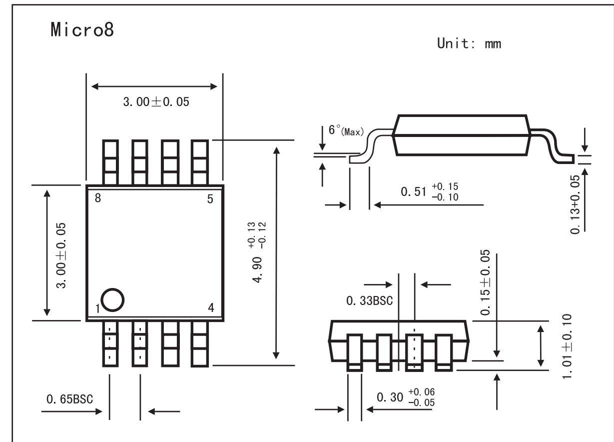
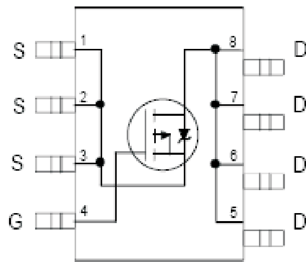
HEXFET®Power MOSFET

KRF7663

■ Features

- Trench Technology
- Ultra Low On-Resistance
- P-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	V
Continuous Drain Current, V_{GS} @ -4.5V @ T_a = 25℃	I_D	-8.2	A
Continuous Drain Current, V_{GS} @ -4.5V @ T_a = 70℃	I_D	-6.6	
Pulsed Drain Current *1	I_{DM}	-66	
Power Dissipation @T_a= 25℃	P_D	1.8	W
Power Dissipation @T_a= 70℃		1.15	
Linear Derating Factor		10	mW/℃
Single Pulse Avalanche Energy *2	E_{AS}	115	mJ
Gate-to-Source Voltage	V_{GS}	±12	V
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	℃
Maximum Junction-to-Ambient *3	$R_{\theta JA}$	70	℃/W

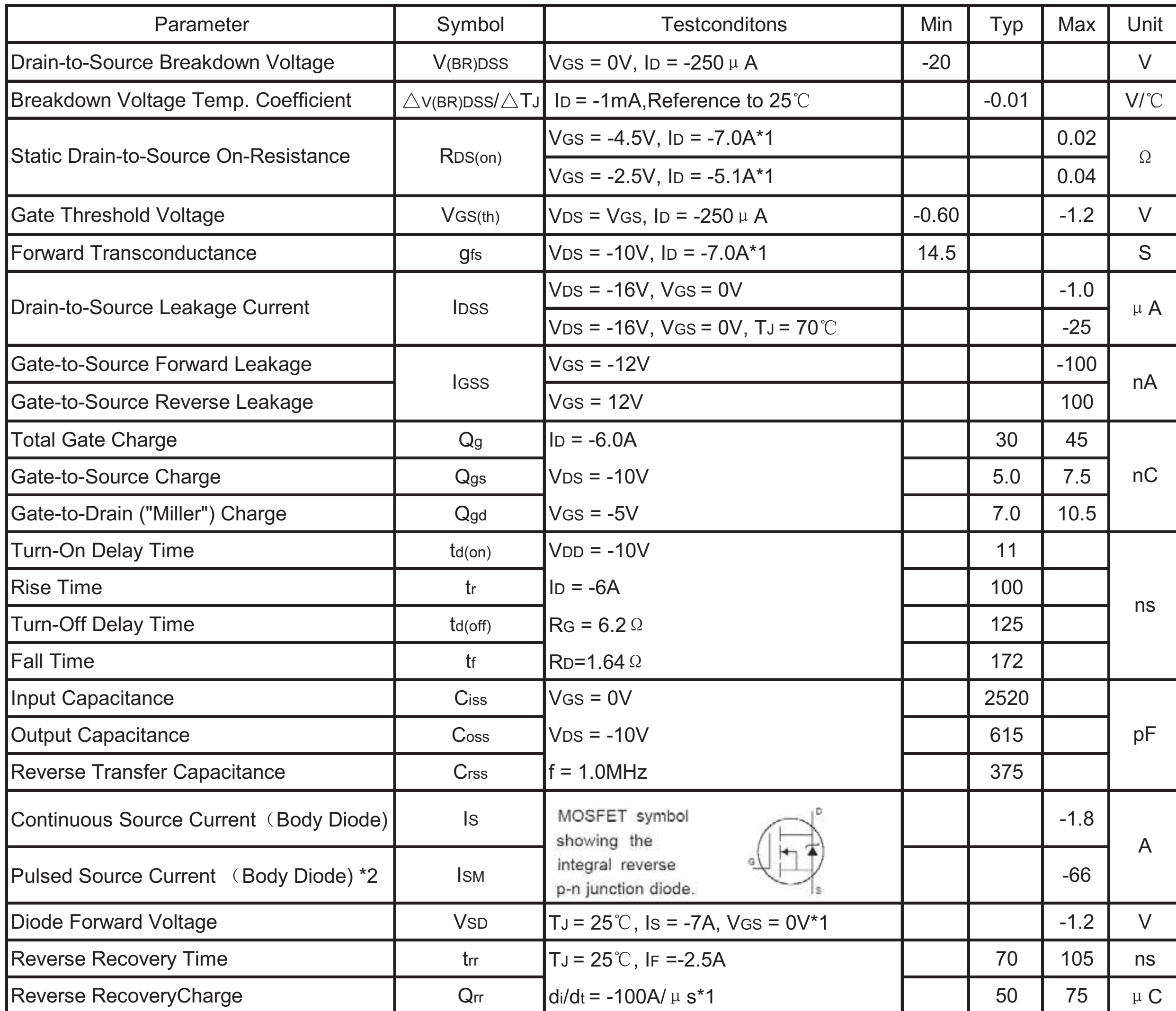
*1 Repetitive rating; pulse width limited by max. junction temperature.

*2 Starting T_J = 25℃, L = 17.8mH,R_G = 25Ω, I_{AS} = -3.6A

*3 When mounted on 1 inch square copper board, t<10 sec

KRF7663

■ Electrical Characteristics Ta = 25℃



Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250 μ A	-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 = -7.0A*1			0.02	Ω
		V_{GS} = -2.5V, I_D = -5.1A*1			0.04	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250 μ A	-0.60		-1.2	V
Forward Transconductance	g_{fs}	V_{DS} = -10V, I_D = -7.0A*1	14.5			S
Drain-to-Source Leakage Current	I_{DSS}	V_{DS} = -16V, V_{GS} = 0V			-1.0	μ A
		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 = -6.0A		30	45	nC
Gate-to-Source Charge	Q_{gs}	V_{DS} = -10V		5.0	7.5	
Gate-to-Drain ("Miller") Charge	Q_{gd}	V_{GS} = -5V		7.0	10.5	
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -10V		11		ns
Rise Time	t_r	I_D = -6A		100		
Turn-Off Delay Time	$t_{d(off)}$	R_G = 6.2 Ω		125		
Fall Time	t_f	R_D=1.64 Ω		172		
Input Capacitance	C_{iss}	V_{GS} = 0V		2520		pF
Output Capacitance	C_{oss}	V_{DS} = -10V		615		
Reverse Transfer Capacitance	C_{rss}	f = 1.0MHz		375		
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}				-66	
Diode Forward Voltage	V_{SD}	T_J = 25℃, I_S = -7A, V_{GS} = 0V*1			-1.2	V
Reverse Recovery Time	t_{rr}	T_J = 25℃, I_F =-2.5A		70	105	ns
Reverse RecoveryCharge	Q_{rr}	di/dt = -100A/ μ s*1		50	75	μ C

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

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