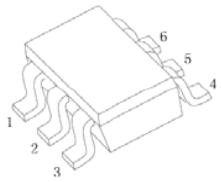
SOT-23-6L Plastic-Encapsulate MOSFETS

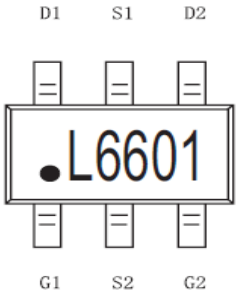
CJL6601 P-channel and N-channel Complementary MOSFETS

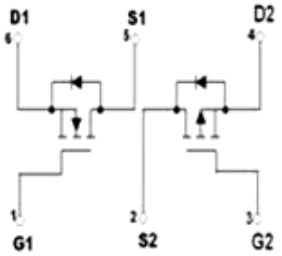
SOT-23-6L



GENERAL DESCRIPTION

The CJL6601 uses advanced trench technology to provide excellent $R_{DS(on)}$ and low gate charge. The complementary MOSFETS form a high-speed power inverter and suitable for a multitude of applications.





Maximum Ratings (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value		Unit
		N-channel	P-channel	
Drain-Source Voltage	V_{DS}	30	-30	V
Gate-Source Voltage	V_{GS}	±12	±12	V
Continuous Drain Current(1)	I_D	3.4	-2.3	A
Pulsed Drain Current (2)	I_{DM}	30	-30	A
Power Dissipation	P_D	0.35	0.35	W
Thermal Resistance from Junction to Ambient(1)	$R_{\theta JA}$	357	357	℃/W
Junction Temperature	T_J	150	150	℃
Storage Temperature	T_{stg}	-55~+150	-55~+150	℃

1.The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A=25°C. The value in any given application depends on the user's specific board design.The current ratings is based on t≤10s thermal rasistance rating.

2. Repetitive rating,pulse with limited by junction temperature.

N-channel MOSFET Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static characteristics						
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =24V,V_{GS} = 0V			1	μA
Gate-source leakage current (note1)	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	nA
Drain-source on-resistance (note1)	$R_{DS(on)}$	V_{GS} =10V, I_D =3A			60	mΩ
		V_{GS} =4.5V, I_D =3A			75	mΩ
		V_{GS} =2.5V, I_D =2A			115	mΩ
Forward tranconductance (note1)	g_{FS}	V_{DS} =5V, I_D =3A	5			S
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.6		1.4	V
Diode forward voltage (note1)	V_{SD}	I_S=1A,V_{GS}=0V			1	V
Dynamic characteristics (note2)						
Input capacitance	C_{iss}	V_{GS} =0V,V_{DS} =15V ,f =1MHz		390		pF
Output capacitance	C_{oss}			54.5		pF
Reverse transfer capacitance	C_{rss}			41		pF
Gate resistance	R_g	V_{GS} =0V,V_{DS} =0V,f =1MHz		3		Ω
Switching Characteristics(note2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DS}=15V, R_L=5Ω,R_{GEN}=6Ω		4		ns
Turn-on rise time	t_r			2		ns
Turn-off delay time	$t_{d(off)}$			22		ns
Turn-off fall time	t_f			3		ns

P-channel MOSFET Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static characteristics						
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	V_{GS} = 0V, I_D =-250μA	-30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-24V,V_{GS} = 0V			-1	μA
Gate-source leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	nA
Drain-source on-resistance (note1)	$R_{DS(on)}$	V_{GS} =-10V, I_D =-2.3A			135	mΩ
		V_{GS} =-4.5V, I_D =-2A			185	mΩ
		V_{GS} =-2.5V, I_D =-1A			265	mΩ
Forward tranconductance (note1)	g_{FS}	V_{DS} =-5V, I_D =-2.3A	5			S
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.6		-1.4	V
Diode forward voltage (note1)	V_{DS}	I_S=-1A,V_{GS}=0V			-1	V
Dynamic characteristics (note2)						
Input capacitance	C_{iss}	V_{GS} =0V,V_{DS} =-15V,f =1MHz		409		pF
Output capacitance	C_{oss}			55		pF
Reverse transfer capacitance	C_{rss}			42		pF
Gate resistance	R_g	V_{GS} =0V,V_{DS} =0V,f =1MHz		12		Ω
Switching Characteristics (note2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=-10V,V_{DS}=-15V, R_L=6Ω,R_{GEN}=6Ω		13		ns
Turn-on rise time	t_r			10		ns
Turn-off delay time	$t_{d(off)}$			28		ns
Turn-off fall time	t_f			13		ns

Notes : 1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.

2. Guaranteed by design, not subject to production testing.