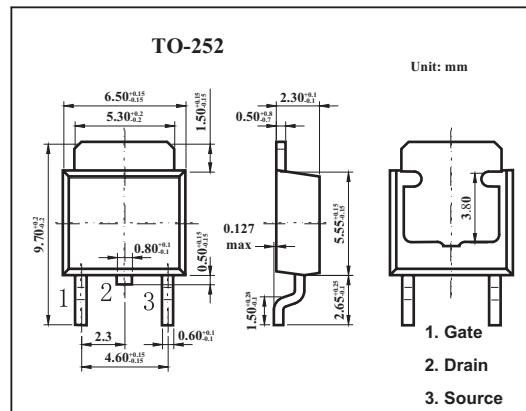


Small Switching

2SK3050

■ Features

- Low on-resistance.
- Fast switching speed.
- Wide SOA (safe operating area).
- Gate-source voltage (V_{GSS}) guaranteed to be $\pm 30V$.
- Easily designed drive circuits.
- Easy to use in parallel.
- Silicon N-channel MOSFET



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

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	V_{DSS}	600	V
Gate to Source Voltage	V_{GSS}	± 30	V
Drain Current(DC)	I_D	2	A
Drain Current (pulse) *	I_{DP}	6	A
Body to drain diode reverse drain current	I_{DR}	2	A
Body to drain diode reverse drain current(pulse) *	I_{DRP}	6	A
Total power dissipation ($T_c=25^\circ C$)	P_D	20	W
Channel Temperature	T_{ch}	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

* $PW \leq 10\mu s$, $Dduty cycle \leq 1\%$.

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Gate to source leak current	I_{GS}	$V_{GS}=\pm 30V$, $V_{DS}=0V$			± 100	nA
Drain to source breakdown voltage	$V_{(BR)DSS}$	$I_D=1mA$, $V_{GS}=0V$	600			V
Zero gate voltage drain current	I_{DS}	$V_{DS}=600V$, $V_{GS}=0V$			100	μA
Gate threshold voltage	V_{Gsth}	$V_{DS}=10V$, $I_D=1mA$	2.0		4.0	V
Static Drain to source on stateresistance	$R_{DS(on)}$	$I_D=1A$, $V_{GS}=10V$		4.4	5.5	Ω
Forward transfer admittance	$ y_{fs} $	$I_D=1A$, $V_{DS}=10V$	0.5	1.0		S
Input capacitance	C_{iss}	$V_{DS}=10V$ $V_{GS}=0V$ $f=1MHz$		280		pF
Output capacitance	C_{oss}			48		pF
Reverse transfer capacitance	C_{rss}			16		pF
Turn-on delay time	$t_{d(on)}$	$V_{GS}=10V$ $R_L=300\Omega$ $R_G=10\Omega$ $I_D=1A$, $V_{DD}=300V$		12		ns
Rise time	t_r			17		ns
Turn-off delay time	$t_{d(off)}$			29		ns
Fall time	t_f			105		ns
Reverse recovery time	t_{rr}	$I_{DR}=2A$, $V_{GS}=0V$		460		ns
Reverse recovery charge	Q_{rr}	$di/dt=100A/\mu s$		2.0		μC