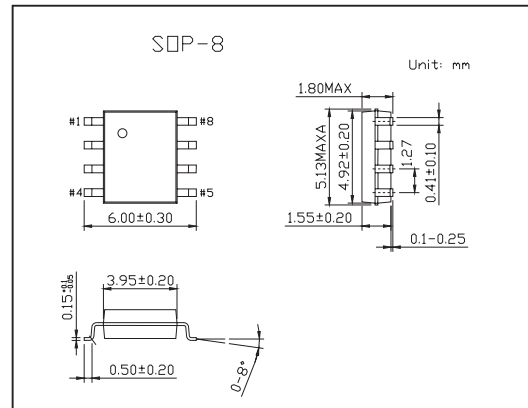
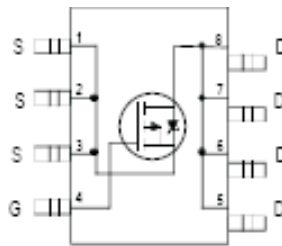


HEXFET Power MOSFET

KRF7205(IRF7205)

■ Features

- Advanced Process Technology
- Ultra Low On-Resistance
- P-Channel MOSFET
- Surface Mount
- Dynamic dv/dt Rating
- Fast Switching



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

Parameter	Symbol	Rating	Unit
Continuous Drain Current, $V_{GS} @ 10V @ T_A = 25^\circ\text{C}$	I_D	-4.6	A
Continuous Drain Current, $V_{GS} @ 10V @ T_A = 70^\circ\text{C}$	I_D	-3.7	
Pulsed Drain Current *1	I_{DM}	-15	
Power Dissipation @ $T_C = 25^\circ\text{C}$	P_D	2.5	W
Linear Derating Factor		0.02	V
Gate-to-Source Voltage	V_{GS}	± 20	V
Peak Diode Recovery dv/dt *2	dv/dt	-3	V/ns
Maximum Junction-to-Ambient *3	$R_{\theta JA}$	50	$^\circ\text{C/W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	$^\circ\text{C}$

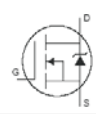
*1 Repetitive rating; pulse width limited by max. junction temperature.

*2 $I_{SD} \leq -4.6A$, $di/dt \leq 90A/\mu s$, $V_{DD} \leq V_{(BR)DSS}$, $T_J \leq 150^\circ\text{C}$

*3 Surface mounted on FR-4 board, $t \leq 10\text{sec}$.

KRF7205(IRF7205)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	V _{DSS}	V _{GS} = 0V, I _D = -250A	-30			V
Static Drain-to-Source On-Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -4.6A*1			0.070	Ω
		V _{GS} = -4.5V, I _D = -2.0A*1			0.130	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1.0		-3.0	V
Forward Transconductance	g _{fs}	V _{DS} = -15V, I _D = -4.6A*1		6.6		S
Drain-to-Source Leakage Current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1.0	μA
		V _{DS} = -16V, V _{GS} = 0V, T _J = 70°C			-5.0	
Gate-to-Source Forward Leakage	I _{GSS}	V _{GS} = -20V			-100	nA
Gate-to-Source Reverse Leakage		V _{GS} = 20V			100	
Total Gate Charge	Q _g	I _D = -4.6A		27	40	nC
Gate-to-Source Charge	Q _{gs}	V _{DS} = -15V		5.2		
Gate-to-Drain ("Miller") Charge	Q _{gd}	V _{GS} = -10V,*1		7.5		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -15V		14	30	ns
Rise Time	t _r	I _D = -1.0A		21	60	
Turn-Off Delay Time	t _{d(off)}	R _G = 6.0 Ω		97	150	
Fall Time	t _f	R _D = 10 Ω *1		71	100	
Internal Source Inductance	L _S	Between lead,6mm(0.25in.) from package and center of die contact 		2.5		nH
Internal Drain Inductance	L _D			4.0		
Input Capacitance	C _{iss}	V _{GS} = 0V		870		pF
Output Capacitance	C _{oss}	V _{DS} = -10V		720		
Reverse Transfer Capacitance	C _{rss}	f = 1.0MHz		220		
Reverse Recovery Time	t _{rr}	T _J = 25°C, I _F = -4.6A		70	100	ns
Reverse Recovery Charge	Q _{rr}	di/dt = 100A/μs*1		100	180	nC
Forward Turn-On Time	t _{on}	Intrinsic turn-on time is negligible (turn-on is dominated by L _S +L _D)				
Continuous Source Current (Body Diode)	I _S	MOSFET symbol showing the integral reverse p-n junction diode. 			-2.5	A
Pulsed Source Current (Body Diode) *2	I _{SM}				-15	
Diode Forward Voltage	V _{SD}	T _J = 25°C, I _S = -1.25A, V _{GS} = 0V*1			-1.2	V

*1 Pulse width ≤ 300 μs; duty cycle ≤ 2%.

*2 Repetitive rating; pulse width limited by max