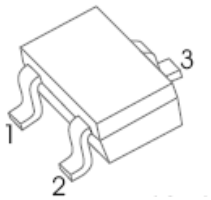
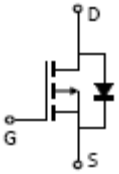
SOT-323 Plastic-Encapsulate MOSFETS

CJ2101 P-Channel MOSFET

SOT-323



1. GATE
2. SOURCE
3. DRAIN



FEATURE

- Leading Trench Technology for Low $R_{DS(on)}$ Extending Battery Life

APPLICATIONS

- High Side Load Switch
- Charging Circuit
- Single Cell Battery Applications such as Cell Phones, Digital Cameras ,PDAs, etc

MARKING: TS1

Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	- 20	V
Gate-Source Voltage	V_{GS}	±8.0	
Continuous Drain Current	I_D	-1.4	A
Pulsed Drain Current (t_p=10μs)	I_{DM}	-3.0	
Power Dissipation	P_D	0.29	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	431	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-50 ~+150	

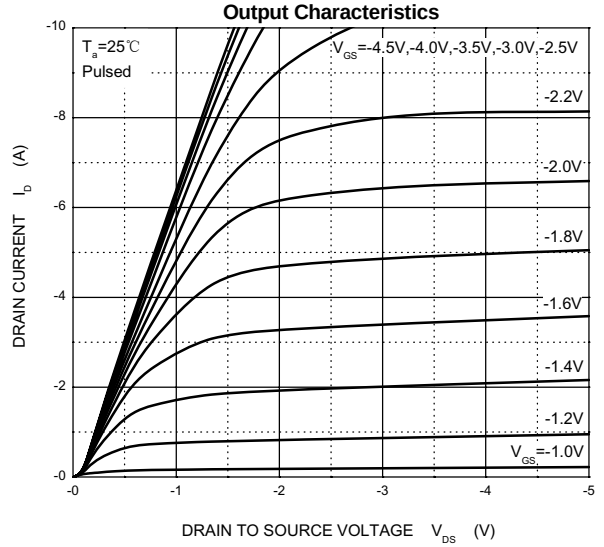
Electrical characteristics (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
OFF CHARACTERISSTICS						
Drain-Source Breakdown Voltage	V_{DSS}	V_{GS} = 0V, I_D =-250μA	-20			V
Gate-Source Leakage	I_{GSS}	V_{DS} =0V, V_{GS} =±8V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-20V, V_{GS} =0V			-1.0	μA
OFF CHARACTERISSTICS (note 1)						
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.45	-0.7		V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-1.0A			100	mΩ
		V_{GS} =-2.5V, I_D =-0.5A			140	
		V_{GS} =-1.8V, I_D =-0.3A			210	
CHARGES AND CAPACITANCES (note 3)						
Input Capacitance	C_{iss}	V_{DS} =-8.0V,V_{GS} =0V,f =1MHz		640		pF
Output Capacitance	C_{oss}			120		
Reverse Transfer Capacitance	C_{rss}			82		
SWITCHING CHARACTERISSTICS (note 2,3)						
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=-4.5V,V_{DD}=-4.0V, I_D =-1.0A,R_G=6.2Ω		6.2		ns
Rise Time	t_r			15		
Turn-Off Delay Time	$t_{d(off)}$			26		
Fall Time	t_f			18		
Drain-source Body diode characteristics						
Forward Diode Voltage	V_{SD}	V_{GS} =0V,I_S=-0.3A		-0.62	-1.2	V

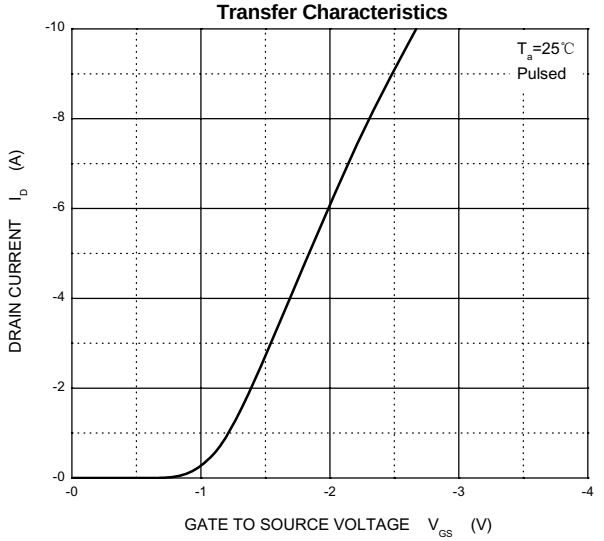
Notes :

1. Pulse Test : pulse width ≤300μs, duty cycle ≤2%.
2. Switching characteristics are independent of operating junction temperatures.
3. These parameters have no way to verify.

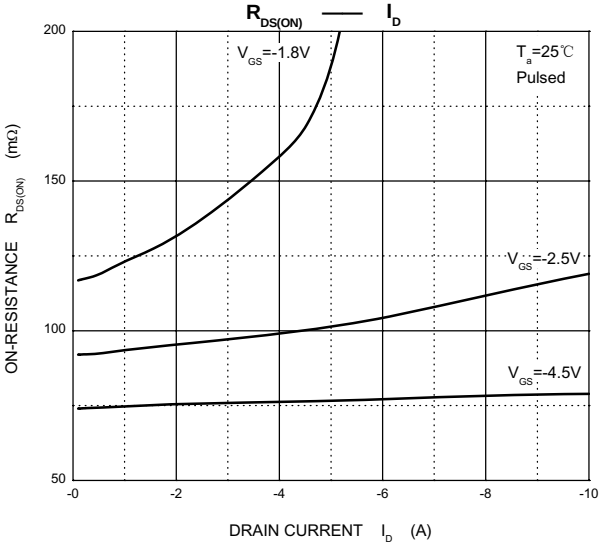
Output Characteristics



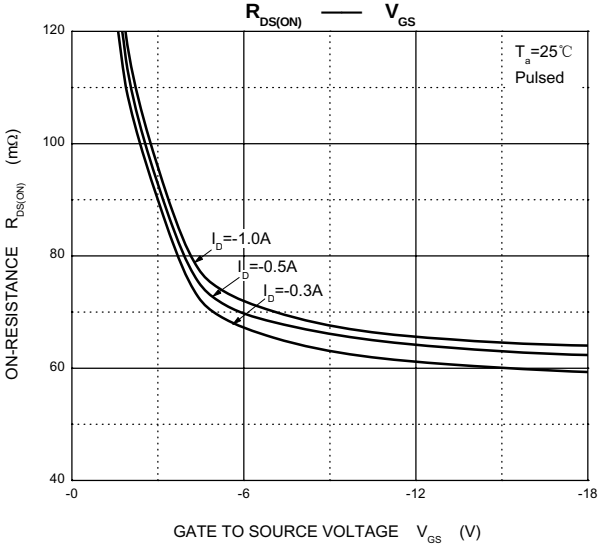
Transfer Characteristics



$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}