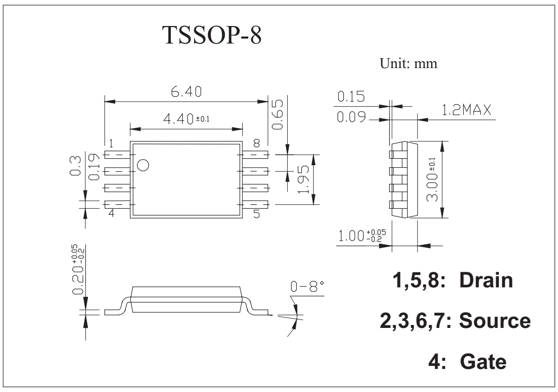
HEXFET®Power MOSFET

KRF7706



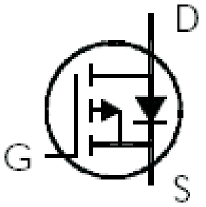
1,5,8: Drain

2,3,6,7: Source

4: Gate

Features

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



Absolute Maximum Ratings Ta = 25℃

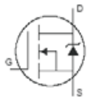
Parameter	Symbol	Rating	Unit
Drain- Source Voltage	V_{DS}	-30	V
Continuous Drain Current, V_{GS} @ -10V @ T_a = 25℃	I_D	-7	A
Continuous Drain Current, V_{GS} @ -10V @ T_a = 70℃	I_D	-5.7	
Pulsed Drain Current *1	I_{DM}	-28	
Power Dissipation *2 @T_a= 25℃	P_D	1.51	W
Power Dissipation *2 @T_a = 70℃	P_D	0.96	W
Linear Derating Factor		0.01	W/℃
Gate-to-Source Voltage	V_{GS}	±20	V
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	℃
Maximum Junction-to-Ambient *2	$R_{\theta JA}$	83	℃/W

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

*2 Surface mounted on 1 in square Cu board

KRF7706

■ 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	-30			V
Breakdown Voltage Temp. Coefficient	$\triangle V_{(BR)DSS}/\triangle T_J$	I_D = -1mA,Reference to 25℃		0.015		V/℃
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -10V, I_D = -7.0A*1			22	mΩ
		V_{GS} = -4.5V, I_D = -5.6A*1			36	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250µA	-1.0		-2.5	V
Forward Transconductance	g_{fs}	V_{DS} = -10V, I_D = -7.0A*1	6.9			S
Drain-to-Source Leakage Current	I_{DSS}	V_{DS} = -24V, V_{GS} = 0V			-15	µA
		V_{DS} = -24V, V_{GS} = 0V, T_J = 70℃			-25	
Gate-to-Source Forward Leakage	I_{GSS}	V_{GS} = -20V			-100	nA
Gate-to-Source Reverse Leakage		V_{GS} = 20V			100	
Total Gate Charge	Q_g	I_D = -7.0A		48	72	nC
Gate-to-Source Charge	Q_{gs}	V_{DS} = -15V		8.5		
Gate-to-Drain ("Miller") Charge	Q_{gd}	V_{GS} = -10V		8.4		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -15V,V_{GS}=-10V		17		ns
Rise Time	t_r	I_D = -1.0A		46		
Turn-Off Delay Time	$t_{d(off)}$	R_G = 6Ω		244		
Fall Time	t_f	R_D=15Ω		122		
Input Capacitance	C_{iss}	V_{GS} = 0V		2211		pF
Output Capacitance	C_{oss}	V_{DS} = -25V		339		
Reverse Transfer Capacitance	C_{rss}	f = 1.0MHz		207		
Continuous Source Current（Body Diode)	I_S	MOSFET symbol showing the integral reverse p-n junction diode. 			-1.5	A
Pulsed Source Current （Body Diode) *2	I_{SM}				-28	
Diode Forward Voltage	V_{SD}	T_J = 25℃, I_S = -1.5A, V_{GS} = 0V*1			-1.2	V
Reverse Recovery Time	t_{rr}	T_J = 25℃, I_F =-1.5A		34	51	ns
Reverse RecoveryCharge	Q_{rr}	di/dt = -100A/µs*1		32	48	µC

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

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