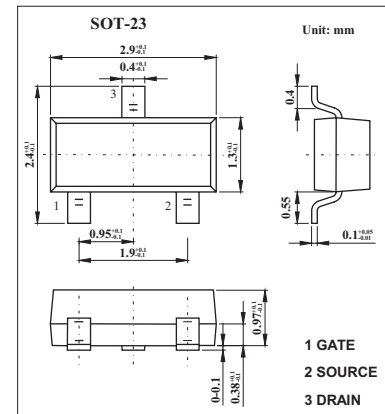


## MOS Field Effect Transistor

### 2SK1590

#### ■ Features

- Directly driven by ICs having a 5V power supply.
- Not necessary to consider driving current because of its high input impedance.



#### ■ 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	$V_{GS}$	$\pm 20$	V
Drain current (DC)	$I_D$	$\pm 200$	mA
Drain current(pulse) *	$I_D$	$\pm 400$	mA
Power dissipation	$P_D$	200	mW
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\*  $PW \leq 10\text{ms}$ , duty cycle  $\leq 5\%$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	$I_{DSS}$	$V_{DS}=60\text{V}, V_{GS}=0$			1.0	$\mu\text{A}$
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 20\text{V}, V_{DS}=0$			$\pm 1.0$	$\mu\text{A}$
Gate to source cutoff voltage	$V_{GS(off)}$	$V_{DS}=5\text{V}, I_D=1\mu\text{A}$	0.8	1.2	1.8	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=5.0\text{V}, I_D=10\text{mA}$	20	65		ms
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=4.0\text{V}, I_D=10\text{mA}$		3.2	6.0	$\Omega$
		$V_{GS}=10\text{V}, I_D=10\text{mA}$		2.4	3.0	$\Omega$
Input capacitance	$C_{iss}$	$V_{DS}=5.0\text{V}, V_{GS}=0, f=1\text{MHz}$		26		pF
Output capacitance	$C_{oss}$			20		pF
Reverse transfer capacitance	$C_{rss}$			4		pF
Turn-on delay time	$t_{d(on)}$	$I_D=10\text{mA}, V_{GS(on)}=5.0\text{V}, R_L=500\Omega, V_{DD}=5\text{V}, R_G=10\Omega$		50		ns
Rise time	$t_r$			140		ns
Turn-off delay time	$t_{d(off)}$			200		ns
Fall time	$t_f$			190		ns

#### ■ Marking

Marking	G16
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