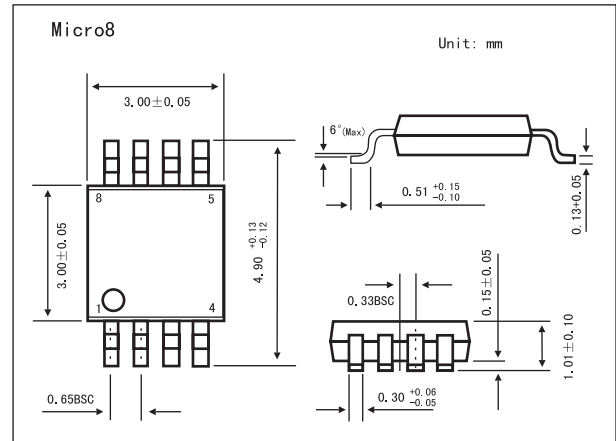
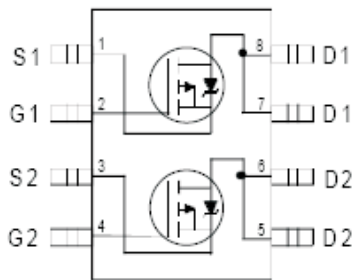


# HEXFET<sup>®</sup> Power MOSFET

## KRF7555

### ■ Features

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



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-20	
Continuous Drain Current, $V_{GS} @ -4.5V @ T_A = 25^\circ\text{C}$	$I_D$	-4.3	A
Continuous Drain Current, $V_{GS} @ -4.5V @ T_A = 70^\circ\text{C}$	$I_D$	-3.4	
Pulsed Drain Current *1	$I_{DM}$	-34	
Power Dissipation *2 @ $T_A = 25^\circ\text{C}$	$P_D$	1.25	W
Power Dissipation *2 @ $T_A = 70^\circ\text{C}$		0.8	W
Linear Derating Factor		10	m W/ $^\circ\text{C}$
Gate-to-Source Voltage	$V_{GS}$	$\pm 12$	V
Single Pulse Avalanche Energy*2	$E_{AS}$	36	Mj
Peak Diode Recovery $dv/dt$ *3	$dv/dt$	1.1	V/ns
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	$^\circ\text{C}$
Maximum Junction-to-Ambient *2	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$


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

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

\*3  $I_{SD} \leq -2.0A$ ,  $di/dt \leq -140A/\mu s$ ,  $V_{DD} \leq V_{(BR)DSS}$ ,  $T_J \leq 150^\circ\text{C}$

## KRF7555

## ■ 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	$\Delta V_{(BR)DSS} / \Delta T_J$	$I_D = -1mA, \text{Reference to } 25^\circ C$		-0.005		V/°C
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -4.3A^*1$			0.055	$\Omega$
		$V_{GS} = -2.5V, I_D = -3.4A^*1$			0.105	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-0.6		-1.2	V
Forward Transconductance	$g_{fs}$	$V_{DS} = -10V, I_D = -0.8A^*1$	2.5			S
Drain-to-Source Leakage Current	$I_{DSS}$	$V_{DS} = -16V, V_{GS} = 0V$			-1.0	$\mu A$
		$V_{DS} = -16V, V_{GS} = 0V, T_J = 125^\circ C$			-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	$Q_g$	$I_D = -3.0A$		10	15	nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS} = -10V$		2.1	3.1	
Gate-to-Drain ("Miller") Charge	$Q_{gd}$	$V_{GS} = -5.0V$		2.5	3.7	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -10V$		10		ns
Rise Time	$t_r$	$I_D = -2.0A$		46		
Turn-Off Delay Time	$t_{d(off)}$	$R_D = 5.0 \Omega$		60		
Fall Time	$t_f$	$R_g = 6.0 \Omega$		64		
Input Capacitance	$C_{iss}$	$V_{GS} = 0V$		1066		pF
Output Capacitance	$C_{oss}$	$V_{DS} = -10V$		402		
Reverse Transfer Capacitance	$C_{rss}$	$f = 1.0MHz$		126		
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	$I_{SM}$				-34	
Diode Forward Voltage	$V_{SD}$	$T_J = 25^\circ C, I_S = -1.6A, V_{GS} = 0V^*1$			-1.2	V
Reverse Recovery Time	$t_{rr}$	$T_J = 25^\circ C, I_F = -2.5A$		54	82	ns
Reverse RecoveryCharge	$Q_{rr}$	$di/dt = -100A/\mu s^*1$		41	61	nC

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

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