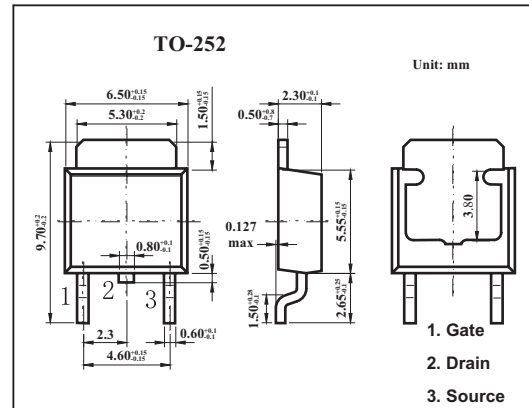


Small Switching

2SK3050

■ Features

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

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

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	V_{DS}	600	V
Gate to Source Voltage	V_{GS}	± 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 ($T_c=25^\circ\text{C}$)	P_D	20	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 duty cycle $\leq 1\%$.

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

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