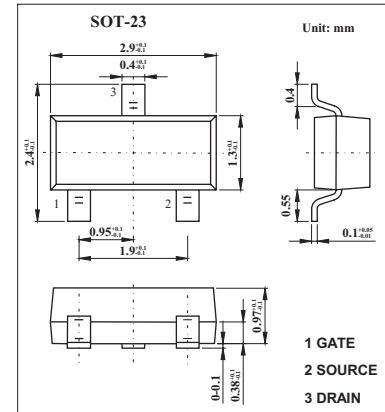


## MOS Field Effect Transistor

### 2SK1657

#### ■ Features

- Directly driven by Ics having a 3V power supply.
- Has low gate leakage current  
 $I_{GSS} = \pm 5\text{nA MAX.}@V_{GS} = \pm 3.0\text{V}$



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	$V_{DS}$	30	V
Gate to source voltage	$V_{GS}$	$\pm 7$	V
Drain current (DC)	$I_D$	$\pm 100$	mA
Drain current(pulse) *	$I_D$	$\pm 200$	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	$I_{DSS}$	$V_{DS}=30\text{V}, V_{GS}=0$			1.0	$\mu\text{A}$
Gate leakage current	$I_{GSS}$	$V_{GS} = \pm 3.0\text{V}, V_{DS}=0$			$\pm 5.0$	nA
Gate to source cutoff voltage	$V_{GS(off)}$	$V_{DS}=3.0\text{V}, I_D=1\mu\text{A}$	0.9	1.2	1.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=3.0\text{V}, I_D=10\text{mA}$	20	40		ms
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=2.5\text{V}, I_D=10\text{mA}$		25	45	$\Omega$
		$V_{GS}=4.0\text{V}, I_D=10\text{mA}$		18	25	$\Omega$
Input capacitance	$C_{iss}$	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1\text{MHz}$		15		pF
Output capacitance	$C_{oss}$			10		pF
Reverse transfer capacitance	$C_{rss}$			1.5		pF
Turn-on delay time	$t_{d(on)}$				95	
Rise time	$t_r$	$I_D=10\text{mA}, V_{GS(on)}=3\text{V}, R_L=300\Omega, V_{DD}=3.0\text{V}, R_G=10\Omega$		360		ns
Turn-off delay time	$t_{d(off)}$			150		ns
Fall time	$t_f$			150		ns

#### ■ Marking

Marking	G19
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