

MOS Field Effect Transistor

2SK1959

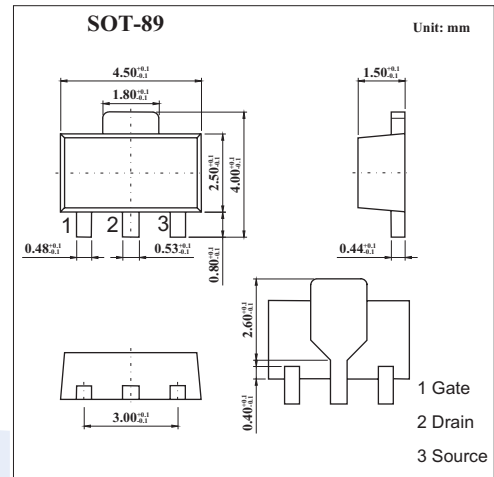
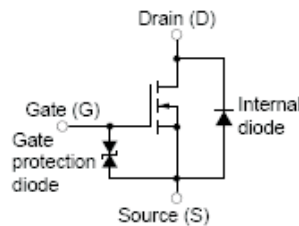
■ Features

- Gate can be driven by 1.5V

- Low ON resistance

$R_{DS(on)}=3.2\ \Omega$ MAX. @ $V_{GS}=1.5V, I_D=50mA$

$R_{DS(on)}=0.5\ \Omega$ MAX. @ $V_{GS}=4.0V, I_D=1A$



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DS}	16	V
Gate to source voltage	V_{GS}	± 7	V
Drain current	I_D	± 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	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	I_{DSS}	$V_{DS}=16V, V_{GS}=0$			100	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 7V, V_{DS}=0$			± 10	μA
Gate to Source Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=3V, I_D=100\ \mu\text{A}$	0.5	0.8	1.1	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=3V, I_D=1.0A$	1.0			S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=1.5V, I_D=50mA$		0.8	3.2	Ω
		$V_{GS}=2.5V, I_D=0.5A$		0.36	0.6	Ω
		$V_{GS}=4.0V, I_D=1.0A$		0.28	0.5	Ω
Input capacitance	C_{iss}	$V_{DS}=3V, V_{GS}=0, f=1MHz$		160		pF
Output capacitance	C_{oss}			150		pF
Reverse transfer capacitance	C_{rss}			50		pF
Turn-on delay time	$t_{d(on)}$				45	ns
Rise time	t_r	$I_D=0.5A, V_{GS(on)}=3V, R_L=6\ \Omega, V_{DD}=3V, R_G=10\ \Omega$			190	ns
Turn-off delay time	$t_{d(off)}$				180	ns
Fall time	t_f				210	ns