



SANYO Semiconductors

DATA SHEET

2SK3096 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- High-speed switching.
- 15V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|----------------------|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | 400 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±30 | V |
| Drain Current (DC) | I _D | | 7 | A |
| Drain Current (Pulse) | I _{DP} | | 28 | A |
| Allowable Power Dissipation | P _D | T _c =25°C | 70 | 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 | 400 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =320V, V _{GS} =0V | | | 1.0 | mA |
| Gate-to-Source Leakage Current | I _{GSS} | V _{GS} = ±30V, V _{DS} =0V | | | ±100 | nA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =10V, I _D =1mA | 3.0 | | 4.0 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =10V, I _D =3.5A | 1.8 | 3.6 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)} | I _D =3.5A, V _{GS} =15V | | 0.68 | 0.87 | Ω |
| Input Capacitance | C _{iss} | V _{DS} =20V, f=1MHz | | 860 | | pF |
| Output Capacitance | C _{oss} | V _{DS} =20V, f=1MHz | | 230 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} =20V, f=1MHz | | 110 | | pF |

Continued on next page.

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2SK3096

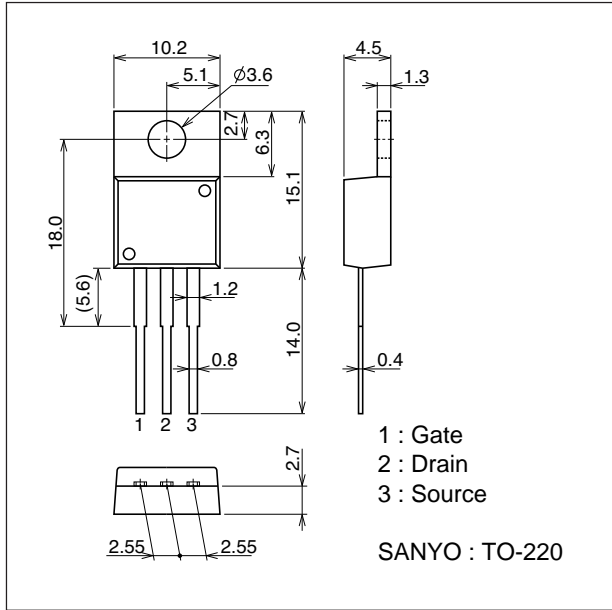
Continued from preceding page.

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-----------------------|---------------------|---|---------|-----|-----|------|
| | | | min | typ | max | |
| Total Gate Charge | Qg | V _{DS} =200V, I _D =7A, V _{GS} =10V | | 27 | | nC |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit. | | 15 | | ns |
| Rise Time | t _r | See specified Test Circuit. | | 20 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | See specified Test Circuit. | | 60 | | ns |
| Fall Time | t _f | See specified Test Circuit. | | 35 | | ns |
| Diode Forward Voltage | V _{SD} | I _S =7A, V _{GS} =0V | | | 1.2 | V |

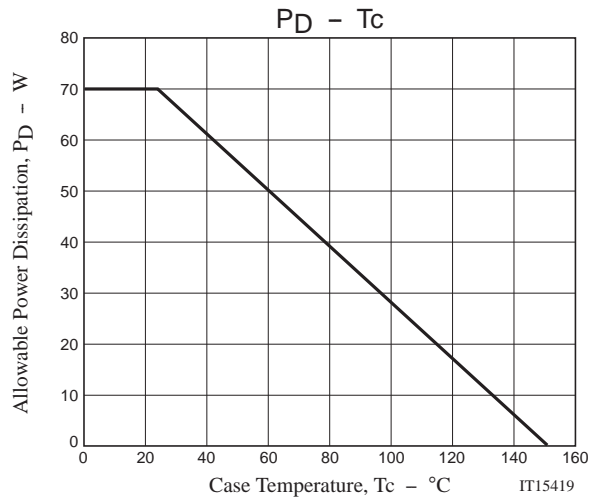
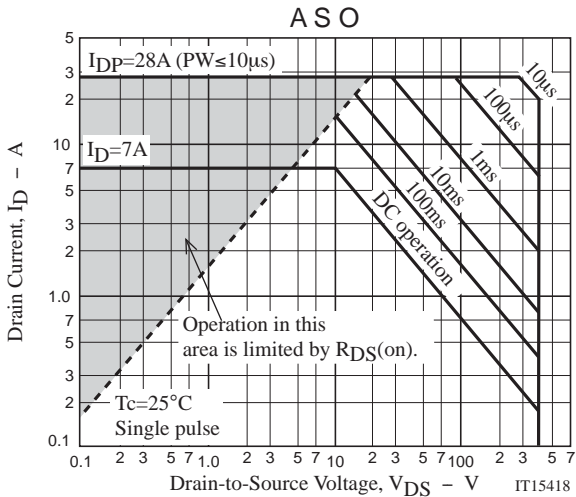
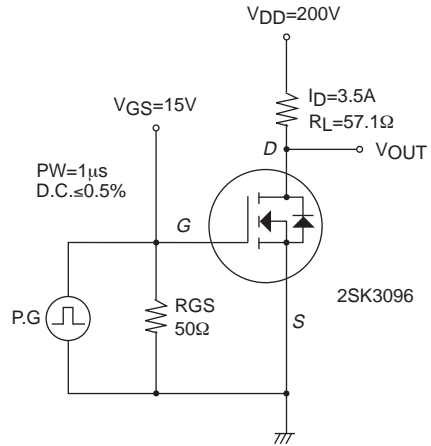
Package Dimensions

unit : mm (typ)

7507-002



Switching Time Test Circuit



Note on usage : Since the 2SK3096 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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