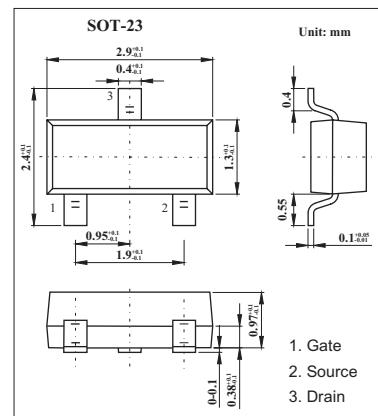
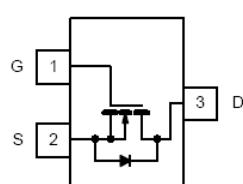


N-Channel 1.25-W, 2.5-V MOSFET

KI2302DS

■ Features

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■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{Ds}	20	V
Gate-Source Voltage	V _{Gs}	±8	
Continuous Drain Current (TJ = 150°C) *2	I _D	2.8	A
TA=70°C		2.2	
Pulsed Drain Current *1	I _{DM}	10	A
Continuous Source Current (Diode Conduction)*2	I _S	1.6	
Power Dissipation *2	P _D	1.25	W
TA=70°C		0.80	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C
Maximum Junction-to-Ambientb	R _{thJA}	100	°C/W
Maximum Junction-to-Ambientc		166	

*1 Pulse width limited by maximum junction temperature.

*2 Surface Mounted on FR4 Board, t ≤ 5 sec.

*3 Surface Mounted on FR4 Board.

KI2302DS

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = 10 μA	20			V
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 50 μA	0.65			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±8 V			±100	nA
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°C			10	
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			
Drain-Source On-Resistance *	R _{D(on)}	V _{GS} = 4.5 V, I _D = 3.6 A		0.07	0.085	Ω
		V _{GS} = 2.5 V, I _D = 3.1 A		0.085	0.115	
Forward Transconductance *	g _{fs}	V _{DS} = 5 V, I _D = 3.6 A		10		S
Diode Forward Voltage	V _{SD}	I _S = 1.6 A, V _{GS} = 0 V		0.76	1.2	V
Total Gate Charge	Q _g			5.4	10	nC
Gate-Source Charge	Q _{gs}	V _{DS} =10V,V _{GS} =4.5V,I _D =3.6A		0.65		
Gate-Drain Charge	Q _{gd}			1.60		
Input Capacitance	C _{iss}			340		pF
Output Capacitance	C _{oss}	V _{DS} =10V,V _{GS} =0V,f=1MHz		115		
Reverse Transfer Capacitance	C _{rss}			33		
Turn-On Delay Time	t _{d(on)}	V _{DD} =10V,R _L =5.5Ω,I _D =3.6A,V _{GEN} =4.5V,R _G =6Ω		12	25	ns
Rise Time	t _r			36	60	
Turn-Off Delay Time	t _{d(off)}			34	60	
Fall-Time	t _f			10	25	

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

■ Marking

Marking	A2
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