



ATP207 — N-Channel Silicon MOSFET

General-Purpose Switching Device

Applications

Features

- Low ON-resistance.
- Large current.
- Slim package.
- 4.5V drive.
- Halogen free compliance.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------------|------------------|------------------------|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | 40 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±20 | V |
| Drain Current (DC) | I _D | | 65 | A |
| Drain Current (PW≤10μs) | I _{DP} | PW≤10μs, duty cycle≤1% | 195 | A |
| Allowable Power Dissipation | P _D | T _c =25°C | 50 | W |
| Channel Temperature | T _{ch} | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |
| Avalanche Energy (Single Pulse) *1 | E _{AS} | | 35 | mJ |
| Avalanche Current *2 | I _{AV} | | 33 | A |

Note : *1 V_{DD}=10V, L=50μH, I_{AV}=33A

*2 L≤50μH, Single pulse

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 | 40 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =40V, V _{GS} =0V | | | 1 | μA |
| Gate-to-Source Leakage Current | I _{GSS} | V _{GS} =±16V, V _{DS} =0V | | | ±10 | μA |

Marking : ATP207

Continued on next page.

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ATP207

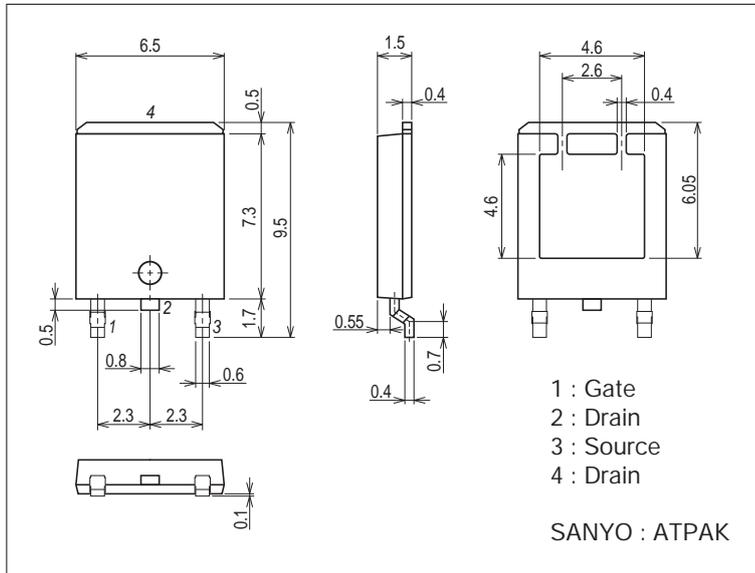
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|-----------------------------------|---------|------|------|------------|
| | | | min | typ | max | |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS}=10V, I_D=1mA$ | 1.5 | | 2.6 | V |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS}=10V, I_D=33A$ | 12 | 20 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=33A, V_{GS}=10V$ | | 7 | 9.1 | m Ω |
| | $R_{DS(on)2}$ | $I_D=17A, V_{GS}=4.5V$ | | 11 | 15.5 | m Ω |
| Input Capacitance | C_{iss} | $V_{DS}=20V, f=1MHz$ | | 2710 | | pF |
| Output Capacitance | C_{oss} | $V_{DS}=20V, f=1MHz$ | | 330 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=20V, f=1MHz$ | | 220 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 27 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 290 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit. | | 170 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 110 | | ns |
| Total Gate Charge | Q_g | $V_{DS}=20V, V_{GS}=10V, I_D=65A$ | | 54 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS}=20V, V_{GS}=10V, I_D=65A$ | | 14 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS}=20V, V_{GS}=10V, I_D=65A$ | | 11 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=65A, V_{GS}=0V$ | | 1.0 | 1.2 | V |

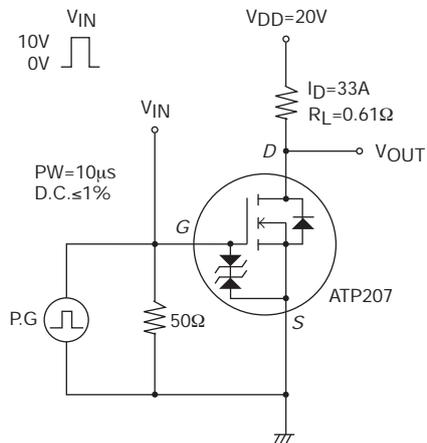
Package Dimensions

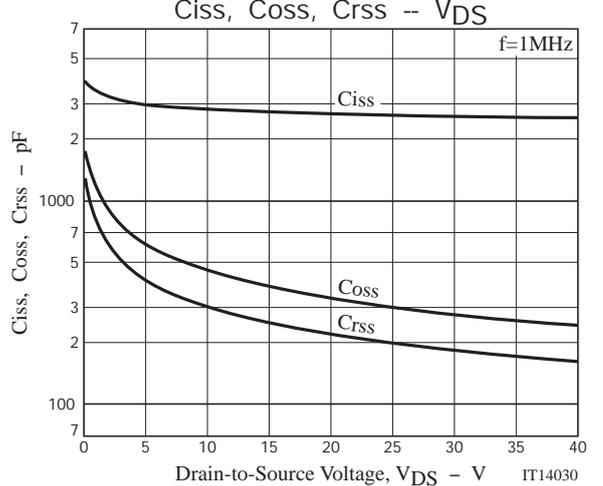
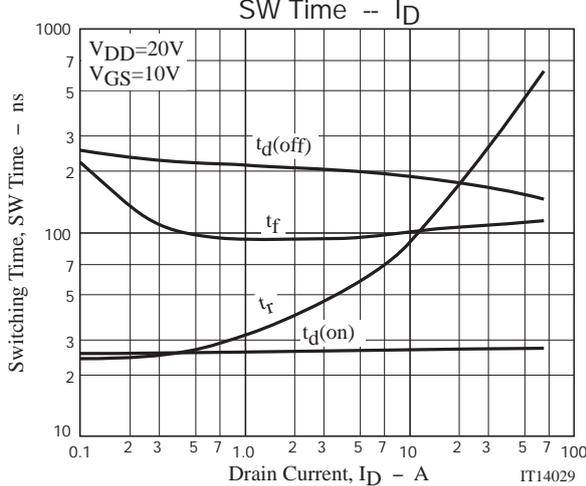
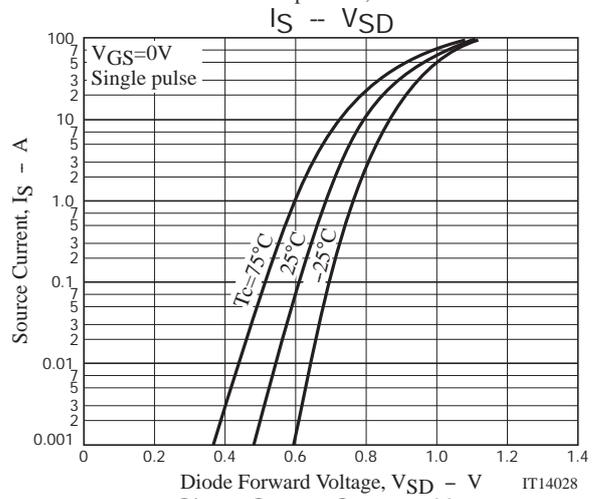
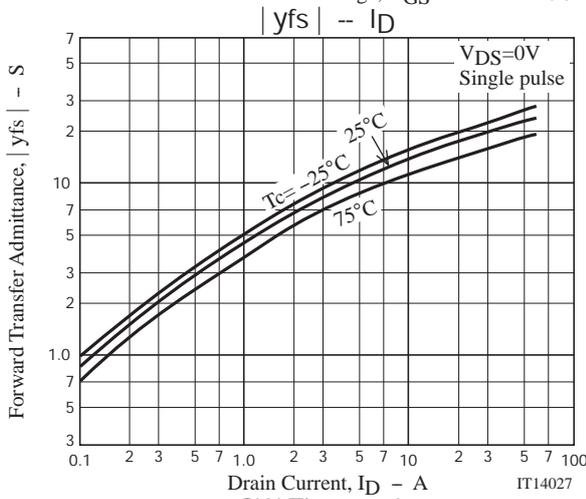
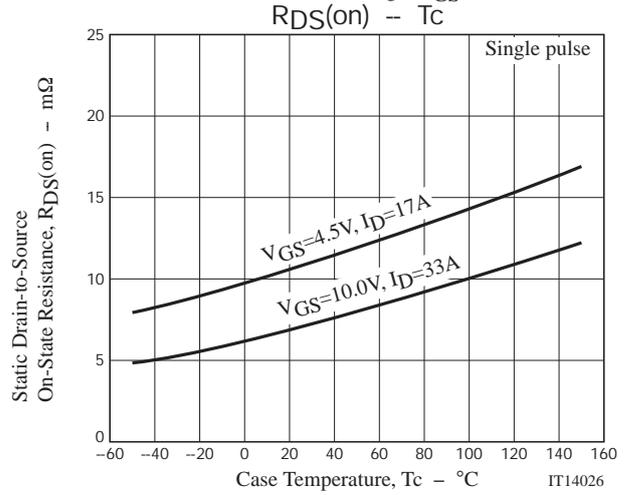
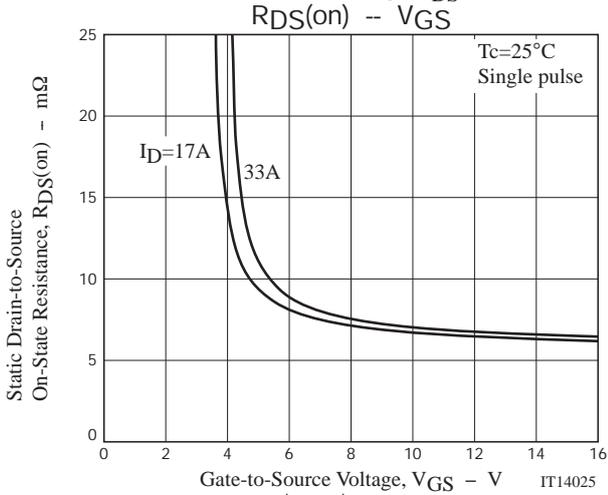
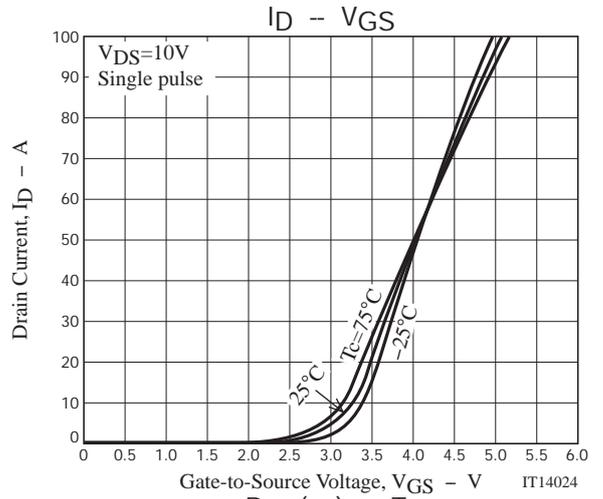
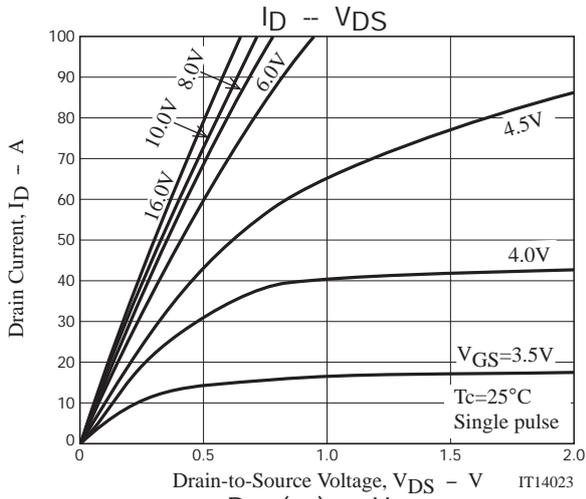
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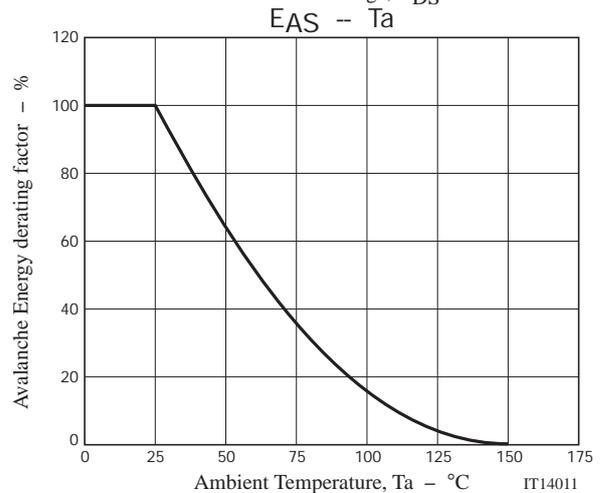
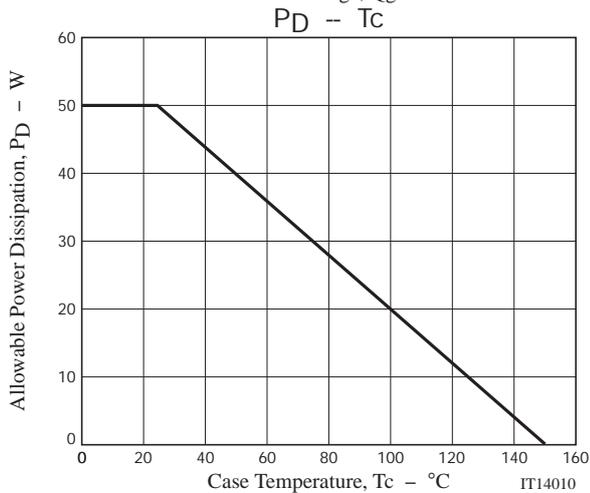
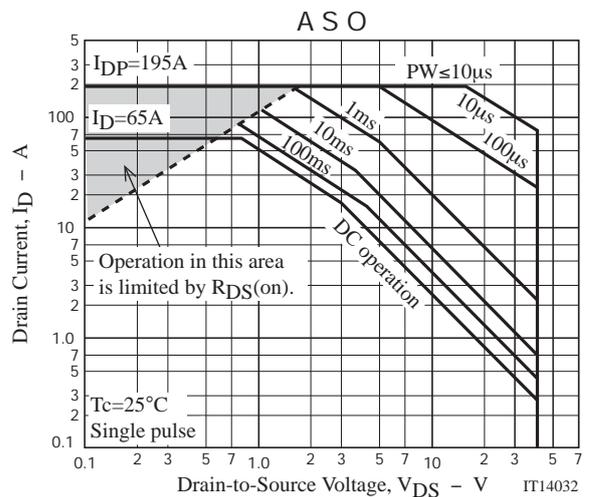
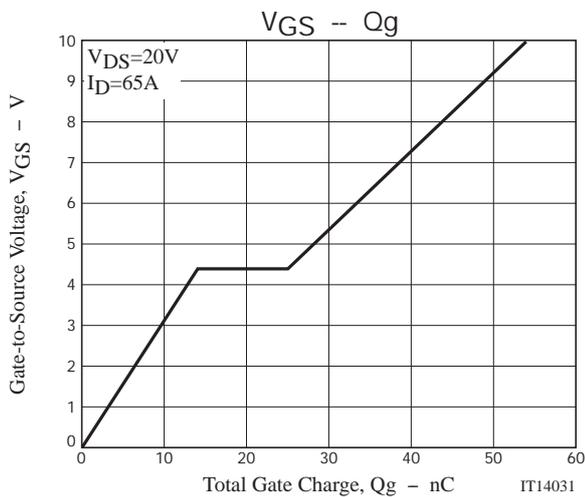
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Switching Time Test Circuit







Note on usage : Since the ATP207 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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