

Silicon N-channel MOSFET

KX020N06

Features

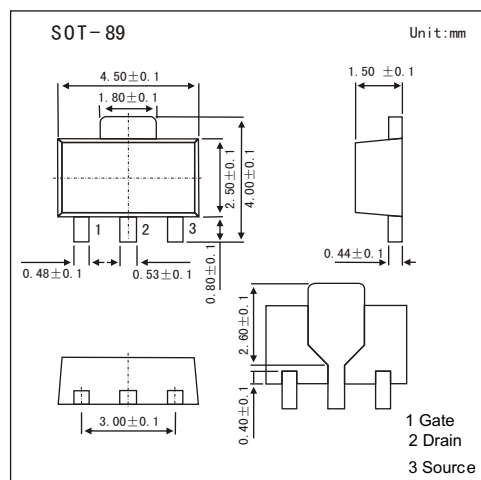
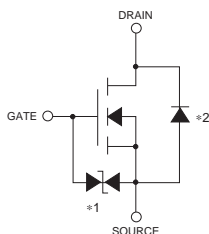
$V_{DS} = 60V$

$I_D = 2A$ ($V_{GS} = 10V$)

$R_{DS(ON)} < 200m$ ($V_{GS} = 10V$)

$R_{DS(ON)} < 280m$ ($V_{GS} = 4.5V$)

$R_{DS(ON)} < 340m$ ($V_{GS} = 4V$)



Absolute Maximum Ratings $T_a = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	± 2	A
Pulsed Drain Current	I_{DM}	± 8	
Power Dissipation	P_D	500 2	W
Thermal Resistance Junction- to-Ambient	R_{thJA}	250	
Thermal Resistance Junction- to-Case	R_{thc}	62.5	$/W$
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	

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Electrical Characteristics Ta = 25

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=1mA, V_{GS}=0V$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$			1	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=10V, I_D=1mA$	1.0		2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=2A$		150	200	m
		$V_{GS}=4.5V, I_D=2A$		200	280	
		$V_{GS}=4V, I_D=2A$		240	340	
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=10V, f=1MHz$		140		pF
Output Capacitance	C_{oss}			50		
Reverse Transfer Capacitance	C_{rss}			40		
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=30V, I_D=2A$		7.0	14	nC
Gate Source Charge	Q_{gs}			1		
Gate Drain Charge	Q_{gd}			2		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=30V, R_L=30\Omega, R_{GEN}=10\Omega, I_D=1A$		7.0		ns
Turn-On Rise Time	t_r			10		
Turn-Off Delay Time	$t_{d(off)}$			22		
Turn-Off Fall Time	t_f			18		
Diode Forward Voltage	V_{SD}	$I_S=2A, V_{GS}=0V$			1.2	V