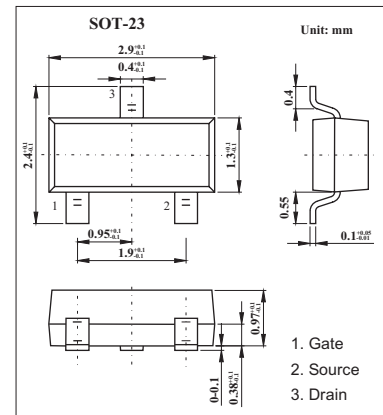
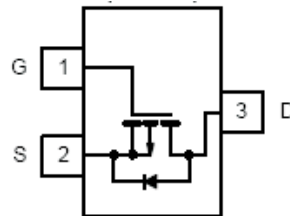


## P-Channel 1.25-W, 1.8-V (G-S) Mosfet

## KI2305DS

## ■ Features

- P-Channel 1.25-W, 1.8-V (G-S) MOSFET.

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

Parameter	Symbol	Rating	Unit
Drain-source voltage	$V_{DS}$	-8	V
Gate-source voltage	$V_{GS}$	$\pm 8$	V
Continuous drain current ( $T_J = 150^\circ\text{C}$ )	$I_D$	$\pm 3.5$	A
$T_A = 25^\circ\text{C}$		$\pm 2.8$	
$T_A = 70^\circ\text{C}$			
Pulsed drain current	$I_{DM}$	$\pm 12$	A
Continuous source current (diode conduction) *	$I_S$	-1.6	A
Power dissipation *	$P_D$	1.25	W
$T_A = 25^\circ\text{C}$		0.8	
$T_A = 70^\circ\text{C}$			
Operating junction and storage temperature range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$
Junction-to-ambient *	$R_{thJA}$	100	$^\circ\text{C/W}$
$t \leq 5 \text{ sec}$			
Steady State		130	

\* Surface mounted on FR4 board,  $t \leq 5 \text{ sec}$ .

## KI2305DS

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = -10\ \mu\text{A}$	-8			V
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-0.45			
Gate-body leakage	$I_{GSS}$	$V_{DS} = 0\text{ V}, V_{GS} = \pm 8\text{ V}$			$\pm 100$	nA
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -6.4\text{ V}, V_{GS} = 0\text{ V}$			-1	$\mu\text{A}$
		$V_{DS} = -6.4\text{ V}, V_{GS} = 0\text{ V}, T_J = 55\text{ }^\circ\text{C}$			-10	
On-state drain current	$I_{D(on)}$	$V_{DS} \leq -5\text{ V}, V_{GS} = -4.5\text{ V}$	-6			A
		$V_{DS} \leq -5\text{ V}, V_{GS} = -2.5\text{ V}$	-3			
Drain-source on-state resistance	$r_{DS(on)}$	$V_{GS} = -4.5\text{ V}, I_D = -3.5\text{ A}$		0.044	0.052	$\Omega$
		$V_{GS} = -2.5\text{ V}, I_D = -3.0\text{ A}$		0.060	0.071	
		$V_{GS} = -1.8\text{ V}, I_D = -2.0\text{ A}$		0.087	0.108	
Forward transconductance	$g_{fs}$	$V_{DS} = -5\text{ V}, I_D = -3.5\text{ A}$		8.5		S
Diode forward voltage	$V_{SD}$	$I_S = -1.6\text{ A}, V_{GS} = 0\text{ V}$			-1.2	V
Total gate charge *	$Q_g$	$V_{DS} = -4\text{ V}, V_{GS} = -4.5\text{ V}, I_D = -3.5\text{ A}$		10	15	nC
Gate-source charge *	$Q_{gs}$		2			
Gate-drain charge *	$Q_{gd}$		2			
Input capacitance *	$C_{iss}$	$V_{DS} = -4\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$		1245		pF
Output capacitance *	$C_{oss}$		375			
Reverse transfer capacitance *	$C_{rss}$		210			
Turn-on time	$t_{d(on)}$	$V_{DD} = -4\text{ V}, R_L = 4\ \Omega, I_D = -1\text{ A}, V_{GEN} = -4.5\text{ V}, R_G = 6\ \Omega$		13	20	ns
	$t_r$			25	40	
Turn-off time	$t_{d(off)}$			55	80	
	$t_f$			19	35	

\* Pulse test:  $PW \leq 300\ \mu\text{s}$  duty cycle  $\leq 2\%$ .

## ■ Marking

Marking	A5
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