

N-Channel MOSFET

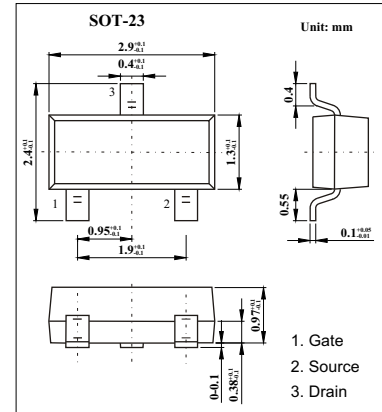
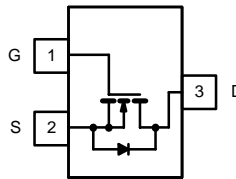
KI2302DS

Features

$V_{DS}=20V$

$R_{DS(on)}=0.085$ @ $V_{GS}=4.5V$, $I_D=3.6A$

$R_{DS(on)}=0.115$ @ $V_{GS}=2.5V$, $I_D=3.1A$



Absolute Maximum Ratings $T_a = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 8	
Continuous Drain Current	I_D	$T_a = 25$	A
		$T_a = 70$	
Pulsed Drain Current	I_{DM}	10	
Power Dissipation	P_D	$T_a = 25$	W
		$T_a = 70$	
Thermal Resistance, Junction-to-Ambient	R_{thJA}	178	/W
Junction Temperature	T_J	150	
Storage Temperature	T_{stg}	-55 to 150	

KI2302DS

Electrical Characteristics Ta = 25

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	V _{GS} = 0 V, I _D = 10 μA	20			V
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	0.62	0.95	1.9	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20 V, V _{GS} = 0 V			1	μA
		V _{DS} = 20 V, V _{GS} = 0 V, T _J = 55			10	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 8 V			± 100	nA
Drain-Source On-Resistance *	r _{DS(on)}	V _{GS} = 4.5 V, I _D = 3.6 A		0.045	0.085	
		V _{GS} = 2.5 V, I _D = 3.1 A		0.070	0.115	
On-State Drain Current	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 4.5 V	6			A
		V _{DS} = 5 V, V _{GS} = 2.5 V	4			
Forward Transconductance *	g _{fs}	V _{DS} = 5 V, I _D = 3.6 A		8		S
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz		300		pF
Output Capacitance	C _{oss}			120		
Reverse Transfer Capacitance	C _{rss}			80		
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4.5V, I _D =3.6A		4.0	10	nC
Gate-Source Charge	Q _{gs}			0.65		
Gate-Drain Charge	Q _{gd}			1.5		
Turn-On Delay Time	t _{d(on)}	V _{DD} =10V, R _L =5.5 Ω, I _D ≅3.6A, V _{GEN} =4.5V, R _G =6Ω		7	15	ns
Rise Time	t _r			55	80	
Turn-Off Delay Time	t _{d(off)}			16	60	
Fall-Time	t _f			10	25	
Continuous Source Current (Diode Conduction)	I _S			0.94		A
Diode Forward Voltage	V _{SD}	I _S = 0.94A, V _{GS} = 0 V		0.76	1.2	V

*Pulse test: PW 300 μs duty cycle 2%..

■ Marking

Marking	A2SHB
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