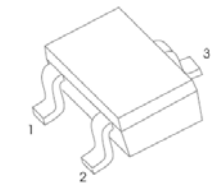
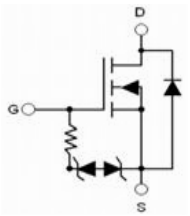
SOT-523 Plastic-Encapsulate MOSFETS

CJ4153 N-Channel 20-V(D-S) MOSFET

SOT-523



1. GATE
2. SOURCE
3. DRAIN



FEATURE

- Low $R_{DS(on)}$ Improving System Efficiency
- Low Threshold Voltage ,1.5V Rated
- ESD Protected Gate
- Pb-Free Packages are Available

APPLICATIONS

- Load/Power Switches
- Power Supply Converter Circuits
- Battery Management
- Portables like Cell Phones, PDAs, Digital Cameras, Pagers,etc

MARKING: X

Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±6	
Continuous Drain Current (note 1)	I_D	0.915	A
Power Dissipation (note 1)	P_D	150	mW
Thermal Resistance from Junction to Ambient (note 1)	$R_{\theta JA}$	833	℃/W
Operating Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55~+150	

Electrical characteristics (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Gate-source leakage	I_{GSS}	V_{DS} =0V, V_{GS} =±4.5V			±1	μA
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V, V_{GS} =0V			100	nA
ON CHARACTERISTICS (note 2)						
Gate-source threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.45		1.1	V
Drain-source on-state resistance	$R_{DS(on)}$	V_{GS} =4.5V, I_D =600mA			570	mΩ
		V_{GS} =2.5V, I_D =500mA			620	
		V_{GS} =1.8V, I_D =350mA			700	
		V_{GS} =1.5V, I_D =40mA			9500	
Forward transconductance	g_{fs}	V_{DS} =10V, I_D =400mA	0.5			S
CHARGES AND CAPACITANCES (note 3)						
Input Capacitance	C_{iss}	V_{DS} =16V,V_{GS} =0V,f =1MHz		110		pF
Output Capacitance	C_{oss}			16		
Reverse Transfer Capacitance	C_{rss}			12		
Total Gate Charge	Q_g	V_{DS} =10V,V_{GS} =4.5V, I_D =200mA		1.82		nC
Gate-Source Charge	Q_{gs}			0.3		
Gate-Drain Charge	Q_{gd}			0.42		
SWITCHING CHARACTERISTICS (note 3,4)						
Turn-on delay time	$t_{d(on)}$	V_{DD}=10V, V_{GS}=4.5V R_G=10Ω, I_D =200mA		3.7		ns
Rise time	t_r			4.4		
Turn-off delay time	$t_{d(off)}$			25		
Fall time	t_f			7.6		
DRAIN-SOURCE DIODE CHARACTERISTICS						
Body diode voltage	V_{SD}	I_S=0.2A, V_{GS} =0V			1.1	V

Notes :

1. Surface mounted on FR4 board using 1 in sq pad size.
2. Pulse Test : Pulse width ≤300μs, Duty cycle ≤2%.
3. Guaranteed by design, not subject to production testing.
4. Switching characteristics are independent of operating junction temperatures.