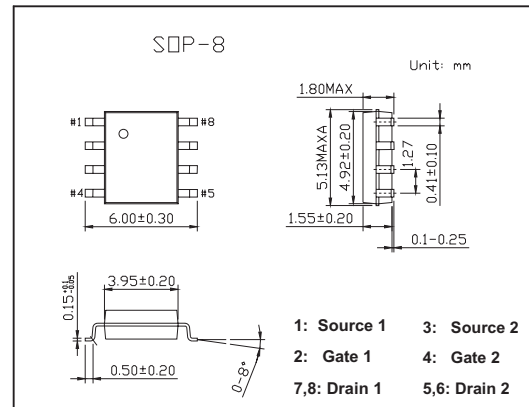
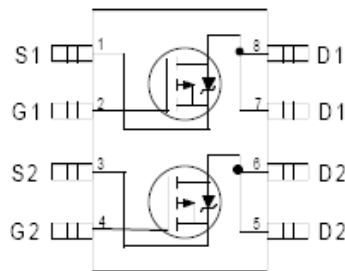


HEXFET[®] Power MOSFET

KRF7104

■ Features

- Advanced 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Continuous Drain Current, $V_{GS} @ 10V @ T_a = 25^\circ\text{C}$	I_D	-2.3	A
Continuous Drain Current, $V_{GS} @ 10V @ T_a = 70^\circ\text{C}$	I_D	-1.8	
Pulsed Drain Current *1	I_{DM}	-10	
Power Dissipation @ $T_c = 25^\circ\text{C}$	P_D	2.0	W
Linear Derating Factor		0.016	W/ $^\circ\text{C}$
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	$^\circ\text{C}$
Maximum Junction-to-Ambient *2	$R_{\theta JA}$	62.5	$^\circ\text{C/W}$

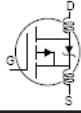
*1 Repetitive rating; pulse width limited by max. junction temperature.

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

*3 $I_{SD} \leq -2.3A$, $di/dt \leq 100A/\mu s$, $V_{DD} \leq V_{(BR)DSS}$, $T_J \leq 150^\circ\text{C}$

KRF7104

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250 \mu A$	-20			V
Breakdown Voltage Temp. Coefficient	$\Delta V_{(BR)DSS} / \Delta T_J$	$I_D = -1mA, \text{Reference to } 25^\circ C$		-0.015		V/°C
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	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-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	μA
		$V_{DS} = -16V, V_{GS} = 0V, T_J = 55^\circ C$			-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	$t_{d(off)}$	$R_G = 6 \Omega$		42	90	
Fall Time	t_f	$R_D = 10 \Omega^{*}$		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}	$T_J = 25^\circ C, I_S = -1.5A, V_{GS} = 0V^{*1}$			-1.2	V
Reverse Recovery Time	t_{rr}	$T_J = 25^\circ C, I_F = -1.5A$		69	100	ns
Reverse Recovery Charge	Q_{rr}	$di/dt = -100A/\mu s^{*1}$		90	140	μC

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

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