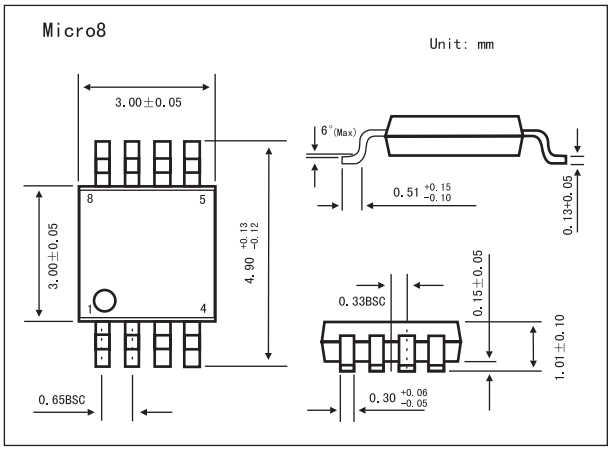
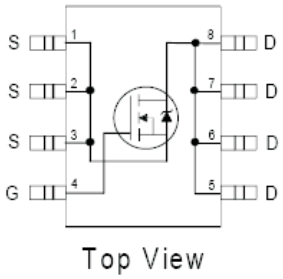
HEXFET®Power MOSFET

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 Ta = 25℃

Parameter	Symbol	Rating	Unit
Continuous Drain Current, VGS @ 4.5V,Ta = 25℃	ID	20	A
Continuous Drain Current, VGS @ 4.5V,TA = 70℃	ID	6.5	
Pulsed Drain Current*1	IDM	5.2	
Power Dissipation Ta = 25℃	PD	1.8	W
Power Dissipation Ta = 70℃		1.2	
Linear Derating Factor		0.014	W/℃
Gate-to-Source Voltage	VGS	±12	V
Junction and Storage Temperature Range	TJ, TSTG	-55 to + 150	℃
Junction-to-Ambient *	R θ JA	70	℃/W

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

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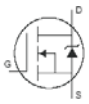
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	20			V
Breakdown Voltage Temp. Coefficient	$\triangle V_{(BR)DSS}/\triangle T_J$	I_D = 1mA,Reference to 25℃		0.016		V/℃
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 = 250μA	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℃			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 =6.0Ω		36		
Fall Time	t_f	R_D = 10Ω		16		
Input Capacitance	C_{iss}	V_{GS} = 0V		1310		pF
Output Capacitance	C_{oss}	V_{DS} = 15V		150		
Reverse Transfer Capacitance	C_{rss}	□ = 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℃, I_S = 1.7A, V_{GS} = 0V*1			1.2	V
Reverse Recovery Time	t_{rr}	T_J = 25℃, I_F = 1.7A.V_R=10V		19	29	ns
Reverse RecoveryCharge	Q_{rr}	di/dt = 100A/μs*1		13	20	nC

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

*2 Repetitive rating; pulse width limited bymax