

High Speed Power Switching

2SJ506S

■ Features

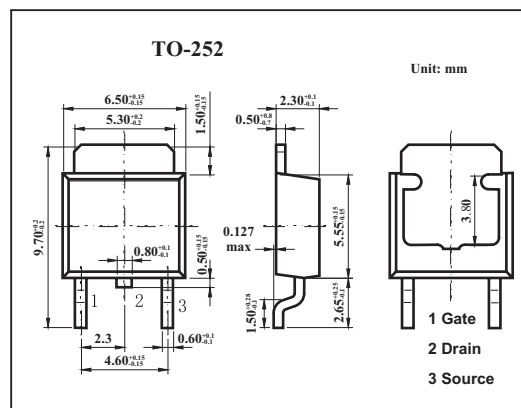
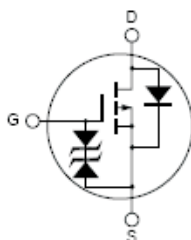
- Low on-resistance

$R_{DS(on)} = 0.065 \Omega$ typ. (at $V_{GS} = -10V$, $I_D = -5A$)

- Low drive current

- High speed switching

- 4V gate drive devices.



Unit: mm

1 Gate
2 Drain
3 Source

■ 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 (AC)	V_{GS}	± 20	V
Gate to source voltage (DC) *1	V_{GS}	-20	V
Drain current (DC)	I_D	± 20	A
Drain current(pulse) *2	I_D	± 80	A
Power dissipation $T_A=25^\circ\text{C}$ $T_C=25^\circ\text{C}$	P_D	1.5	W
	P_D	70	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$
Channel to Case	$R_{th(ch-C)}$	1.79	$^\circ\text{C/W}$
Channel to Ambient	$R_{th(ch-A)}$	83.3	$^\circ\text{C/W}$

*1 $f = 20 \text{ kHz}$, Duty Cycle $\leq 10\%$ (+Side)

*2 $PW \leq 10 \mu\text{s}$; $d \leq 1\%$.

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain to source breakdown voltage	V _{DSS}	I _D =-10mA, V _{GS} =0	-30			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 to source cutoff voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.0		-2.0	V
Forward transfer admittance	Y _{fs}	V _{DS} =-10V, I _D =-5A	10	16		S
Drain to source on-state resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-5A		65	65	mΩ
		V _{GS} =-4.0V, I _D =-5A		110	180	mΩ
Input capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0, f=1MHZ		660		pF
Output capacitance	C _{oss}			440		pF
Reverse transfer capacitance	C _{rss}			140		pF
Turn-on delay time	t _{d(on)}	V _{GS(on)} =-10V, I _D =-5A, R _L =2Ω		12		ns
Rise time	t _r			65		ns
Turn-off delay time	t _{d(off)}			85		ns
Fall time	t _f			65		ns