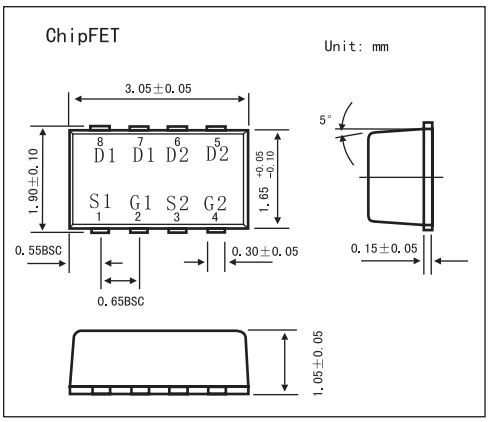
Dual N-Channel 2.5-V (G-S) MOSFET
KI5904DC



■ Features

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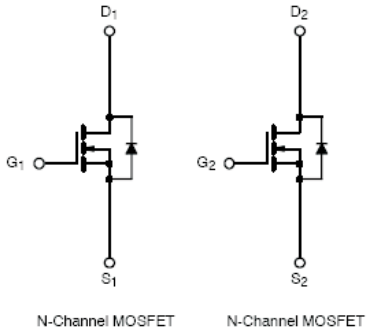

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	5secs	Steady State	Unit
Drain-Source Voltage	V_{DS}	20		V
Gate-Source Voltage	V_{GS}	±12		
Continuous Drain Current (T_J = 150 ℃) T_A = 25℃	I_D	±4.2	±3.1	A
T_A = 85℃		±3.0	±2.2	
Pulsed Drain Current	I_{DM}	±10		
Continuous Source Current (Diode Conduction)*	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		260		℃

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

■ Thermal Resistance Ratings

Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient *	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 = 250 μA	0.6			V
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±12 V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 16V, V_{GS} = 0 V			1	μA
		V_{DS} = 16 V, V_{GS} = 0 V, T_J = 85℃			5	
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 = 3.1 A		0.065	0.075	Ω
		V_{GS} = 2.5V, I_D = 2.3A		0.115	0.143	
Forward Transconductanceb	g_{fs}	V_{DS} = 10 V, I_D = 3.1 A		8		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} = 10 V, V_{GS} = 4.5V, I_D = 3.1 A		4	7.5	nC
Gate-Source Charge	Q_{gs}			0.6		
Gate-Drain Charge	Q_{gd}			1.3		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=10V,R_L=10 Ω,I_D=1A,V_{GEN}=10V,R_G=6 Ω		12	18	ns
Rise Time	t_r			35	55	
Turn-Off Delay Time	$t_{d(off)}$			19	30	
Fall Time	t_f			9	15	
Source-Drain Reverse Recovery Time	t_{rr}	I_F = 0.9 A, di/dt = 100 A/μs		40	80	ns

* Pulse test :Pulse width ⩽300 μs,duty cycle⩽2%