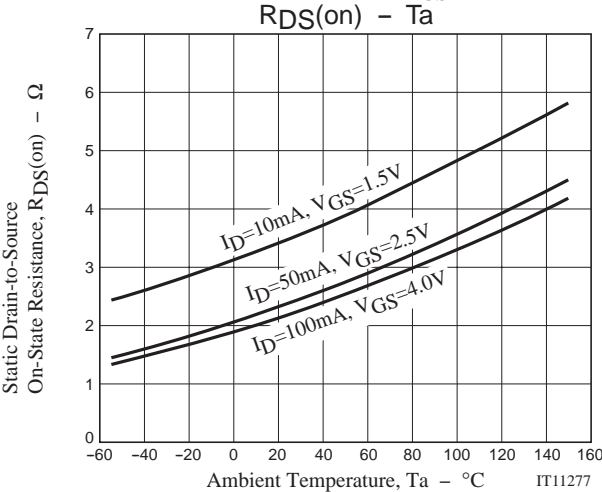
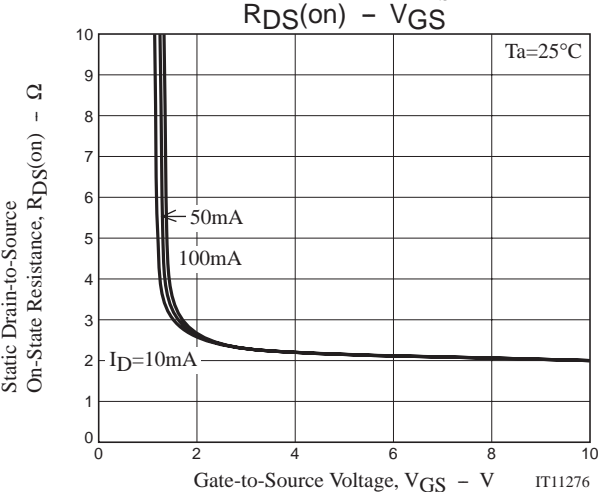
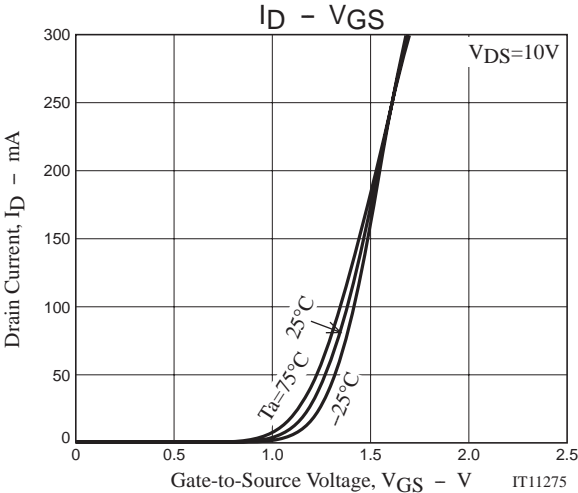
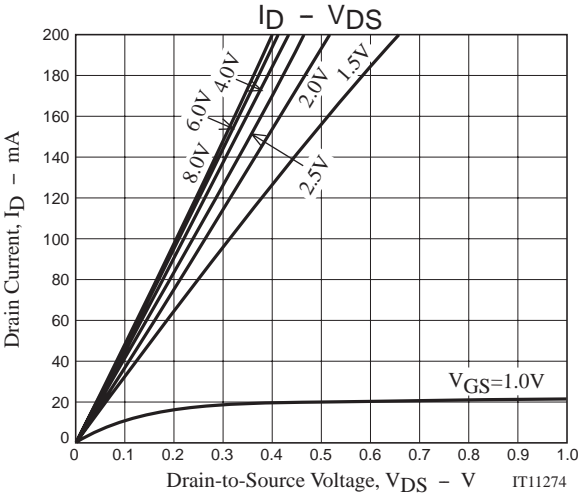
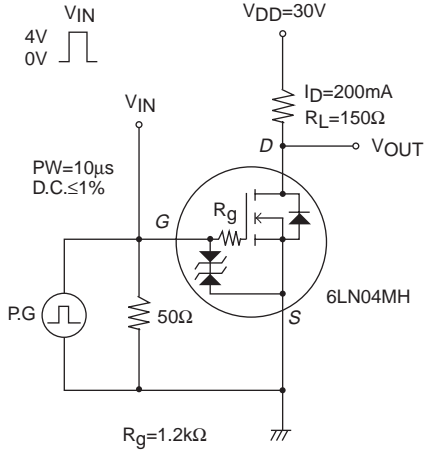
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|-----------------|--|---------|------|-----|------|
| | | | min | typ | max | |
| Total Gate Charge | Qg | V _{DS} =30V, V _{GS} =4V, I _D =200mA | | 1.0 | | nC |
| Gate-to-Source Charge | Qgs | V _{DS} =30V, V _{GS} =4V, I _D =200mA | | 0.2 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | V _{DS} =30V, V _{GS} =4V, I _D =200mA | | 0.2 | | nC |
| Diode Forward Voltage | V _{SD} | I _S =200mA, V _{GS} =0V | | 0.83 | 1.2 | V |

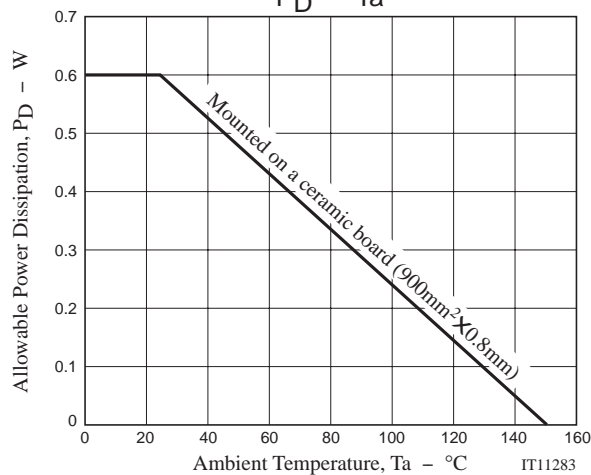
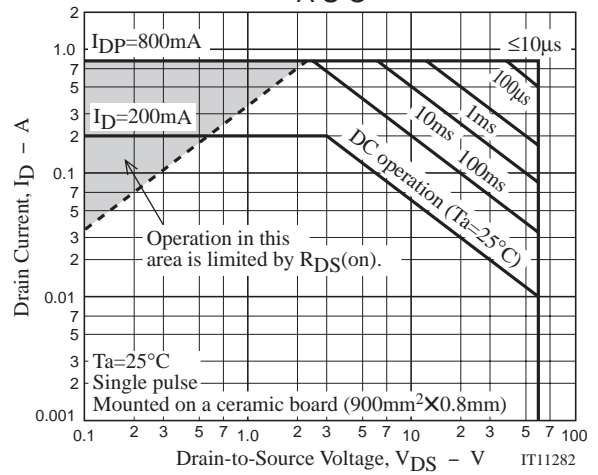
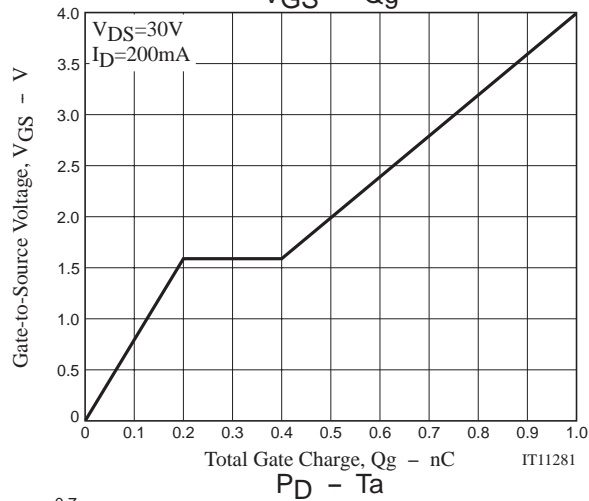
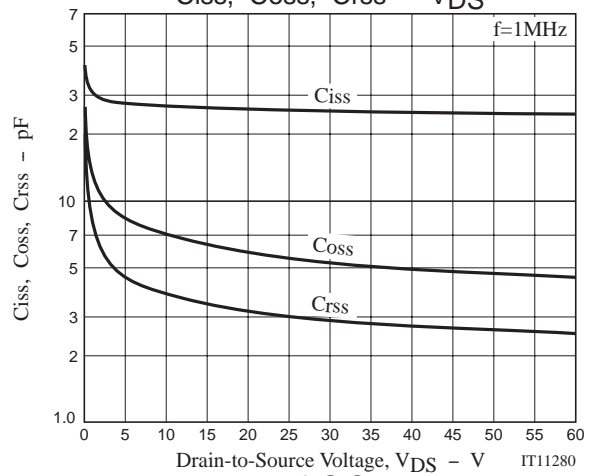
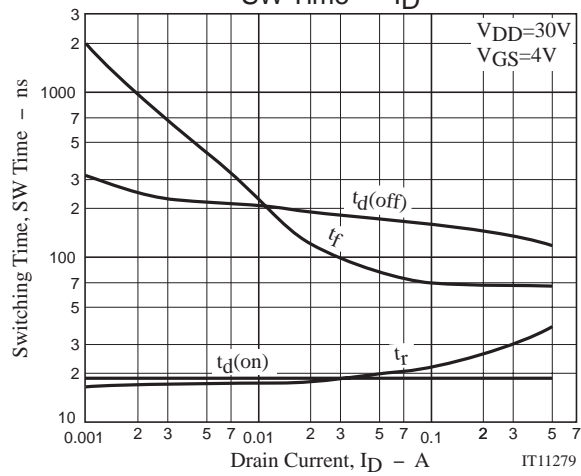
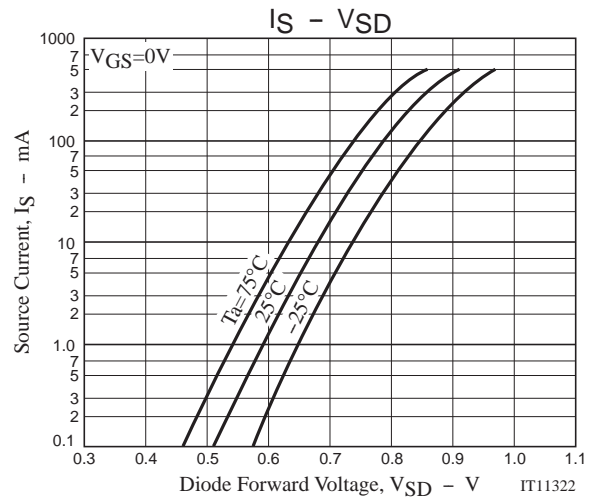
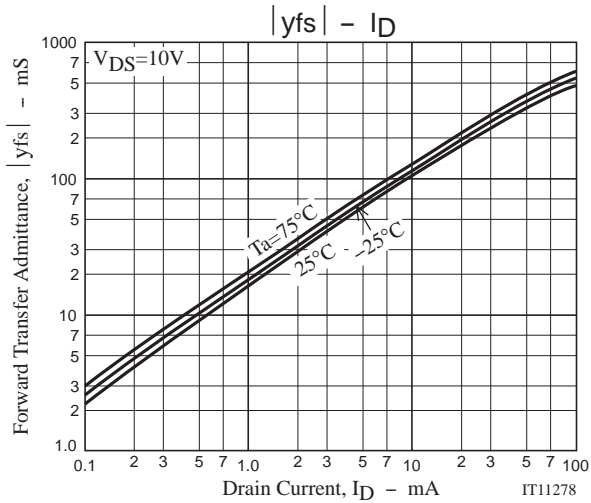
Package Dimensions

unit : mm (typ)
7019A-003



Switching Time Test Circuit





Note on usage : Since the 6LN04MH is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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