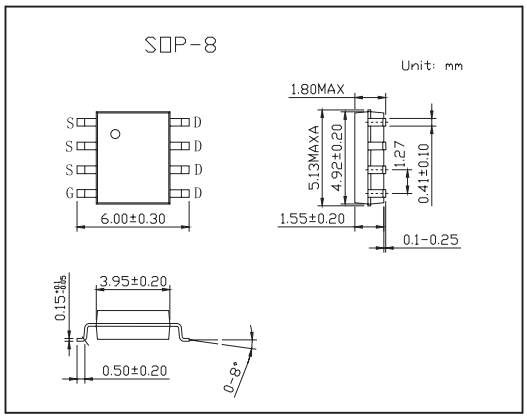
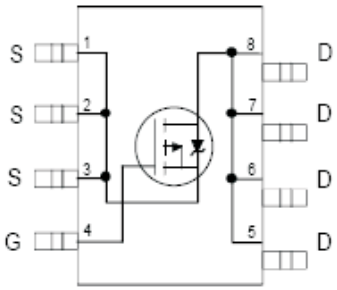
HEXFET®Power MOSFET

KRF7220



■ 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}	-14	V
Continuous Drain Current, V_{GS} @ -4.5V @ T_a = 25℃	I_D	±11	A
Continuous Drain Current, V_{GS} @ -4.5V @ T_a = 70℃	I_D	±8.8	
Pulsed Drain Current *1	I_{DM}	±88	
Power Dissipation @T_a= 25℃	P_D	2.5	W
Power Dissipation @T_a = 70℃	P_D	1.6	W
Linear Derating Factor		0.02	W/℃
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	℃
Maximum Junction-to-Ambient *3	$R_{\theta JA}$	50	℃/W

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

*3 Surface mounted on FR-4 board, t ≤ 10sec.

*4 Starting T_J = 25℃, L = 1.8mH,R_G = 25Ω, I_{AS} = 11A

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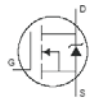
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -5mA	-14			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 = -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 = -250μA	-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℃			-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 = 6.2Ω		140		
Fall Time	t_f	R_D = 0.91Ω *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℃, I_S = -2.5A, V_{GS} = 0V*1			-1.2	V
Reverse Recovery Time	t_{rr}	T_J = 25℃, I_F =-2.5A		160	240	ns
Reverse RecoveryCharge	Q_{rr}	di/dt = 100A/μs*1		147	220	μC

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

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