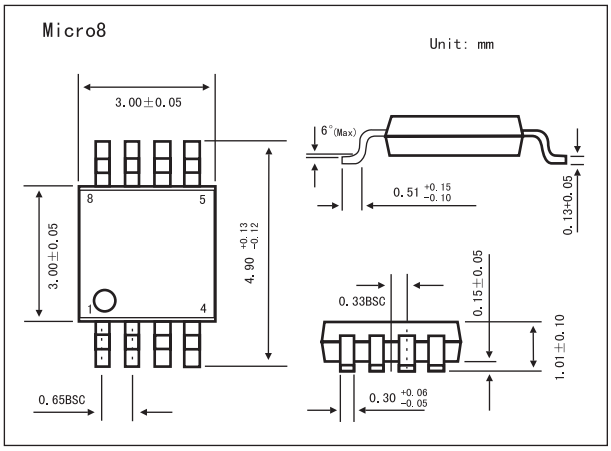
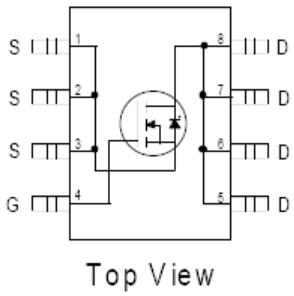
HEXFET®Power MOSFET

KRF7601

■ 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, V_{GS} @ 4.5V,Ta = 25℃	I_D	5.7	A
Continuous Drain Current, V_{GS} @ 4.5V,T_A = 70℃	I_D	4.6	
Pulsed Drain Current*1	I_{DM}	30	
Power Dissipation Ta = 25℃ *1	P_D	1.8	W
Linear Derating Factor		14	W/℃
Gate-to-Source Voltage	V_{GS}	±12	V
Peak Diode Recovery dv/dt*1	dv/dt	5	V/ns
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	℃
Junction-to-Ambient *2	R θ JA	70	℃/W

* I_{SD} ≤ 3.8A, di/dt ≤ 96A/μs, V_{DD} ≤ $V_{(BR)DSS}$,T_J ≤ 150℃

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

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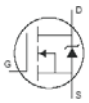
■ Electrical Characteristics Ta = 25℃

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℃		0.024		V/℃
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 4.5V, I_D = 3.8A*1			0.035	Ω
		V_{GS} = 2.7V, I_D =1.9A*1			0.050	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	0.70			V
Forward Transconductance	g_{fs}	V_{DS} = 10V, I_D = 1.9A*1	6.1			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 = 125℃			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 = 3.8A		14	22	nC
Gate-to-Source Charge	Q_{gs}	V_{DS} = 16V		2.0	3.0	
Gate-to-Drain ("Miller") Charge	Q_{gd}	V_{GS} = 4.5V,*1		6.3	9.5	
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = 10V		5.1		ns
Rise Time	t_r	I_D = 3.8A		47		
Turn-Off Delay Time	$t_{d(off)}$	R_G =6.2Ω		24		
Fall Time	t_f	R_D = 2.6Ω		32		
Input Capacitance	C_{iss}	V_{GS} = 0V		650		pF
Output Capacitance	C_{oss}	V_{DS} = 15V		300		
Reverse Transfer Capacitance	C_{rss}	□= 1.0MHz		150		
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}				30	
Diode Forward Voltage	V_{SD}	T_J = 25℃, I_S = 3.8A, V_{GS} = 0V*1			1.2	V
Reverse Recovery Time	t_{rr}	T_J = 25℃, I_F = 3.8A.V_R=10V		51	77	ns
Reverse RecoveryCharge	Q_{rr}	di/dt = 100A/μs*1		69	100	nC

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

*2 Repetitive rating; pulse width limited bymax