

MOS Field Effect Transistor

2SJ600

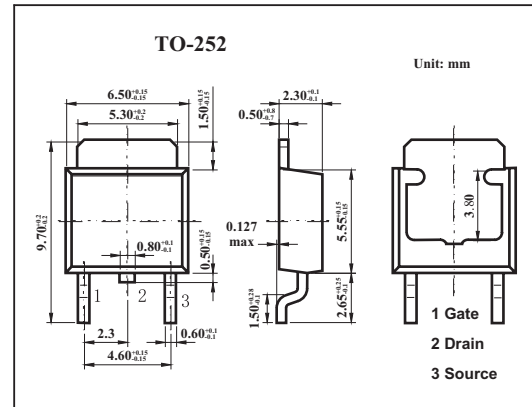
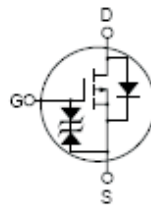
■ Features

- Low on-resistance

$R_{DS(on)1} = 50 \text{ m}\Omega \text{ MAX. (} V_{GS} = -10 \text{ V, } I_D = -13 \text{ A)}$

$R_{DS(on)2} = 79 \text{ m}\Omega \text{ MAX. (} V_{GS} = -4.0 \text{ V, } I_D = -13 \text{ A)}$

- 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_{DSS}	-60	V	
Gate to source voltage	V_{GSS}	± 20	V	
Drain current (DC)	I_D	± 25	A	
Drain current(pulse) *	I_D	± 70	A	
Power dissipation	$T_C=25^\circ\text{C}$	P_D	45	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 $\leq 1\%$

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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	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 =-13A	10	20		S
Drain to source on-state resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-13A		41	50	mΩ
		V _{GS} =-4.0V, I _D =-13A		55	79	mΩ
Input capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0, f=1MHZ		1900		pF
Output capacitance	C _{oss}			350		pF
Reverse transfer capacitance	C _{rss}			140		pF
Turn-on delay time	t _{d(on)}	V _{GS(on)} =-10V, I _D =-13A, V _{DD} =-30V, R _G =0Ω		9		ns
Rise time	t _r			10		ns
Turn-off delay time	t _{d(off)}			67		ns
Fall time	t _f			19		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 / μ s		100		nC