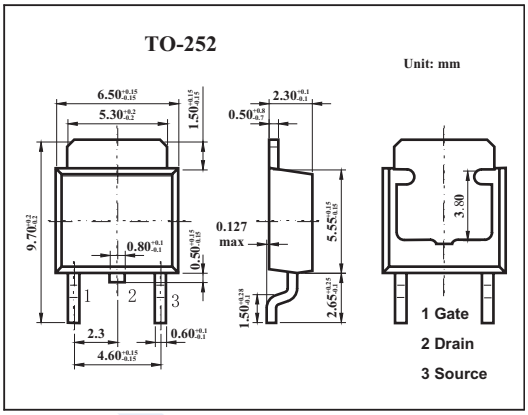
MOS Field Effect Power Transistors

2SJ324

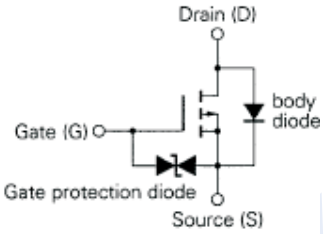


■ Features

- Low on-state resistance

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

  $R_{DS(on)}$=0.36Ω (V_{GS}=-4V,I_D=-0.8A)
- Built-in G-S Gate Protection Diode



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DSS}	-30	V
Gate to source voltage (DC)	V_{GSS}	-20,+10	V
Gate to source voltage (AC)	V_{GSS}	±20	V
Drain current (DC)	I_D	±2.0	A
Drain current(pulse) *	I_D	±8.0	A
Power dissipation T_C=25℃	P_D	20	W
T_A=25℃		1.0	W
Channel temperature	T_{ch}	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

* PW ⩽ 10 μs; d ⩽ 1%.

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■ Electrical Characteristics Ta = 25℃

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	$t_{d(on)}$	$V_{GS(on)}$=-10V,V_{DD}=-15V,I_D=--1A R_L=15Ω,R_G=10Ω		7		ns
Rise time	t_r			35		ns
Turn-off delay time	$t_{d(off)}$			40		ns
Fall time	t_f			30		ns
Total Gate Charge	Q_g	V_{GS}=-10V,I_D=-2.0A,V_{DD}=-24V		12		nC
Gate to Source Charge	Q_{GS}			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		V
Reverse Recovery time	t_{rr}	I_F=2.0A,V_{GS}=0,di/dt=50A/μs		50		ns
Reverse Recovery Charge	Q_{rr}			40		nC