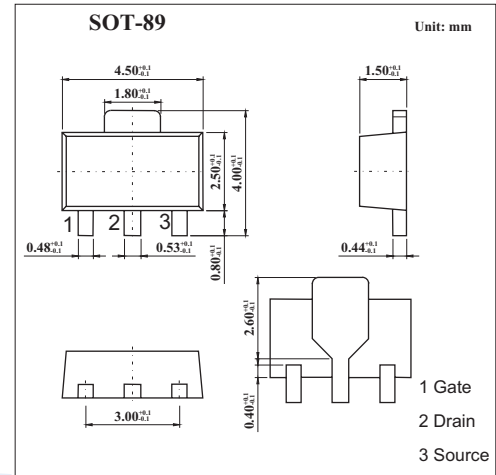
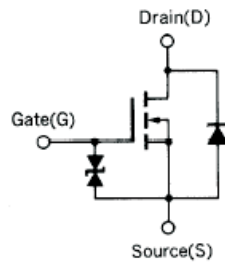


## MOS Field Effect Transistor

### 2SK680A

#### ■ Features

- Directly driven by ICs having a 5V power source.
- Not necessary to consider driving current because of its high input impedance.
- Has low on-state resistance  
 $R_{DS(on)}=1.0\Omega\text{MAX. @}V_{GS}=4.0V, I_D=0.5A$   
 $R_{DS(on)}=0.70\Omega\text{MAX. @}V_{GS}=10V, I_D=0.5A$



#### ■ 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	$V_{GS}$	$\pm 20$	V
Drain current	$I_D$	$\pm 1.0$	A
	$I_{DP}^*$	$\pm 2.0$	A
Power dissipation	$P_D$	2.0	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 cut-off current	$I_{DSS}$	$V_{DS}=30V, V_{GS}=0$			10	$\mu\text{A}$
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0$			$\pm 10$	$\mu\text{A}$
Gate cut off voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1\text{mA}$	1.0	1.6	2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10V, I_D=0.5A$	0.4			S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=4V, I_D=0.5A$		0.6	1.0	$\Omega$
	$R_{DS(on)}$	$V_{GS}=10V, I_D=0.5A$		0.4	0.7	$\Omega$
Input capacitance	$C_{iss}$	$V_{DS}=5.0V, V_{GS}=0, f=1\text{MHz}$		130		pF
Output capacitance	$C_{oss}$				70	pF
Reverse transfer capacitance	$C_{rss}$				30	pF
Turn-on delay time	$t_{on}$				12	ns
Rise time	$t_r$	$I_D=0.5A, V_{GS(on)}=10V, R_G=10\Omega, V_{DD}=25V, R_L=50\Omega$			44	ns
Turn-off delay time	$t_{off}$				310	ns
Fall time	$t_f$				160	ns