

MOS Field Effect Transistor

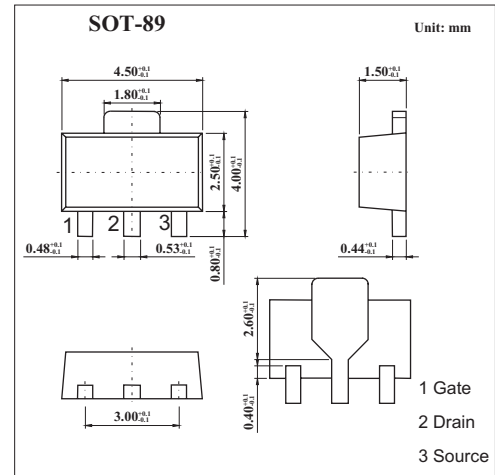
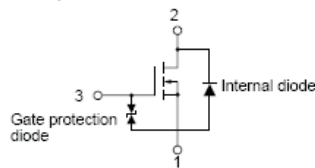
2SK2159

■ Features

- Capable of drive gate with 1.5 V
- Small $R_{DS(on)}$

$R_{DS(on)} = 0.7 \Omega$ MAX. @ $V_{GS} = 1.5 \text{ V}$, $I_D = 0.1 \text{ A}$

$R_{DS(on)} = 0.3 \Omega$ MAX. @ $V_{GS} = 4.0 \text{ V}$, $I_D = 1.0 \text{ A}$



■ 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}	± 14	V
Drain current	I_D	± 2.0	A
	I_{DP}^*	± 4.0	A
Power dissipation	P_D	2.0	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10\text{ms}$, Duty Cycle $\leq 50\%$

■ 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	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 14\text{V}, V_{DS}=0$			± 10	μA
Gate to source cutoff voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	0.5	0.9	1.1	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=1.0\text{A}$	0.4			S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=1.5\text{V}, I_D=0.1\text{A}$		0.55	0.7	Ω
		$V_{GS}=2.5\text{V}, I_D=1.0\text{A}$		0.27	0.5	Ω
		$V_{GS}=4.0\text{V}, I_D=1.0\text{A}$		0.22	0.3	Ω
Input capacitance	C_{iss}	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		319		pF
Output capacitance	C_{oss}			109		pF
Reverse transfer capacitance	C_{rss}			22		pF
Turn-on delay time	$t_{d(on)}$	$I_D=1.0\text{A}, V_{GS(on)}=3\text{V}, R_L=25\Omega, R_G=10\Omega, V_{DD}=25\text{V}$		38		ns
Rise time	t_r			128		ns
Turn-off delay time	$t_{d(off)}$			237		ns
Fall time	t_f			130		ns

■ Marking

Marking	NW
---------	----