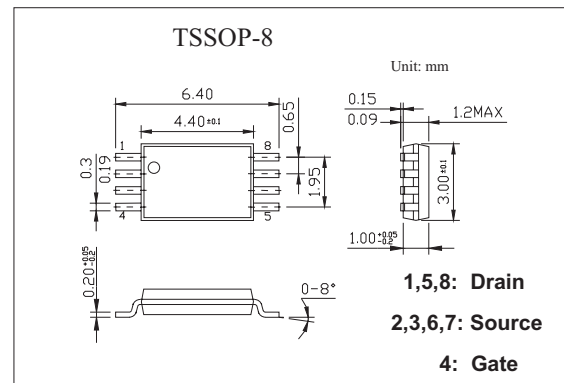


# HEXFET<sup>®</sup> Power MOSFET

## KRF7750

### ■ Features

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



### ■ Absolute Maximum Ratings Ta = 25°C


Parameter	Symbol	Rating	Unit
Drain- Source Voltage	V <sub>DS</sub>	-20	V
Continuous Drain Current, V <sub>GS</sub> @ -4.5V @ T <sub>c</sub> = 25°C	I <sub>D</sub>	±4.7	A
Continuous Drain Current, V <sub>GS</sub> @ -4.5V @ T <sub>c</sub> = 70°C	I <sub>D</sub>	±3.8	
Pulsed Drain Current *1	I <sub>DM</sub>	±38	
Power Dissipation *2 @T <sub>c</sub> = 25°C	P <sub>D</sub>	1.0	W
Power Dissipation *2 @T <sub>c</sub> = 70°C	P <sub>D</sub>	0.64	W
Linear Derating Factor		0.008	W/°C
Gate-to-Source Voltage	V <sub>GS</sub>	±12	V
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150	°C
Maximum Junction-to-Ambient *2	R <sub>θJA</sub>	125	°C/W

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

\*2 When mounted on 1 inch square copper board, t < 10 sec

## KRF7750

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250 \mu A$	-20			V
Breakdown Voltage Temp. Coefficient	$\Delta V_{(BR)DSS} / \Delta T_J$	$I_D = -1mA, \text{Reference to } 25^\circ C$		0.012		V/°C
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -4.7A^{*1}$			0.030	$\Omega$
		$V_{GS} = -2.5V, I_D = -3.8A^{*1}$			0.055	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-0.45		-1.2	V
Forward Transconductance	$g_{fs}$	$V_{DS} = -10V, I_D = -4.7A^{*1}$	11			S
Drain-to-Source Leakage Current	$I_{DSS}$	$V_{DS} = -20V, V_{GS} = 0V$			-1.0	$\mu A$
		$V_{DS} = -16V, V_{GS} = 0V, T_J = 70^\circ C$			-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	$Q_g$	$I_D = -4.7A$		26	39	nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS} = -16V$		3.9	5.8	
Gate-to-Drain ("Miller") Charge	$Q_{gd}$	$V_{GS} = -5.0V$		8.0	12	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -10V$		15		ns
Rise Time	$t_r$	$I_D = -1.0A$		54		
Turn-Off Delay Time	$t_{d(off)}$	$R_D = 10 \Omega$		180		
Fall Time	$t_f$	$R_G = 24 \Omega$		210		
Input Capacitance	$C_{iss}$	$V_{GS} = 0V$		1700		pF
Output Capacitance	$C_{oss}$	$V_{DS} = -15V$		380		
Reverse Transfer Capacitance	$C_{rss}$	$f = 1.0MHz$		270		
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	$I_{SM}$				-38	
Diode Forward Voltage	$V_{SD}$	$T_J = 25^\circ C, I_S = -1.0A, V_{GS} = 0V^{*1}$			-1.2	V
Reverse Recovery Time	$t_{rr}$	$T_J = 25^\circ C, I_F = -1.0A$		26	39	ns
Reverse RecoveryCharge	$Q_{rr}$	$di/dt = -100A/\mu s^{*1}$		16	24	nC

\*1 Pulse width  $\leq 300 \mu s$ ; duty cycle  $\leq 2\%$ .

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