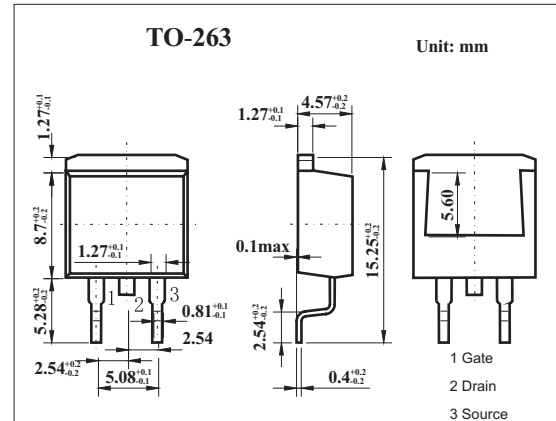
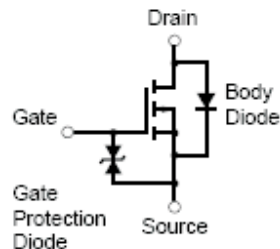


## MOS Field Effect Transistor

### 2SJ603

#### ■ Features

- Low on-resistance  
 $R_{DS(on)1} = 48 \text{ m}\Omega \text{ MAX. (} V_{GS} = -10 \text{ V, } I_D = -13 \text{ A)}$   
 $R_{DS(on)2} = 75 \text{ m}\Omega \text{ MAX. (} V_{GS} = -4.0 \text{ V, } I_D = -13 \text{ A)}$
- Low  $C_{iss}$ :  $C_{iss} = 1900 \text{ pF TYP.}$
- Built-in gate protection diode



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

Parameter	Symbol	Rating	Unit	
Drain to source voltage	$V_{DS}$	-60	V	
Gate to source voltage	$V_{GS}$	$\pm 20$	V	
Drain current (DC)	$I_D$	$\pm 25$	A	
Drain current(pulse) *	$I_D$	$\pm 70$	A	
Power dissipation	$T_C=25^\circ\text{C}$	$P_D$	50	W
	$T_A=25^\circ\text{C}$	$P_D$	1.5	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  $\leq 1\%$

## 2SJ603

## ■ 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	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0$			$\pm 10$	$\mu A$
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} $	$V_{DS}=-10V, I_D=-13A$	10	21		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-13A$		38	48	$m\Omega$
		$V_{GS}=-4.0V, I_D=-13A$		53	75	$m\Omega$
Input capacitance	$C_{iss}$			1900		pF
Output capacitance	$C_{oss}$	$V_{DS}=-10V, V_{GS}=0, f=1MHz$		350		pF
Reverse transfer capacitance	$C_{rss}$			140		pF
Turn-on delay time	$t_{d(on)}$			10		ns
Rise time	$t_r$	$V_{GS(on)}=-30V, I_D=-13A, V_{DD}=-10V, R_G=0$		11		ns
Turn-off delay time	$t_{d(off)}$	$\Omega$		66		ns
Fall time	$t_f$			20		ns
Total Gate Charge	$Q_G$	$I_D = -25A$		38		nC
Gate to Source Charge	$Q_{GS}$	$V_{DD} = -48 V$		7		nC
Gate to Drain Charge	$Q_{GD}$	$V_{GS} = -10 V$		10		nC
Body Diode Forward Voltage	$V_{F(S-D)}$	$I_F = 25A, V_{GS} = 0 V$		1.0		V
Reverse Recovery Time	$t_{rr}$	$I_F = 25 A, V_{GS} = 0 V$		49		ns
Reverse Recovery Charge	$Q_{rr}$	$di/dt = 100 A / \mu s$		100		nC