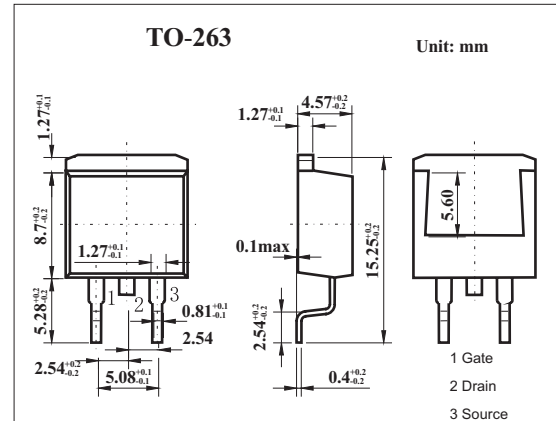
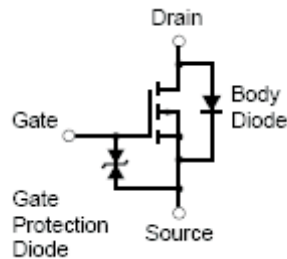


MOS Field Effect Transistor

2SJ604

■ Features

- Low on-resistance
 $R_{DS(on)1} = 30 \text{ m}\Omega \text{ MAX. (} V_{GS} = -10 \text{ V, } I_D = -23 \text{ A)}$
 $R_{DS(on)2} = 43 \text{ m}\Omega \text{ MAX. (} V_{GS} = -4.0 \text{ V, } I_D = -23 \text{ A)}$
- Low C_{iss} : $C_{iss} = 3300 \text{ pF TYP.}$
- 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	± 45	A	
Drain current(pulse) *	I_D	± 125	A	
Power dissipation	P_D	$T_c=25^\circ\text{C}$	70	W
		$T_A=25^\circ\text{C}$	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 $\leq 1\%$

2SJ604

■ 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	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0$			± 10	μA
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} $	$V_{DS}=-10V, I_D=-23A$	20	41		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-23A$		23	30	$m\Omega$
		$V_{GS}=-4.0V, I_D=-23A$		30	43	$m\Omega$
Input capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0, f=1MHz$		3300		pF
Output capacitance	C_{oss}			580		pF
Reverse transfer capacitance	C_{rss}			230		pF
Turn-on delay time	$t_{d(on)}$	$V_{GS(on)}=-30V, I_D=-23A, V_{DD}=-10V, R_G=0\Omega$		12		ns
Rise time	t_r			11		ns
Turn-off delay time	$t_{d(off)}$			77		ns
Fall time	t_f			52		ns
Total Gate Charge	Q_G	$I_D = -45A$		63		nC
Gate to Source Charge	Q_{GS}	$V_{DD} = -48 V$		11		nC
Gate to Drain Charge	Q_{GD}	$V_{GS} = -10 V$		16		nC
Body Diode Forward Voltage	$V_{F(S-D)}$	$I_F = 45A, V_{GS} = 0 V$		1.0		V
Reverse Recovery Time	t_{rr}	$I_F = 45 A, V_{GS} = 0 V$		51		ns
Reverse Recovery Charge	Q_{rr}	$di/dt = 100 A / \mu s$		105		nC