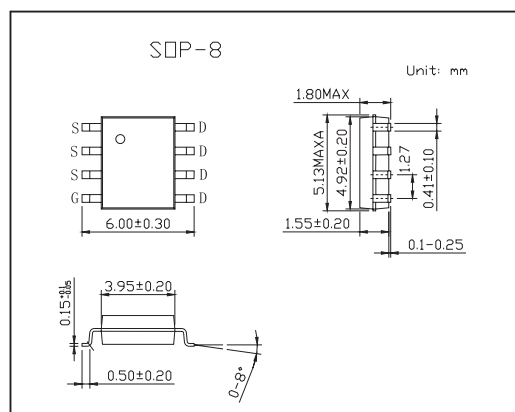
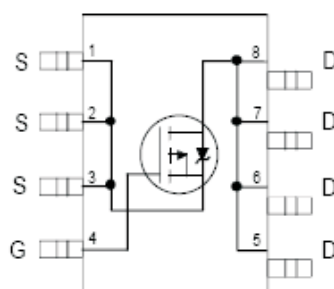


HEXFET[®] Power MOSFET

KRF7220

■ 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}	-14	V
Continuous Drain Current, $V_{GS} @ -4.5V @ T_a = 25^\circ\text{C}$	I_D	± 11	A
Continuous Drain Current, $V_{GS} @ -4.5V @ T_a = 70^\circ\text{C}$	I_D	± 8.8	
Pulsed Drain Current *1	I_{DM}	± 88	
Power Dissipation @ $T_a = 25^\circ\text{C}$	P_D	2.5	W
Power Dissipation @ $T_a = 70^\circ\text{C}$	P_D	1.6	W
Linear Derating Factor		0.02	W/ $^\circ\text{C}$
Single Pulse Avalanche Energy *4	E_{AS}	110	mJ
Gate-to-Source Voltage	V_{GS}	± 12	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	$^\circ\text{C/W}$

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

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

*4 Starting $T_J = 25^\circ\text{C}$, $L = 1.8\text{mH}$, $R_G = 25\Omega$, $I_{AS} = 11\text{A}$

KRF7220

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -5mA$	-14			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	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -11A^{*1}$		0.0082	0.012	Ω
		$V_{GS} = -2.5V, I_D = -8.8A^{*1}$		0.0125	0.02	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-0.6			V
Forward Transconductance	g_{fs}	$V_{DS} = -10V, I_D = -11A^{*1}$	8.4			S
Drain-to-Source Leakage Current	I_{DSS}	$V_{DS} = -11.2V, V_{GS} = 0V$			-5.0	μA
		$V_{DS} = -11.2V, V_{GS} = 0V, T_J = 70^\circ C$			-100	
Gate-to-Source Forward Leakage	I_{GSS}	$V_{GS} = -12V$			-100	nA
Gate-to-Source Reverse Leakage		$V_{GS} = 12V$			100	
Total Gate Charge	Q_g	$I_D = -11A$		84	125	nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = -10V$		13	20	
Gate-to-Drain ("Miller") Charge	Q_{gd}	$V_{GS} = -5.0V,^{*1}$		37	55	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -10V$		19		ns
Rise Time	t_r	$I_D = -11A$		420		
Turn-Off Delay Time	$t_{d(off)}$	$R_G = 6.2 \Omega$		140		
Fall Time	t_f	$R_D = 0.91 \Omega^{*1}$		1040		
Input Capacitance	C_{iss}	$V_{GS} = 0V$		8075		pF
Output Capacitance	C_{oss}	$V_{DS} = -10V$		4400		
Reverse Transfer Capacitance	C_{rss}	$f = 1.0MHz$		4150		
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}				-88	
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}	$T_J = 25^\circ C, I_F = -2.5A$		160	240	ns
Reverse Recovery Charge	Q_{rr}	$di/dt = 100A/\mu s^{*1}$		147	220	μC

*1 Pulse width $\leq 300 \mu s$; duty cycle $\leq 2\%$.

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