

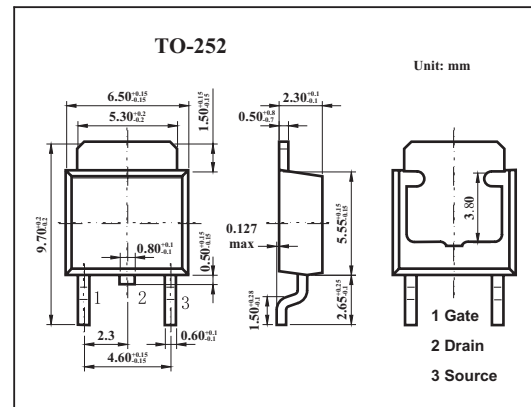
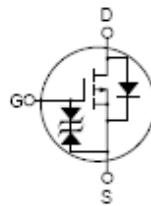
## MOS Field Effect Transistor

### 2SJ598

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#### ■ 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  $\leq 1\%$

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## ■ 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	$C_{iss}$			720		pF
Output capacitance	$C_{oss}$	$V_{DS}=-10V, V_{GS}=0, f=1MHz$		150		pF
Reverse transfer capacitance	$C_{rss}$			50		pF
Turn-on delay time	$t_{d(on)}$			70		ns
Rise time	$t_r$	$V_{GS(on)}=-10V, I_D=-6A, V_{DD}=-30V, R_G=0$		4		ns
Turn-off delay time	$t_{d(off)}$	$\Omega$		35		ns
Fall time	$t_f$			10		ns
Total Gate Charge	$Q_G$	$I_D = -12 A$		15		nC
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