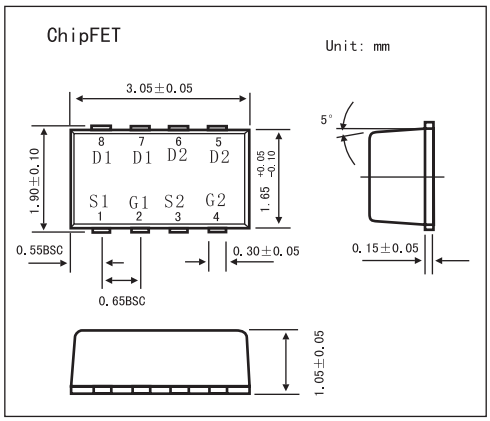
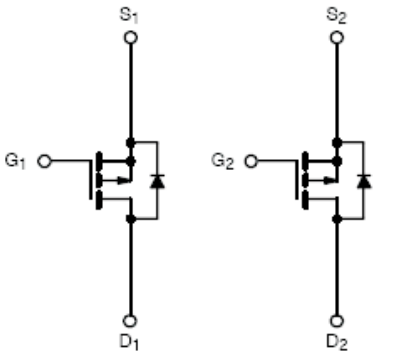
Dual P-Channel 1.8-V (G-S) MOSFET

KI5905DC



■ Features

●



P-Channel MOSFET P-Channel MOSFET

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	5 secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	-8		V
Gate-Source Voltage		V_{GS}	±8		
Continuous Drain Current (T_J = 150 ℃) *	T_A = 25℃	I_D	±4.1	±3.0	A
	T_A = 85℃		±2.9	±2.2	
Pulsed Drain Current		I_{DM}	±10		
Continuous Source Current *		I_S	-1.8	-0.9	
Maximum Power Dissipation *	T_A = 25℃	P_D	2.1	1.1	W
	T_A = 85℃		1.1	0.6	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		℃
Soldering Recommendations (Peak Temperature)			260		℃
Parameter		Symbol	Typ	Max	Unit
Maximum Junction-to-Ambienta	t ⩽ 5 sec	R_{thJA}	50	60	℃/W
	Steady-State		90	110	
Maximum Junction-to-Foot (Drain)	Steady-State	R_{thJF}	30	40	

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

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-0.45			V
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -6.4V, V_{GS} = 0 V			-1	μA
		V_{DS} = -6.4V, V_{GS} = 0 V, T_J = 85℃			-5	μA
On-State Drain Current*	$I_{D(on)}$	V_{DS} ≤- 5 V, V_{GS} = -4.5 V	-10			A
Drain-Source On-State Resistance*	$r_{DS(on)}$	V_{GS} = -4.5 V, I_D = -3A		0.075	0.090	Ω
		V_{GS} = -2.5 V, I_D = -2.5A		0.110	0.130	Ω
		V_{GS} = -1.8 V, I_D = -1.0A		0.150	0.180	Ω
Forward Transconductance*	g_{fs}	V_{DS} = -5 V, I_D = -3A		7		S
Schottky Diode Forward Voltage*	V_{SD}	I_S = -0.9 A, V_{GS} = 0 V		-0.8	-1.2	V
Total Gate Charge	Q_g	V_{DS} = -4V, V_{GS} = -4.5 V, I_D = -3 A		5.5	9	nC
Gate-Source Charge	Q_{gs}			0.5		nC
Gate-Drain Charge	Q_{gd}			1.5		nC
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -4 V, R_L = 4 Ω I_D = -1 A, V_{GEN} = -4.5V, R_G = 6 Ω		10	15	ns
Rise Time	t_r			45	70	ns
Turn-Off Delay Time	$t_{d(off)}$			30	45	ns
Fall Time	t_f			10	15	ns
Source-Drain Reverse Recovery Time	t_{rr}	I_F = -0.9 A, di/dt = 100 A/μs		30	60	ns

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