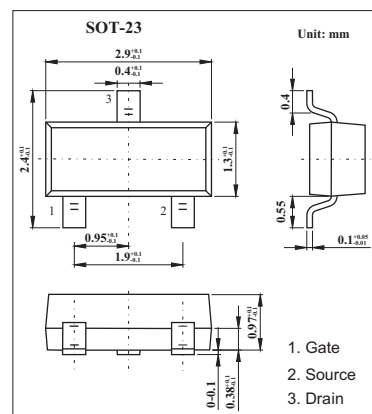


HEXFET Power MOSFET

KRLML6402

■ Features

- Ultra low on-resistance.
- P-Channel MOSFET.
- SOT-23 Footprint.
- Low profile(<1.1mm).
- Available in tape and reel.
- Fast switching.

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-to-source voltage	V_{GS}	± 12	V
Continuous drain current, $V_{GS} @ -4.5\text{V}$, $T_A = 25^\circ\text{C}$	I_D	-3.7	A
Continuous drain current, $V_{GS} @ -4.5\text{V}$, $T_A = 70^\circ\text{C}$		-2.2	
Pulsed drain current *1	I_{DM}	-22	A
Power dissipation @ $T_A = 25^\circ\text{C}$	P_D	1.3	W
Power dissipation @ $T_A = 70^\circ\text{C}$		0.8	
Linear derating factor		0.01	mW/ $^\circ\text{C}$
Single Pulse Avalanche Energy *2	E_{AS}	11	MJ
Maximum Junction-to-Ambient *3	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$
Junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

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

*2. Starting $T_J = 25^\circ\text{C}$, $L = 1.65\text{mH}$, $R_G = 25\Omega$, $I_{AS} = -3.7\text{A}$.

*3. Surface mounted on 1" square single layer 1oz. copper FR4 board, steady state.

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source Breakdown voltage	V _{DSS}	I _D = -250 μA, V _{GS} = 0V	-20			V
Gate-source leakage current	I _{DSS}	V _{DS} = -20 V, V _{GS} = 0V			-1.0	μA
		V _{DS} = -20 V, V _{GS} = 0V, T _J = 70°C			-25	
Gate-source leadage	I _{GSS}	V _{GS} = ±12V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-0.40	-0.55	-0.95	V
Static drain-source on- resistance	R _{DS(on)}	I _D = -3.7A, V _{GS} = -4.5V		0.050	0.065	Ω
		I _D = -3.1A, V _{GS} = -2.5V		0.080	0.0135	
Forward Transconductance	g _{fs}	V _{DS} = -10 V, I _D = -3.7 A	6.0			S
Input capacitance	C _{iss}	V _{DS} = -10 V,		633		pF
Output capacitance	C _{oss}	V _{GS} = 0 V,		145		
Reverse transfer capacitance	C _{rss}	f = 1MHz		110		
Total Gate Charge	Q _g	V _{DS} = -10V, V _{GS} = -5.0 V, I _D = -3.7 A		8.0	12	nC
Gate-Source Charge	Q _{gs}			1.2	1.8	
Gate-Drain Charge	Q _{gd}			2.8	4.2	
Turn-on delay time	t _{d(on)}	I _D = -3.7 A,		350		ns
Rise time	t _r	V _{DD} = -10 V,		48		
Turn-off delay time	t _{d(off)}	R _D = 2.7 Ω		588		
Fall time	t _f	R _G = 89 Ω		381		
Reverse recovery time	t _{rr}	T _J = 25°C, I _F = -1.0 A,		29	43	ns
Reverse recovery charge	Q _{rr}	di / dt = -100 A/μs *2		11	17	nC
Continuous source current	I _S	MOSFET symbol I showing the integral reverse p-n junction diode			-1.3	A
Pulsed source current *1	I _{SM}				-22	
Diode forward voltage	V _{SD}	T _J = 25°C, V _{GS} = 0 V, I _S = -1.0 A *2			-1.2	V

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

* 2 Pulse width ≤ 300 μs, Duty cycle ≤ 2%

