

MOS Field Effect Power Transistors

2SJ324

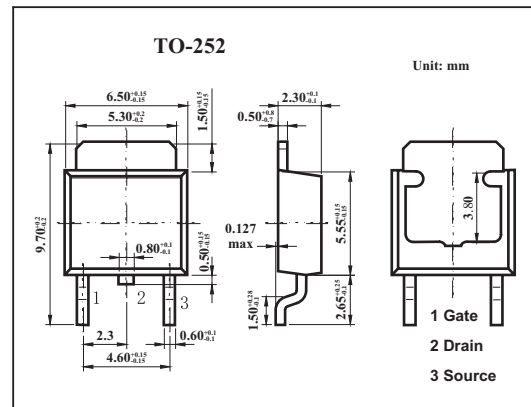
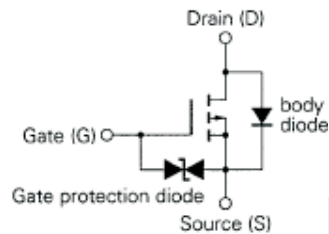
■ Features

- Low on-state resistance

$$R_{DS(on)}=0.18\ \Omega\ (V_{GS}=-10V, I_D=-1A)$$

$$R_{DS(on)}=0.36\ \Omega\ (V_{GS}=-4V, I_D=-0.8A)$$

- Built-in G-S Gate Protection Diode



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

Parameter	Symbol	Rating	Unit	
Drain to source voltage	V_{DS}	-30	V	
Gate to source voltage (DC)	V_{GS}	-20,+10	V	
Gate to source voltage (AC)	V_{GS}	± 20	V	
Drain current (DC)	I_D	± 2.0	A	
Drain current(pulse) *	I_D	± 8.0	A	
Power dissipation	P_D	$T_c=25^\circ\text{C}$	20	W
		$T_A=25^\circ\text{C}$	1.0	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

* $PW \leq 10\ \mu\text{s}$; $d \leq 1\%$.

2SJ324

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain to source breakdown voltage	V _{DSS}	I _D =-10mA, V _{GS} =0	-200			V
Gate to source breakdown voltage	V _{GSS}	I _G =±100 μA, V _{DS} =0	±20			V
Drain cut-off current	I _{DSS}	V _{DS} =-30V, V _{GS} =0			-10	μA
Gate leakage current	I _{GSS}	V _{GS} =±16V, V _{DS} =0			±10	μA
Gate cut-off voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.0	-1.5	-2.0	V
Forward transfer admittance	Y _{fs}	V _{DS} =-10V, I _D =-1A	1.0	1.9		S
Drain to source on-state resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-1A		0.18	0.25	Ω
		V _{GS} =-4V, I _D =-0.8A		0.36	0.52	Ω
Input capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0, f=1MHZ		330		pF
Output capacitance	C _{oss}			290		pF
Reverse transfer capacitance	C _{rss}			105		pF
Turn-on delay time	t _{d(on)}			7		ns
Rise time	t _r	V _{GS(on)} =-10V, V _{DD} =-15V, I _D =-1A R _L =15Ω, R _G =10Ω		35		ns
Turn-off delay time	t _{d(off)}			40		ns
Fall time	t _f			30		ns
Total Gate Charge	Q _g				12	
Gate to Source Charge	Q _{GS}	V _{GS} =-10V, I _D =-2.0A, V _{DD} =-24V		1.5		nC
Gate Drain Charge	Q _{GD}			4.5		nC
Body Diode Forward Voltage	V _F		I _F =2.0A, V _{GS} =0		0.9	
Reverse Recovery time	t _{rr}	I _F =2.0A, V _{GS} =0, di/dt=50A/μs		50		ns
Reverse Recovery Charge	Q _{rr}				40	