

Features

- $V_{DS} = -16V, I_D = -3.8A$
 $R_{DS(ON)} < 52m\Omega @ V_{GS} = -4.5V$
 $R_{DS(ON)} < 78m\Omega @ V_{GS} = -2.5V$
- SOT-23 Package

Applications

- Battery protection
- Load switch
- Power management

RoHS

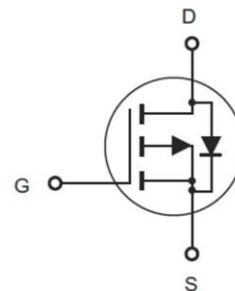


Ordering Information

Part Number	Qty per Reel	Reel Size
IRLML6401	3000	7"



SOT-23



Marking: FJXX7 Or 1F

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-16	V
Gate-Source Voltage	V_{GS}	± 10	
Continuous Drain Current	I_D	-3.8	A
Power Dissipation	P_D	1	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	125	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-50 ~ +150	

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

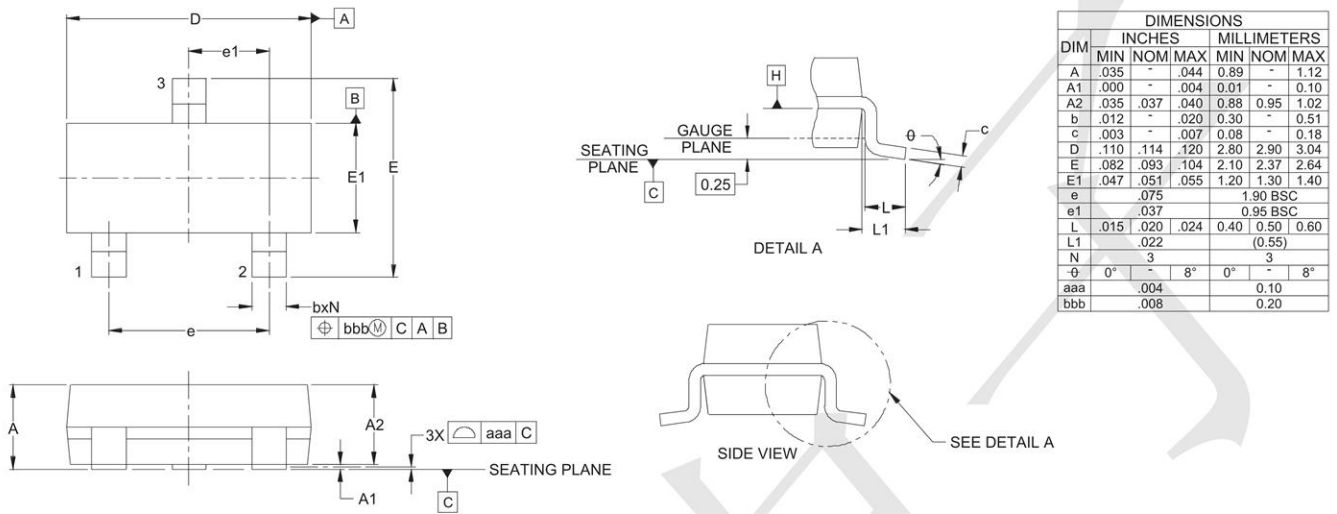
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-16	-18		
Zero gate voltage drain current	I_{DSS}	$V_{DS}=-15V, V_{GS}=0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$			± 100	nA
Gate threshold voltage*	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.4	-0.7	-1.0	V
Drain-source on-resistance*	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-3.8A$		40	52	m Ω
		$V_{GS}=-2.5V, I_D=-3.0A$		52	78	
Forward Transconductance	g_{FS}	$V_{DS}=-5V, I_D=-3.8A$	5			s
Dynamic Characteristics **						
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V, f=1\text{MHz}$		478		pF
Output Capacitance	C_{oss}			81		
Reverse Transfer Capacitance	C_{rss}			52		
Switching Characteristics**						
Turn-on delay time	$t_{d(on)}$	$V_{DD}=-10V, V_{GS}=-4.5V, R_L=2.8\Omega, I_D=-1A, R_{GEN}=6\Omega$		12		ns
Turn-on rise time	t_r			54		
Turn-off delay time	$t_{d(off)}$			15		
Turn-off Fall time	t_f			9		
Total Gate Charge	Q_g	$V_{DS}=-10V, I_D=-3.8A, V_{GS}=-4.5V$		4.3		nC
Gate-Source Charge	Q_{gs}			0.8		
Gate-Drain Charge	Q_{gd}			1.1		
Source-Drain Diode characteristics						
Drain-Source Diode Forward Current	I_S				-3.8	A
Diode Forward voltage	V_{SD}	$V_{GS}=0V, I_S=-3.8A$		-0.8	-1.2	V

Notes:

*Pulse Test: Pulse Width $\leq 300\mu A$, Duty Cycle $\leq 2\%$.

**These parameters have no way to verify.

Outline Drawing - SOT23



Land Pattern - SOT23

