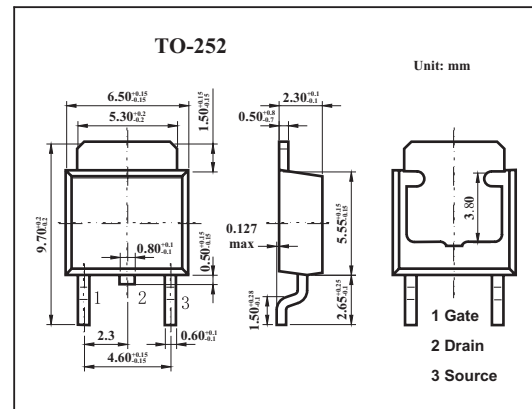
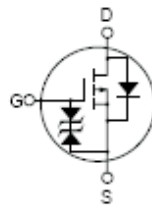


MOS Field Effect Transistor

2SJ599

■ Features

- Low on-resistance
 $R_{DS(on)1} = 75 \text{ m}\Omega \text{ MAX. (} V_{GS} = -10 \text{ V, } I_D = -10 \text{ A)}$
 $R_{DS(on)2} = 110 \text{ m}\Omega \text{ MAX. (} V_{GS} = -4.0 \text{ V, } I_D = -10 \text{ A)}$
- Low C_{iss} : $C_{iss} = 1300 \text{ pF TYP.}$
- 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}	± 20	V	
Drain current (DC)	I_D	± 20	A	
Drain current(pulse) *	I_D	± 50	A	
Power dissipation	$T_C=25^\circ\text{C}$	P_D	35	W
	$T_A=25^\circ\text{C}$	P_D	1.0	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 $\leq 1\%$

2SJ599

■ 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	μ A
Gate leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} =0			±10	μ 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 =-10A	8	16		S
Drain to source on-state resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-10A		60	75	mΩ
		V _{GS} =-4.0V, I _D =-10A		78	111	mΩ
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)}			8		ns
Rise time	t _r	V _{GS(on)} =-10V, I _D =-10A, V _{DD} =-30V, R _G =0Ω		9		ns
Turn-off delay time	t _{d(off)}			52		ns
Fall time	t _f			16		ns
Total Gate Charge	Q _G		I _D = -20A		26	
Gate to Source Charge	Q _{GS}	V _{DD} = -48 V		5		nC
Gate to Drain Charge	Q _{GD}	V _{GS} = -10 V		7		nC
Body Diode Forward Voltage	V _{F(S-D)}	I _F = -20A, V _{GS} = 0 V		1.0		V
Reverse Recovery Time	t _{rr}	I _F = -20 A, V _{GS} = 0 V		51		ns
Reverse Recovery Charge	Q _{rr}	di/dt = 100 A / μ s		102		nC