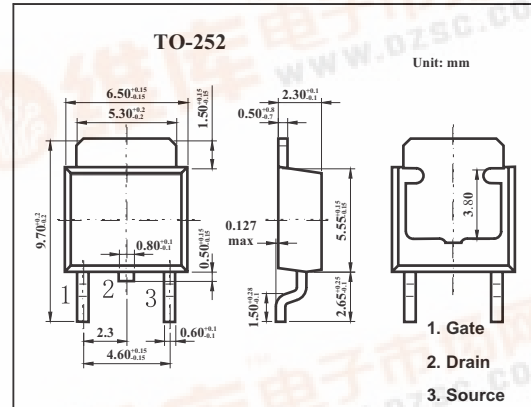


SMD Type Transistors

Small Switching  
2SK3050

■ Features

- Low on-resistance.
- Fast switching speed.
- Wide SOA (safe operating area).
- Gate-source voltage (V<sub>GSS</sub>) guaranteed to be ±30V.
- Easily designed drive circuits.
- Easy to use in parallel.
- Silicon N-channel MOSFET



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	V <sub>DSS</sub>	600	V
Gate to Source Voltage	V <sub>GSS</sub>	±30	V
Drain Current(DC)	I <sub>D</sub>	2	A
Drain Current (pulse) *	I <sub>DP</sub>	6	A
Body to drain diode reverse drain current	I <sub>DR</sub>	2	A
Body to drain diode reverse drain current(pulse) *	I <sub>DRP</sub>	6	A
Total power dissipation (Tc=25°C)	P <sub>D</sub>	20	W
Channel Temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\* PW≤10μs, Dduty cycle≤1%.

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Gate to source leak current	I <sub>GSS</sub>	V <sub>Gs</sub> =±30V, V <sub>Ds</sub> =0V			±100	nA
Drain to source breakdown voltage	V(BR) <sub>DSS</sub>	I <sub>D</sub> =1mA, V <sub>Gs</sub> =0V	600			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>Ds</sub> =600V, V <sub>Gs</sub> =0V			100	μA
Gate threshold voltage	V <sub>Gsth</sub>	V <sub>Ds</sub> =10V, I <sub>D</sub> =1mA	2.0		4.0	V
Static Drain to source on statesresistance	R <sub>DS(on)</sub>	I <sub>D</sub> =1A, V <sub>Gs</sub> =10V		4.4	5.5	Ω
Forward transfer admittance	y <sub>fs</sub>	I <sub>D</sub> =1A, V <sub>Ds</sub> =10V	0.5	1.0		S
Input capacitance	C <sub>iss</sub>	V <sub>Ds</sub> =10V		280		pF
Output capacitance	C <sub>oss</sub>	V <sub>Gs</sub> =0V		48		pF
Reverse transfer capacitance	C <sub>rss</sub>	f=1MHz		16		pF
Turn-on delay time	t <sub>d(on)</sub>	V <sub>Gs</sub> =10V		12		ns
Rise time	t <sub>r</sub>	R <sub>L</sub> =300 Ω		17		ns
Turn-off delay time	t <sub>d(off)</sub>	R <sub>G</sub> =10 Ω		29		ns
Fall time	t <sub>f</sub>	I <sub>D</sub> =1A, V <sub>DD</sub> =300V		105		ns
Reverse recovery time	t <sub>rr</sub>	I <sub>DR</sub> =2A, V <sub>Gs</sub> =0V		460		ns
Reverse recovery charge	Q <sub>rr</sub>	di/dt=100A/μs		2.0		μC

