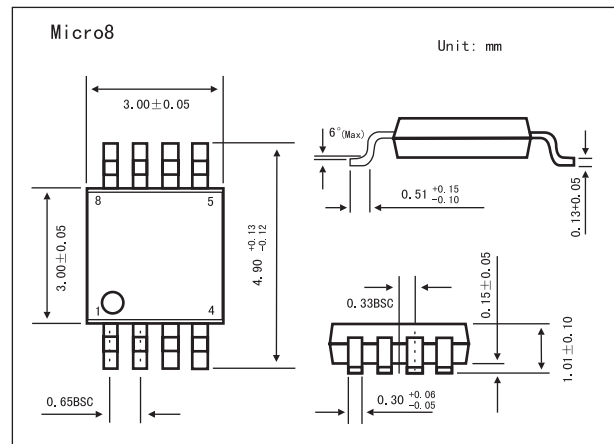
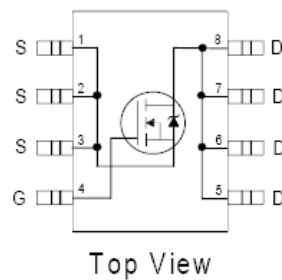


HEXFET[®] Power MOSFET

KRF7607

■ Features

- Generation V Technology
- Ultra Low On-Resistance
- N-Channel MOSFET
- Very Small SOIC Package
- Low Profile (<1.1mm)
- Available in Tape & Reel
- Fast Switching



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

Parameter	Symbol	Rating	Unit
Continuous Drain Current, $V_{GS} @ 4.5V, T_a = 25^\circ\text{C}$	I_D	20	A
Continuous Drain Current, $V_{GS} @ 4.5V, T_a = 70^\circ\text{C}$	I_D	6.5	
Pulsed Drain Current*1	I_{DM}	5.2	
Power Dissipation $T_a = 25^\circ\text{C}$	P_D	1.8	W
Power Dissipation $T_a = 70^\circ\text{C}$		1.2	
Linear Derating Factor		0.014	W/ $^\circ\text{C}$
Gate-to-Source Voltage	V_{GS}	± 12	V
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	$^\circ\text{C}$
Junction-to-Ambient *	$R_{\theta JA}$	70	$^\circ\text{C/W}$

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

KRF7607

■ 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	$\Delta V_{(BR)DSS} / \Delta T_J$	$I_D = 1mA, \text{Reference to } 25^\circ C$		0.016		V/°C
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 6.5A^{*1}$			0.030	Ω
		$V_{GS} = 2.5V, I_D = 5.2A^{*1}$			0.045	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 \mu A$	0.60			V
Forward Transconductance	g_{fs}	$V_{DS} = 10V, I_D = 6.5A^{*1}$	13			S
Drain-to-Source Leakage Current	I_{DSS}	$V_{DS} = 16V, V_{GS} = 0V$			1.0	μA
		$V_{DS} = 16V, V_{GS} = 0V, T_J = 70^\circ C$			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	$I_D = 6.5A$		15	22	nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = 10V$		2.2	3.3	
Gate-to-Drain ("Miller") Charge	Q_{gd}	$V_{GS} = 5.0V,^{*1}$		3.5	5.3	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10V$		8.5		ns
Rise Time	t_r	$I_D = 1.0A$		11		
Turn-Off Delay Time	$t_{d(off)}$	$R_G = 6.0 \Omega$		36		
Fall Time	t_f	$R_D = 10 \Omega$		16		
Input Capacitance	C_{iss}	$V_{GS} = 0V$		1310		pF
Output Capacitance	C_{oss}	$V_{DS} = 15V$		150		
Reverse Transfer Capacitance	C_{rss}	$f = 1.0MHz$		36		
Continuous Source Current (Body Diode)	I_S	MOSFET symbol showing the integral reverse p-n junction diode. 			1.8	A
Pulsed Source Current (Body Diode) *2	I_{SM}				50	
Diode Forward Voltage	V_{SD}	$T_J = 25^\circ C, I_S = 1.7A, V_{GS} = 0V^{*1}$			1.2	V
Reverse Recovery Time	t_{rr}	$T_J = 25^\circ C, I_F = 1.7A, V_R = 10V$		19	29	ns
Reverse Recovery Charge	Q_{rr}	$di/dt = 100A/\mu s^{*1}$		13	20	nC

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

*2 Repetitive rating; pulse width limited by max