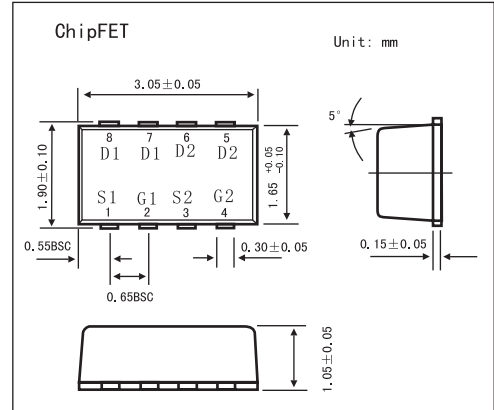
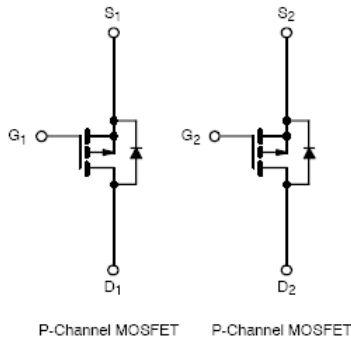


KI5903DC

■ Features

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

Parameter		Symbol	5 secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	-20		V
Gate-Source Voltage		V_{GS}	± 12		
Continuous Drain Current ($T_J = 150^\circ\text{C}$) *	$T_A = 25^\circ\text{C}$	I_D	± 2.9	± 2.1	A
	$T_A = 85^\circ\text{C}$		± 2.1	± 1.5	
Pulsed Drain Current		I_{DM}	± 10		
Continuous Source Current *		I_S	-1.8	-0.9	W
Maximum Power Dissipation *	$T_A = 25^\circ\text{C}$	P_D	2.1	1.1	
	$T_A = 85^\circ\text{C}$		1.1	0.6	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		$^\circ\text{C}$
Soldering Recommendations (Peak Temperature)			260		$^\circ\text{C}$
Parameter		Symbol	Typ	Max	Unit
Maximum Junction-to-Ambient	$t \leq 5 \text{ sec}$	R_{thJA}	50	60	$^\circ\text{C/W}$
	Steady-State		90	110	
Maximum Junction-to-Foot (Drain)	Steady-State	R_{thJF}	30	40	

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

■ 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 μ A	-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	μ A
		V _{DS} = -16V, V _{GS} = 0 V, T _J = 85°C			-5	μ A
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 = -2.1A		0.130	0.155	Ω
		V _{GS} = -3.6 V, I _D = -2.0A		0.150	0.180	Ω
		V _{GS} = -2.5 V, I _D = -1.7A		0.215	0.260	Ω
Forward Transconductance*	g _{fs}	V _{DS} = -10 V, I _D = -2.1A		5		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} = -10V, V _{GS} = -4.5 V, I _D = -2.1 A		3	6	nC
Gate-Source Charge	Q _{gs}			0.9		nC
Gate-Drain Charge	Q _{gd}			0.6		nC
Turn-On Delay Time	t _{d(on)}	V _{DD} = -10 V, R _L = 10 Ω I _D = -1 A, V _{GEN} = -4.5V, R _G = 6 Ω		13	20	ns
Rise Time	t _r			35	55	ns
Turn-Off Delay Time	t _{d(off)}			25	40	ns
Fall Time	t _f			25	40	ns
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -0.9 A, di/dt = 100 A/ μ s		40	80	ns

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