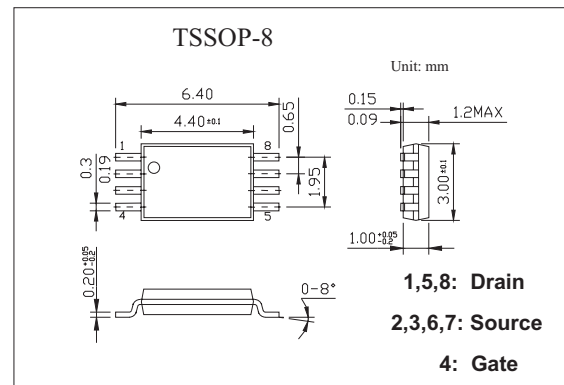
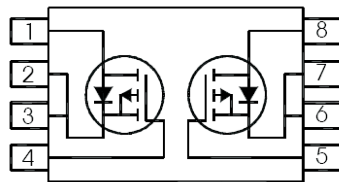


HEXFET<sup>®</sup> Power MOSFET

## KRF7756

## ■ Features

- Ultra Low On-Resistance
- Dual P-Channel MOSFET
- Very Small SOIC Package
- Low Profile ( < 1.2mm)
- Available in Tape & Reel

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


Parameter	Symbol	Rating	Unit
Drain- Source Voltage	$V_{DS}$	-12	V
Continuous Drain Current, $V_{GS} @ -4.5V @ T_A = 25^\circ\text{C}$	$I_D$	-4.3	A
Continuous Drain Current, $V_{GS} @ -4.5V @ T_A = 70^\circ\text{C}$	$I_D$	-3.5	
Pulsed Drain Current *1	$I_{DM}$	-17	
Power Dissipation *2 @ $T_A = 25^\circ\text{C}$	$P_D$	1.0	W
Power Dissipation *2 @ $T_A = 70^\circ\text{C}$	$P_D$	0.64	W
Linear Derating Factor		8	m W/ $^\circ\text{C}$
Gate-to-Source Voltage	$V_{GS}$	$\pm 8$	V
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	$^\circ\text{C}$
Maximum Junction-to-Ambient *2	$R_{\theta JA}$	125	$^\circ\text{C}/\text{W}$

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

\*2 Surface mounted on FR-4 board,  $\leq 10\text{sec}$

## KRF7756

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250 \mu A$	-12			V
Breakdown Voltage Temp. Coefficient	$\Delta V_{(BR)DSS} / \Delta T_J$	$I_D = -1mA, \text{Reference to } 25^\circ C$		-0.006		V/°C
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -4.3A^{*1}$			0.040	$\Omega$
		$V_{GS} = -2.5V, I_D = -3.4A^{*1}$			0.058	
		$V_{GS} = -1.8V, I_D = -2.2A^{*1}$			0.087	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-0.4		-0.9	V
Forward Transconductance	$g_{fs}$	$V_{DS} = -10V, I_D = -4.3A^{*1}$	13			S
Drain-to-Source Leakage Current	$I_{DSS}$	$V_{DS} = -9.6V, V_{GS} = 0V$			-1.0	$\mu A$
		$V_{DS} = -9.6V, V_{GS} = 0V, T_J = 70^\circ C$			-25	
Gate-to-Source Forward Leakage	$I_{GSS}$	$V_{GS} = -8.0V$			-100	nA
Gate-to-Source Reverse Leakage		$V_{GS} = 8.0V$			100	
Total Gate Charge	$Q_g$	$I_D = -4.3A$		12	18	nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS} = -6.0V$		1.8	2.7	
Gate-to-Drain ("Miller") Charge	$Q_{gd}$	$V_{GS} = -4.5V$		2.9	4.4	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -6V$		12		ns
Rise Time	$t_r$	$I_D = -1.0A$		18		
Turn-Off Delay Time	$t_{d(off)}$	$R_D = 6 \Omega$		160		
Fall Time	$t_f$	$V_{GS} = -4.5V$		170		
Input Capacitance	$C_{iss}$	$V_{GS} = 0V$		1400		pF
Output Capacitance	$C_{oss}$	$V_{DS} = -10V$		310		
Reverse Transfer Capacitance	$C_{rss}$	$f = 1.0MHz$		240		
Continuous Source Current (Body Diode)	$I_S$	MOSFET symbol showing the integral reverse p-n junction diode. 			-1.0	A
Pulsed Source Current (Body Diode) *2	$I_{SM}$				-17	
Diode Forward Voltage	$V_{SD}$	$T_J = 25^\circ C, I_S = -1.0A, V_{GS} = 0V^{*1}$			-1.2	V
Reverse Recovery Time	$t_{rr}$	$T_J = 25^\circ C, I_F = -1.0A$		35	53	ns
Reverse Recovery Charge	$Q_{rr}$	$di/dt = -100A/\mu s^{*1}$		20	30	nC

\*1 Pulse width  $\leq 400 \mu s$ ; duty cycle  $\leq 2\%$ .

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