

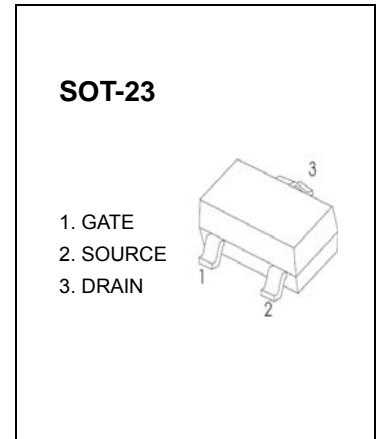
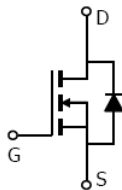
## SOT-23 Plastic-Encapsulate Transistors

**CJ3420** N-Channel Enhancement Mode Field Effect Transistor

**DESCRIPTION**

The CJ3420 uses advanced trench technology to provide excellent  $R_{DS(on)}$ . This device is suitable for use as a uni-directional or bi-directional load switch.

**MARKING: R20**



**Maximum ratings ( $T_a=25^{\circ}\text{C}$  unless otherwise noted)**

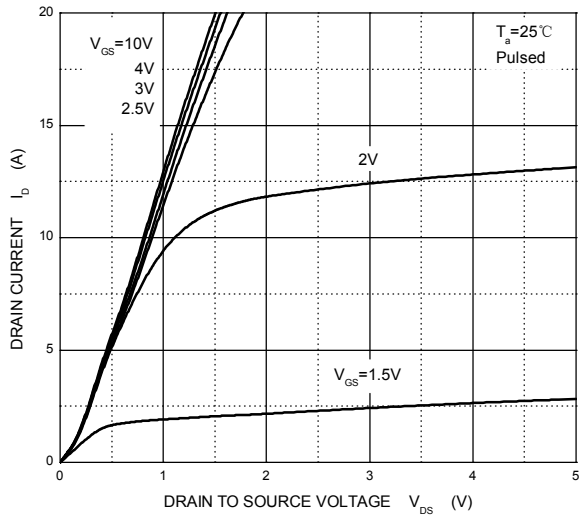
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	
Continuous Drain Current	$I_D$	6	A
Pulsed Drain Current	$I_{DM}$	25	
Maximum Body-Diode Continuous Current	$I_S$	2	
Power Dissipation	$P_D$	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-55 ~+150	

Electrical characteristics ( $T_a=25^\circ\text{C}$  unless otherwise noted)

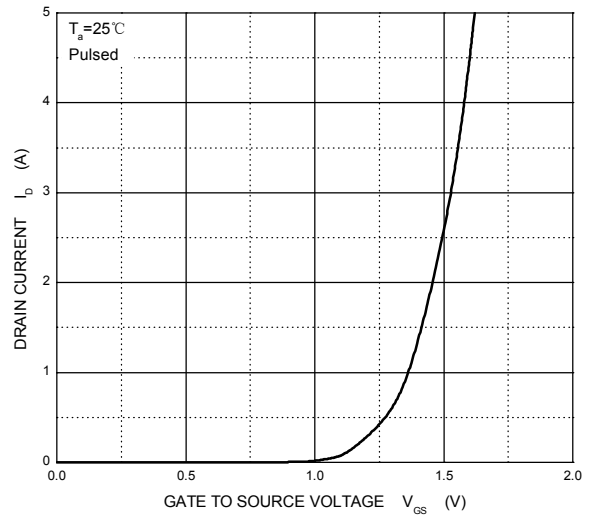
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC PARAMETERS</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Gate-source leakage current	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 12V$			$\pm 100$	nA
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 16V, V_{GS} = 0V$			1.0	$\mu A$
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.7	1.0	V
Drain-source on-state resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 6.0A$		19	24	m $\Omega$
		$V_{GS} = 4.5V, I_D = 5.0A$		22	27	
		$V_{GS} = 2.5V, I_D = 4.0A$		35	42	
		$V_{GS} = 1.8V, I_D = 2.0A$			74	
Diode forward voltage	$V_{SD}$	$V_{GS} = 0V, I_S = 1A$		0.75	1	V
Forward transconductance	$g_{fs}$	$V_{DS} = 5V, I_D = 3.8A$	4			S
<b>DYNAMIC PARAMETERS*</b>						
Input capacitance	$C_{iss}$	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$		630		pF
Output capacitance	$C_{oss}$			164		
Reverse transfer capacitance	$C_{rss}$			137		
Gate resistance	$R_g$	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		1.5		$\Omega$
<b>SWITCHING PARAMETERS*</b>						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 5V, V_{DS} = 10V,$ $R_L = 1.7\Omega, R_{GEN} = 6\Omega$		5.5		ns
Rise time	$t_r$			14		
Turn-off delay time	$t_{d(off)}$			29		
Fall time	$t_f$			10.2		

\*These parameters have no way to verify.

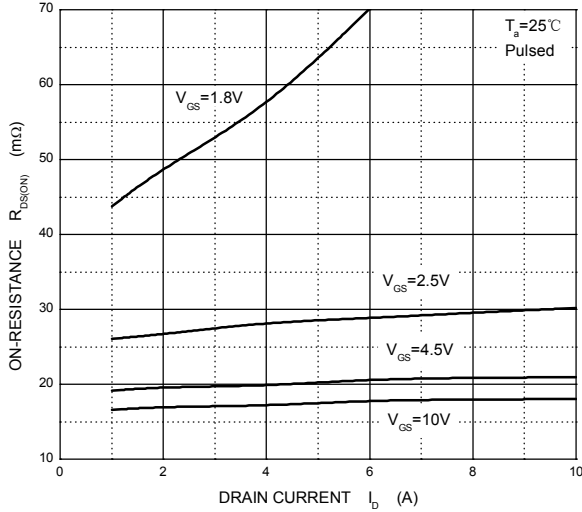
Output Characteristics



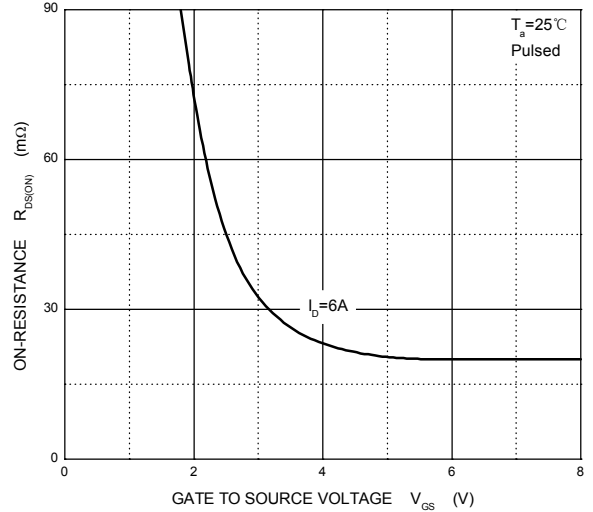
Transfer Characteristics



$R_{DS(ON)}$  —  $I_D$



$R_{DS(ON)}$  —  $V_{GS}$



$I_S$  —  $V_{SD}$

