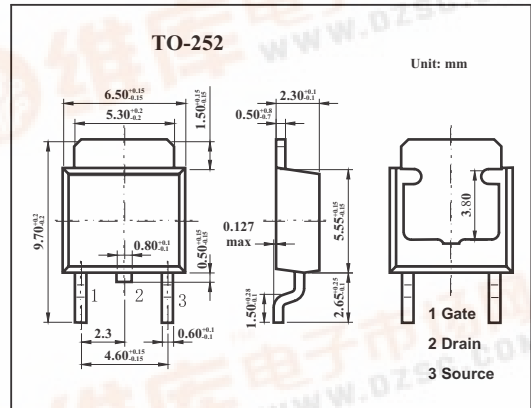
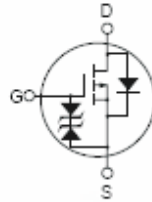


SMD Type MOSFET

MOS Field Effect Transistor  
2SJ598

Features

- Low on-resistance  
 $R_{DS(on)1} = 130\text{ m}\Omega\text{ MAX. (}V_{GS} = -10\text{ V, }I_D = -6\text{ A)}$   
 $R_{DS(on)2} = 190\text{ m}\Omega\text{ MAX. (}V_{GS} = -4.0\text{ V, }I_D = -6\text{ A)}$
- Low  $C_{iss}$ :  $C_{iss} = 720\text{ pF TYP.}$
- Built-in gate protection diode



Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$

| Parameter               | Symbol    | Rating      | Unit             |
|-------------------------|-----------|-------------|------------------|
| Drain to source voltage | $V_{DSS}$ | -60         | V                |
| Gate to source voltage  | $V_{GSS}$ | $\pm 20$    | V                |
| Drain current (DC)      | $I_D$     | $\pm 12$    | A                |
| Drain current(pulse) *  | $I_D$     | $\pm 30$    | A                |
| Power dissipation       | $P_D$     | 23          | W                |
| Channel temperature     | $T_{ch}$  | 150         | $^\circ\text{C}$ |
| Storage temperature     | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

\*  $PW \leq 10\ \mu\text{s}$ , duty cycle  $\leq 1\%$

## 2SJ598

## ■ Electrical Characteristics Ta = 25°C

| Parameter                           | Symbol        | Testconditions                                       | Min           | Typ  | Max      | Unit       |
|-------------------------------------|---------------|--|---------------|------|----------|------------|
| Drain cut-off current               | $I_{DSS}$     | $V_{DS}=-60V, V_{GS}=0$                              |               |      | -10      | $\mu A$    |
| Gate leakage current                | $I_{GSS}$     | $V_{GS}=\pm 16V, V_{DS}=0$                           |               |      | $\pm 10$ | $\mu A$    |
| Gate to source cutoff voltage       | $V_{GS(off)}$ | $V_{DS}=-10V, I_D=-1mA$                              | -1.5          | -2.0 | -2.5     | V          |
| Forward transfer admittance         | $ Y_{fs} $    | $V_{DS}=-10V, I_D=-6A$                               | 5             | 11   |          | S          |
| Drain to source on-state resistance | $R_{DS(on)}$  | $V_{GS}=-10V, I_D=-6A$                               |               | 102  | 130      | m $\Omega$ |
|                                     |               | $V_{GS}=-4.0V, I_D=-6A$                              |               | 131  | 190      | m $\Omega$ |
| Input capacitance                   | $C_{iss}$     | $V_{DS}=-10V, V_{GS}=0, f=1MHz$                      |               | 720  |          | pF         |
| Output capacitance                  | $C_{oss}$     |  |               | 150  |          | pF         |
| Reverse transfer capacitance        | $C_{rss}$     |  |               | 50   |          | pF         |
| Turn-on delay time                  | $t_{d(on)}$   |  |               | 70   |          | ns         |
| Rise time                           | $t_r$         | $V_{GS(on)}=-10V, I_D=-6A, V_{DD}=-30V, R_G=0\Omega$ |               | 4    |          | ns         |
| Turn-off delay time                 | $t_{d(off)}$  |  |               | 35   |          | ns         |
| Fall time                           | $t_f$         |  |               | 10   |          | ns         |
| Total Gate Charge                   | $Q_G$         |  | $I_D = -12 A$ |      | 15       |            |
| Gate to Source Charge               | $Q_{GS}$      | $V_{DD} = -48 V$                                     |               | 3    |          | nC         |
| Gate to Drain Charge                | $Q_{GD}$      | $V_{GS} = -10 V$                                     |               | 4    |          | nC         |
| Body Diode Forward Voltage          | $V_{F(S-D)}$  | $I_F = 12 A, V_{GS} = 0 V$                           |               | 0.98 |          | V          |
| Reverse Recovery Time               | $t_{rr}$      | $I_F = 12 A, V_{GS} = 0 V$                           |               | 50   |          | ns         |
| Reverse Recovery Charge             | $Q_{rr}$      | $di/dt = 100 A / \mu s$                              |               | 100  |          | nC         |