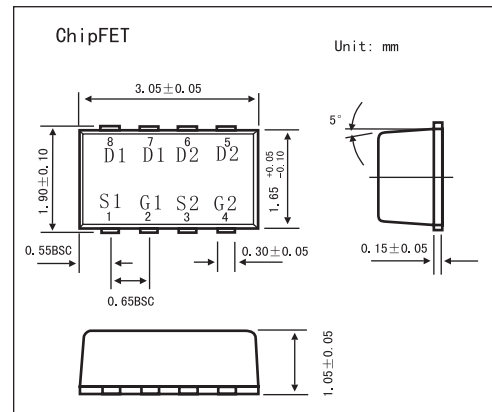
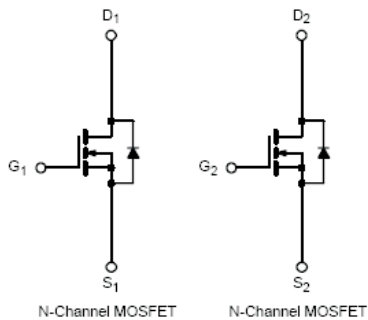


Dual N-Channel 20-V (D-S) MOSFET KI5908DC

■ Features

- TrenchFET Power MOSFETS
- Ultra Low $r_{DS(on)}$ and Excellent Power Handling In Compact Footprint



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

Parameter	Symbol	5secs	Steady State	Unit
Drain-Source Voltage	V_{DS}	20		V
Gate-Source Voltage	V_{GS}	± 8		
Continuous Drain Current ($T_J = 150^\circ\text{C}$) $T_A = 25^\circ\text{C}$ $T_A = 85^\circ\text{C}$	I_D	5.9	4.4	A
		4.2	3.1	
Pulsed Drain Current	I_{DM}	20		
Continuous Source Current (Diode Conduction)*	I_S	1.8	0.9	
Maximum Power Dissipation * $T_A = 25^\circ\text{C}$ $T_A = 85^\circ\text{C}$	P_D	2.1	1.1	W
		1.1	0.6	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$
Soldering Recommendations		260		$^\circ\text{C}$

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

■ Thermal Resistance Ratings

Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient *	$t \leq 5 \text{ sec}$	R_{thJA}	50	60	$^\circ\text{C}/\text{W}$
	Steady-State		90	110	
Maximum Junction-to-Foot (Drain)	Steady-State	R_{thJF}	30	40	

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

KI5908DC

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	0.4		1.0	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} = 20V, V _{GS} = 0 V			1	μA
		V _{DS} = 20 V, V _{GS} = 0 V, T _J = 85°C			5	
On-State Drain Current*	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 4.5 V	20			A
Drain Source On State Resistance*	r _{DS(on)}	V _{GS} = 4.5 V, I _D = 4.4 A		0.032	0.04	Ω
		V _{GS} = 2.5V, I _D = 4.1A		0.036	0.045	
		V _{GS} = 2.5V, I _D = 1.9A		0.042	0.052	
Forward Transconductance ^b	g _{fs}	V _{DS} = 10V, I _D = 4.4 A		22		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 = 4.4 A		5	7.5	nC
Gate-Source Charge	Q _{gs}			0.85		
Gate-Drain Charge	Q _{gd}			1		
Gate Resistance	R _g			1.9		
Turn-On Delay Time	t _{d(on)}	V _{DD} =10V,RL=10Ω, I _D =1A, V _{GEN} =10V, R _G =6Ω		20	30	ns
Rise Time	t _r			36	55	
Turn-Off Delay Time	t _{d(off)}			30	45	
Fall Time	t _f			12	20	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 0.9 A, di/dt = 100 A/μs		45	90	ns

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