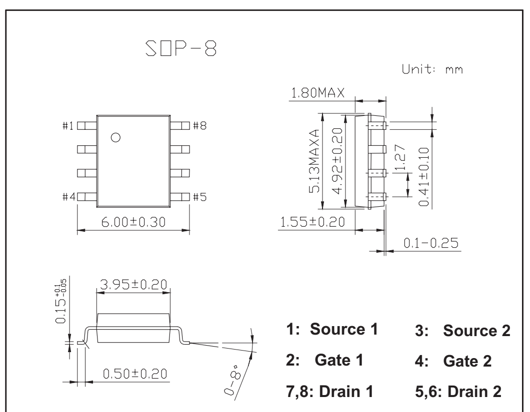
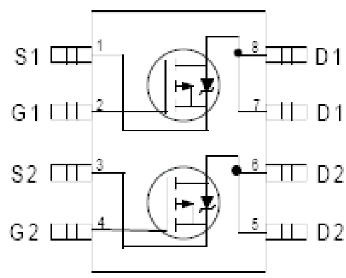
HEXFET®Power MOSFET

KRF7104

Features

- Adavanced Process Technology
- Ultra Low On-Resistance
- Dual P-Channel MOSFET
- Surface Mount
- Available in Tape & Reel
- Dynamic dv/dt Rating
- Fast Switching





Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Continuous Drain Current, V_{GS} @ 10V @ T_a = 25℃	I_D	-2.3	A
Continuous Drain Current, V_{GS} @ 10V @ T_a = 70℃	I_D	-1.8	
Pulsed Drain Current *1	I_{DM}	-10	
Power Dissipation @T_C= 25℃	P_D	2.0	W
Linear Derating Factor		0.016	W/℃
Gate-to-Source Voltage	V_{GS}	±12	V
Peak Diode Recovery dv/dt *3	dv/dt	-3	V/nS
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	℃
Maximum Junction-to-Ambient *2	$R_{\theta JA}$	62.5	℃/W

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

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

*3 I_{SD} ≤ -2.3A, di/dt ≤ 100A/μs, V_{DD} ≤ $V_{(BR)DSS}$, T_J ≤ 150℃

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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 = -250 μ A	-20			V
Breakdown Voltage Temp. Coefficient	$\triangle V_{(BR)DSS}/\triangle T_J$	I_D = -1mA,Reference to 25℃		-0.015		V/℃
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -10V, I_D = -1.0A*1		0.19	0.25	Ω
		V_{GS} = -4.5V, I_D = -0.50A*1		0.30	0.40	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250 μ A	-1.0		-3.0	V
Forward Transconductance	g_{fs}	V_{DS} = -15V, I_D = -2.3A*1		2.5		S
Drain-to-Source Leakage Current	I_{DSS}	V_{DS} = -16V, V_{GS} = 0V			-2.0	μ A
		V_{DS} = -16V, V_{GS} = 0V, T_J = 55℃			-25	
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 = -2.3A		9.3	25	nC
Gate-to-Source Charge	Q_{gs}	V_{DS} = -10V		1.6		
Gate-to-Drain ("Miller") Charge	Q_{gd}	V_{GS} = -10V *		3.0		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -10V		12	40	ns
Rise Time	t_r	I_D = -1.0A		16	40	
Turn-Off Delay Time	$t_{d(off)}$	R_G = 6 Ω		42	90	
Fall Time	t_f	R_D = 10 Ω *		30	50	
Internal Source Inductance	L_S	Between lead,6mm(0.25in.) from package and center of die contact		4.0		nH
Internal Drain Inductance	L_D			6.0		
Input Capacitance	C_{iss}	V_{GS} = 0V		290		pF
Output Capacitance	C_{oss}	V_{DS} = -15V		210		
Reverse Transfer Capacitance	C_{rss}	f = 1.0MHz		67		
Continuous Source Current（Body Diode)	I_S	MOSFET symbol showing the integral reverse p-n junction diode.			-2.0	A
Pulsed Source Current （Body Diode) *2	I_{SM}				-9.2	
Diode Forward Voltage	V_{SD}	T_J = 25℃, I_S = -1.5A, V_{GS} = 0V*1			-1.2	V
Reverse Recovery Time	t_{rr}	T_J = 25℃, I_F =-1.5A		69	100	ns
Reverse RecoveryCharge	Q_{rr}	di/dt = -100A/ μ s*1		90	140	μ C

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

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