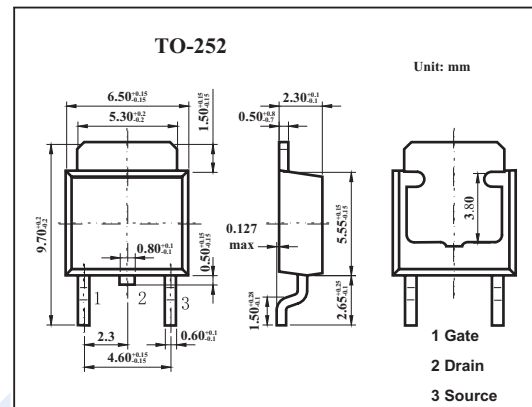


Silicon N-Channel MOSFET

2SK2503

■ Features

- Low on-resistance.
- Fast switching speed.
- Wide SOA (safe operating area).
- Easily designed drive circuits.
- Easy to parallel.



■ 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	V_{GS}	± 20	V
Drain current	I_D	5	A
	I_{dp}^*	20	A
Power dissipation	P_D	20	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10 \mu\text{s}$, Duty Cycle $\leq 1\%$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain source breakdown voltage	V_{DS}	$I_D=1\text{mA}$, $V_{GS}=0\text{V}$	60			V
Drain cut-off current	I_{DSS}	$V_{DS}=60\text{V}$, $V_{GS}=0$			10	μA
Gate leakage current	I_{GSS}	$V_{GS} = \pm 20\text{V}$, $V_{DS}=0$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	1.0		2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}$, $I_D=2.5\text{A}$	4.0			S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$, $I_D=2.5\text{A}$		0.11	0.135	Ω
		$V_{GS}=4\text{V}$, $I_D=2.5\text{A}$		0.17	0.20	Ω
Input capacitance	C_{iss}	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$		520		pF
Output capacitance	C_{oss}			240		pF
Reverse transfer capacitance	C_{rss}			100		pF
Turn-on delay time	t_{on}	$I_D=2.5\text{A}$, $V_{GS(on)}=10\text{V}$, $R_G=10\Omega$, $R_L=12\Omega$, $V_{DD}=30\text{V}$		5		ns
Rise time	t_r			20		ns
Turn-off delay time	t_{off}			50		ns
Fall time	t_f			20		ns