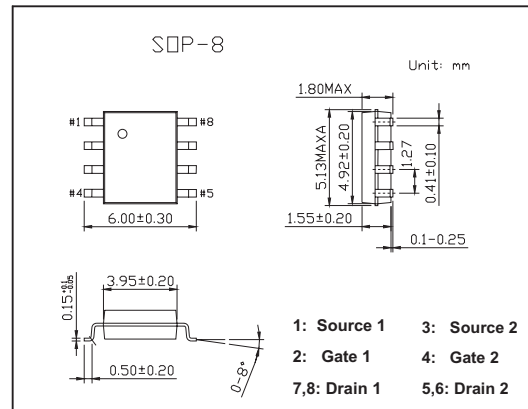
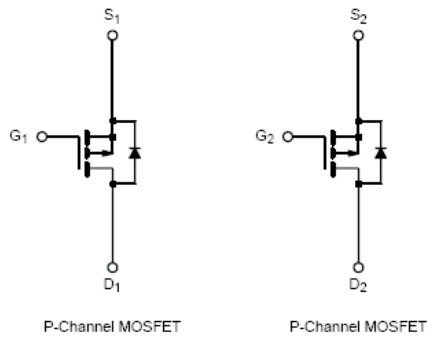


Dual P-Channel 30-V (D-S) MOSFET

KI4923DY

■ Features

- TrenchFET Power MOSFETS
- Advanced High Cell Density Process

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

Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	-30		V
Gate-Source Voltage		V_{GS}	± 20		
Continuous Drain Current ($T_J = 150^\circ\text{C}$) *	$T_A = 25^\circ\text{C}$	I_D	-8.3	-6.2	A
	$T_A = 70^\circ\text{C}$		-6.6	-5	
Pulsed Drain Current		I_{DM}	-30		
Continuous Source Current *		I_S	-1.7	-0.9	
Maximum Power Dissipation *	$T_A = 25^\circ\text{C}$	P_D	2	1.1	W
	$T_A = 70^\circ\text{C}$		1.3	0.7	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		$^\circ\text{C}$
Parameter		Symbol	Typ	Max	Unit
Maximum Junction-to-Ambient*	$t \leq 10 \text{ sec}$	R_{thJA}	45	62.5	$^\circ\text{C}/\text{W}$
	Steady-State		85	110	
Maximum Junction-to-Foot (Drain)	Steady-State	R_{thJF}	26	35	

* Surface Mounted on 1" X 1" FR4 Board.

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1		-3	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0 V			-1	μA
		V _{DS} = -24V, V _{GS} = 0 V, T _J = 85°C			-25	μA
On-State Drain Current*	I _{D(on)}	V _{DS} = -5 V, V _{GS} = -10 V	-30			A
Drain-Source On-State Resistance*	r _{DS(on)}	V _{GS} = -10 V, I _D = -8.3A		0.017	0.021	Ω
		V _{GS} = -4.5 V, I _D = -6.8A		0.025	.031	Ω
Forward Transconductance*	g _{fs}	V _{DS} = -10 V, I _D = -8.3A		26		S
Schottky Diode Forward Voltage*	V _{SD}	I _S = -1.7 A, V _{GS} = 0 V		-0.8	-1.2	V
Total Gate Charge	Q _g	V _{DS} = -15V, V _{GS} = -10 V, I _D = -8.3 A		45.5	70	nC
Gate-Source Charge	Q _{gs}			6.5		nC
Gate-Drain Charge	Q _{gd}			12.6		nC
Turn-On Delay Time	t _{d(on)}	V _{DD} = -15 V, R _L = 15 Ω I _D = -1 A, V _{GEN} = -10V, R _G = 6 Ω		15	25	ns
Rise Time	t _r			10	15	ns
Turn-Off Delay Time	t _{d(off)}			135	210	ns
Fall Time	t _f			80	120	ns
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -1.7 A, di/dt = 100 A/μs		70	110	ns

* Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.