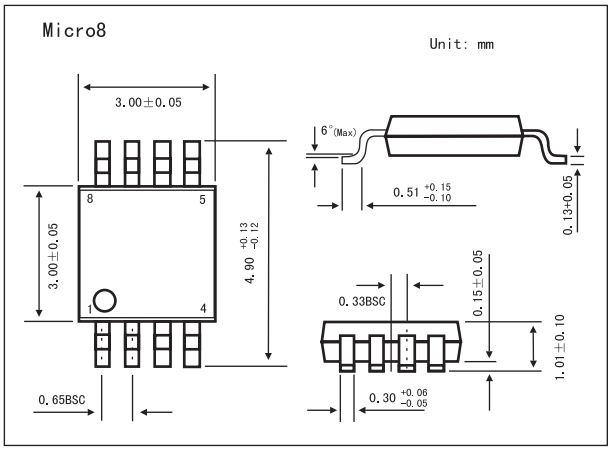
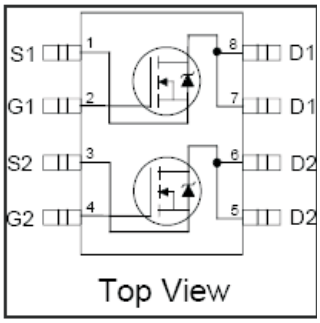
HEXFET®Power MOSFET

KRF7530



■ Features

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



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain- Source Voltage	V_{DS}	20	A
Continuous Drain Current, V_{GS} @ 4.5V,Ta = 25℃	I_D	5.4	A
Continuous Drain Current, V_{GS} @ 4.5V,T_A = 70℃	I_D	4.3	
Pulsed Drain Current*1	I_{DM}	40	
Power Dissipation Ta = 25℃	P_D	1.3	W
Power Dissipation Ta = 70℃	P_D	0.8	
Linear Derating Factor		10	mW/℃
Single Pulse Avalanche Energy *2	E_{AS}	33	mJ
Gate-to-Source Voltage	V_{GS}	±12	V
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	℃
Junction-to-Ambient *1	R θ JA	100	℃/W

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

*2 Starting T_J = 25℃, L = 2.6mH,R_G = 25Ω, I_{AS} = 5.0A.

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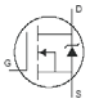
■ Electrical Characteristics Ta = 25℃

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℃		0.01		V/℃
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 4.5V, I_D = 5.4A*1			0.030	Ω
		V_{GS} = 2.5V, I_D =4.6A*1			0.045	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	0.60		1.2	V
Forward Transconductance	g_{fs}	V_{DS} = 10V, I_D = 5.4A*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 = 5.4A		18	26	nC
Gate-to-Source Charge	Q_{gs}	V_{DS} = 16V		3.4	5.1	
Gate-to-Drain ("Miller") Charge	Q_{gd}	V_{GS} = 4.5V,*1		3.4	5.1	
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		180		
Reverse Transfer Capacitance	C_{rss}	f = 1.0MHz		150		
Continuous Source Current（Body Diode)	I_S	MOSFET symbol showing the integral reverse p-n junction diode. 			1.3	A
Pulsed Source Current （Body Diode) *2	I_{SM}				40	
Diode Forward Voltage	V_{SD}	T_J = 25℃, I_S = 1.3A, V_{GS} = 0V*1			1.2	V
Reverse Recovery Time	t_{rr}	T_J = 25℃, I_F = 1.3A.V_R=10V		19	29	ns
Reverse RecoveryCharge	Q_{rr}	di/dt = 100A/μs*1		13	20	nC

*1 Pulse width ≤ 400μs; duty cycle ≤ 2%.

*2 Repetitive rating; pulse width limited bymax