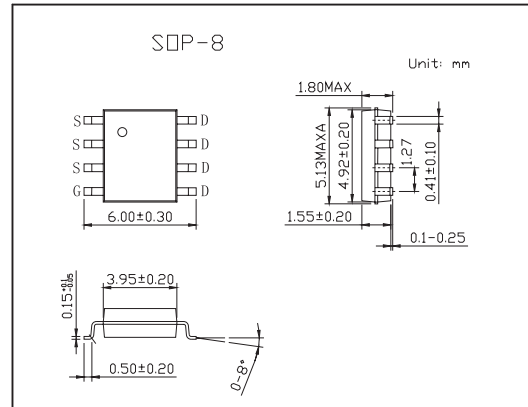
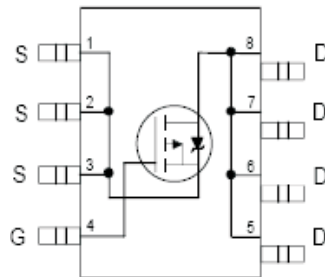


# HEXFET<sup>®</sup> Power MOSFET

## KRF7410

### ■ Features

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



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


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

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

\*2 Surface mounted on 1 in square Cu board,  $t \leq 10\text{sec}$ .

## KRF7410

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250 \mu A$	-12			V
Breakdown Voltage Temp. Coefficient	$\Delta V_{(BR)DSS} / \Delta T_J$	$I_D = -1mA, \text{Reference to } 25^\circ C$		0.006		V/°C
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -16A^{*1}$			7	$\Omega$
		$V_{GS} = -2.5V, I_D = -13.6A^{*1}$			9	
		$V_{GS} = -1.8V, I_D = -11.5A^{*1}$			13	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-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	$\mu A$
		$V_{DS} = -9.6V, V_{GS} = 0V, T_J = 70^\circ C$			-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	$t_{d(off)}$	$R_g = 6 \Omega$		271	407	
Fall Time	$t_f$	$R_D = 6 \Omega,^{*1}$		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	$V_{SD}$	$T_J = 25^\circ C, I_S = -2.5A, V_{GS} = 0V^{*1}$			-1.2	V
Reverse Recovery Time	$t_{rr}$	$T_J = 25^\circ C, I_F = -2.5A$		97	145	ns
Reverse RecoveryCharge	$Q_{rr}$	$di/dt = 100A/\mu s^{*1}$		134	201	$\mu C$

\*1 Pulse width  $\leq 400 \mu s$ ; duty cycle  $\leq 2\%$ .

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