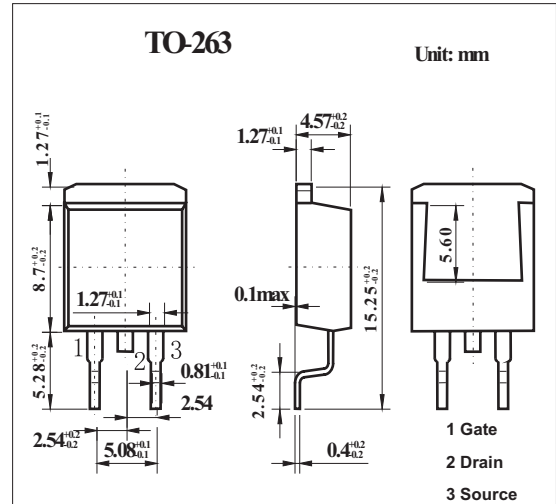


2SK3652

■ Features

- Low on-resistance, low Qg
- High avalanche resistance
- For high-speed switching



■ Absolute Maximum Ratings Ta = 25°C

| Parameter | Symbol | Rating | Unit |
|--------------------------------|------------------|-------------|------|
| Drain-source surrender voltage | V _{BS} | 230 | V |
| Gate-source surrender voltage | V _{GS} | ±30 | V |
| Drain current | I _D | 50 | A |
| Peak drain current | I _{DP} | 200 | A |
| Avalanche energy capability * | E _{AS} | 2 200 | mJ |
| Power dissipation Ta = 25°C | P _D | 3 | W |
| Power dissipation | | 100 | |
| Channel temperature | T _{ch} | 150 | °C |
| Storage temperature | T _{stg} | -55 to +150 | °C |

* L = 1 mH, I_L = 50 A, V_{DD} = 100 V, 1 pulse, Ta = 25°C

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|--|-----------------------|---|-----|-------|------|------|
| Gate-drain surrender voltage | V _{DSS} | I _D = 1 mA, V _{GS} = 0 | 230 | | | V |
| Gate threshold voltage | V _{th} | V _{DS} = 25 V, I _D = 10 mA | 2 | | 4 | V |
| Drain-source cutoff current | I _{DSS} | V _{DS} = 184 V, V _{GS} = 0 | | | 100 | μA |
| Gate-source cutoff currentt | I _{GSS} | V _{GS} = ±30 V, V _{DS} = 0 | | | ±1 | μA |
| Drain-source on resistance | R _{DS(on)} | V _{GS} = 10 V, I _D = 25 A | | 29 | 40 | mΩ |
| Forward transfer admittance | Y _{fs} | V _{DS} = 25 V, I _D = 25 A | 17 | 35 | | S |
| Short-circuit forward transfer capacitance | C _{iss} | V _{DS} = 25 V, V _{GS} = 0, f = 1 MHz | | 5 950 | | pF |
| Short-circuit output capacitance | C _{oss} | | | 850 | | pF |
| Reverse transfer capacitance | C _{rss} | | | 80 | | pF |
| Turn-on delay time | t _{d(on)} | V _{DD} = 100 V, I _D = 25 A, R _L = 4 Ω, V _{GS} = 10 V | | 65 | | ns |
| Rise time | t _r | | | 140 | | ns |
| Turn-off delay time | t _{d(off)} | | | 470 | | ns |
| Fall time | t _f | | | 145 | | ns |
| Diode foward voltage | V _{DSF} | I _{DR} = 50 A, V _{GS} = 0 | | | -1.5 | V |
| Reverse recovery time | t _{rr} | L = 230 μH, V _{DD} = 100 V | | 235 | | ns |
| Reverse recovery charge | Q _{rr} | I _{DR} = 25 A, di/dt = 100 A/μs | | 1 180 | | nC |
| Total gate charge | Q _g | V _{DD} = 100 V, I _D = 25 A, V _{GS} = 10 V | | 105 | | nC |
| Gate-source charge | Q _{gs} | | | 40 | | nC |
| Gate-drain charge | Q _{gd} | | | 14 | | nC |
| Channel-case heat resistance | R _{th(ch-c)} | | | | 1.25 | °C/W |
| Channel-atmosphere heat resistance | R _{th(ch-a)} | | | | 41.6 | °C/W |