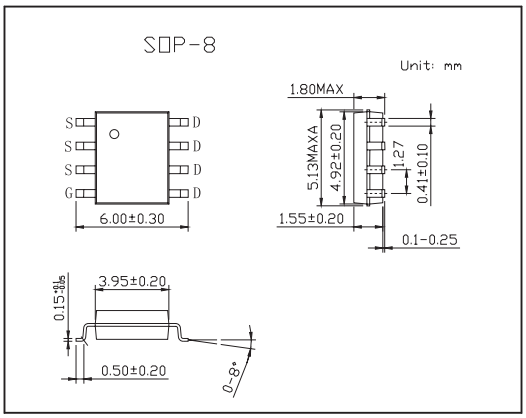
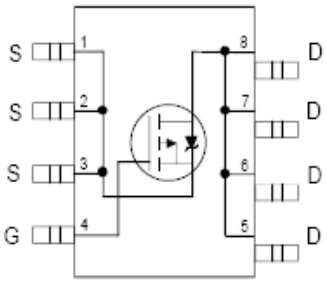
HEXFET®Power MOSFET

KRF7410



■ Features

- Ultra Low On-Resistance
- P-Channel MOSFET
- Surface Mount
- Available in Tape & Reel



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain- Source Voltage	V_{DS}	-20	V
Continuous Drain Current, V_{GS} @ -4.5V @ T_a = 25℃	I_D	-16	A
Continuous Drain Current, V_{GS} @ -4.5V @ T_a = 70℃	I_D	-13	
Pulsed Drain Current *1	I_{DM}	-65	
Power Dissipation *2 @T_a= 25℃	P_D	2.5	W
Power Dissipation *2 @T_a = 70℃	P_D	1.6	W
Linear Derating Factor		20	mW/℃
Gate-to-Source Voltage	V_{GS}	±8	V
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	℃
Maximum Junction-to-Ambient *3	$R_{\theta JA}$	50	℃/W

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

*2 Surface mounted on 1 in square Cu board, t ≤ 10sec.

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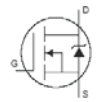
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-12			V
Breakdown Voltage Temp. Coefficient	$\triangle V_{(BR)DSS}/\triangle T_J$	I_D = -1mA,Reference to 25℃		0.006		V/℃
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -16A*1			7	Ω
		V_{GS} = -2.5V, I_D = -13.6A*1			9	
		V_{GS} = -1.8V, I_D = -11.5A*1			13	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-0.4		-0.9	V
Forward Transconductance	g_{fs}	V_{DS} = -10V, I_D = -16A*1	55			S
Drain-to-Source Leakage Current	I_{DSS}	V_{DS} = -9.6V, V_{GS} = 0V			-1.0	μA
		V_{DS} = -9.6V, V_{GS} = 0V, T_J = 70℃			-25	
Gate-to-Source Forward Leakage	I_{GSS}	V_{GS} = -8V			-100	nA
Gate-to-Source Reverse Leakage		V_{GS} = 8V			100	
Total Gate Charge	Q_g	I_D = -16A		91		nC
Gate-to-Source Charge	Q_{gs}	V_{DS} = -9.6V		18		
Gate-to-Drain ("Miller") Charge	Q_{gd}	V_{GS} = -4.5V,*1		25		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -6V,V_{GS}=-4.5V		13	20	ns
Rise Time	t_r	I_D = -1.0A		12	18	
Turn-Off Delay Time	$t_{d(off)}$	R_G = 6Ω		271	407	
Fall Time	t_f	R_D = 6Ω *1		200	300	
Input Capacitance	C_{iss}	V_{GS} = 0V		8676		pF
Output Capacitance	C_{oss}	V_{DS} = -10V		2344		
Reverse Transfer Capacitance	C_{rss}	f = 1.0MHz		1604		
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}				-65	
Diode Forward Voltage	V_{SD}	T_J = 25℃, I_S = -2.5A, V_{GS} = 0V*1			-1.2	V
Reverse Recovery Time	t_{rr}	T_J = 25℃, I_F =-2.5A		97	145	ns
Reverse RecoveryCharge	Q_{rr}	di/dt = 100A/μs*1		134	201	μC

*1 Pulse width ≤ 400μs; duty cycle ≤ 2%.

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