

TO-251-3L Plastic-Encapsulate MOSFETS

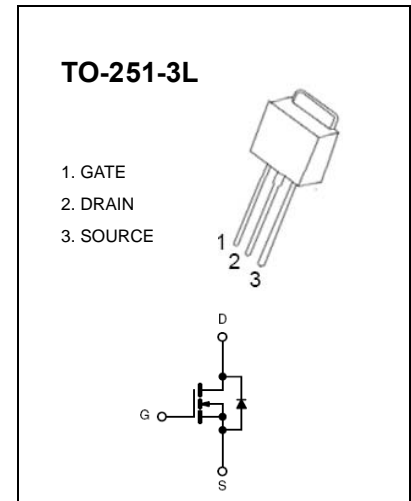
CJD4410 N-Channel 30-V(D-S) MOSFET

FEATURE

TrenchFET Power MOSFET

APPLICATIONS

- Load Switch
- Battery Switch



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	7.5	A
Power Dissipation (note 1, $T_a=25^\circ\text{C}$)	P_D	1	W
Maximum Power Dissipation (note 2, $T_c=25^\circ\text{C}$)		15	
Thermal Resistance from Junction to Ambient ($t \leq 10\text{S}$)	$R_{\theta JA}$	125	$^\circ\text{C/W}$
Operating Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	

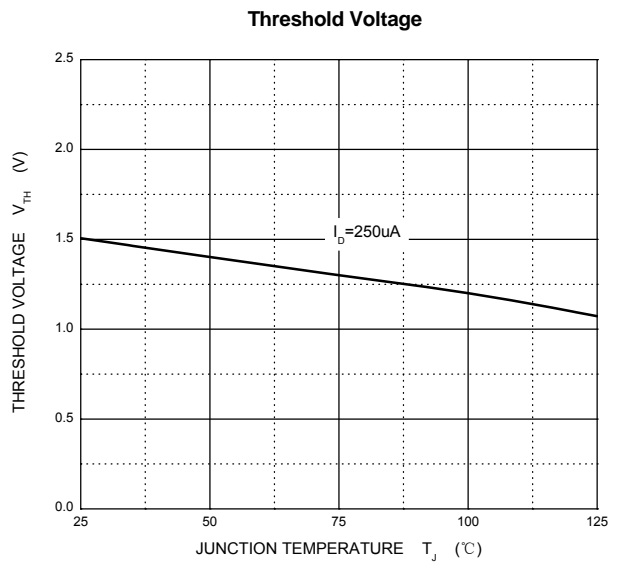
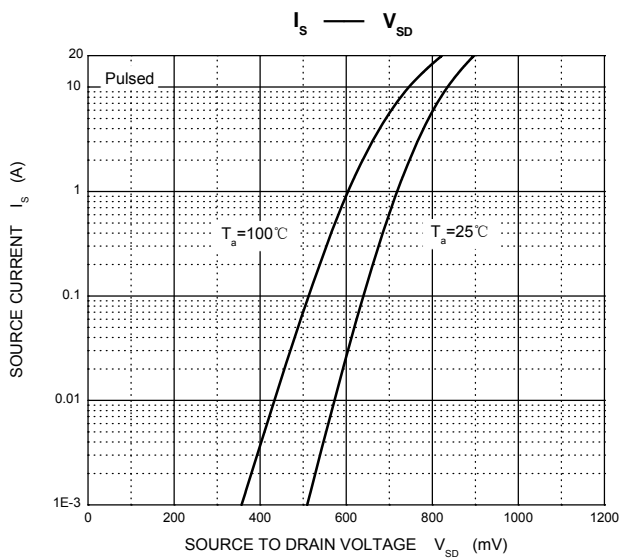
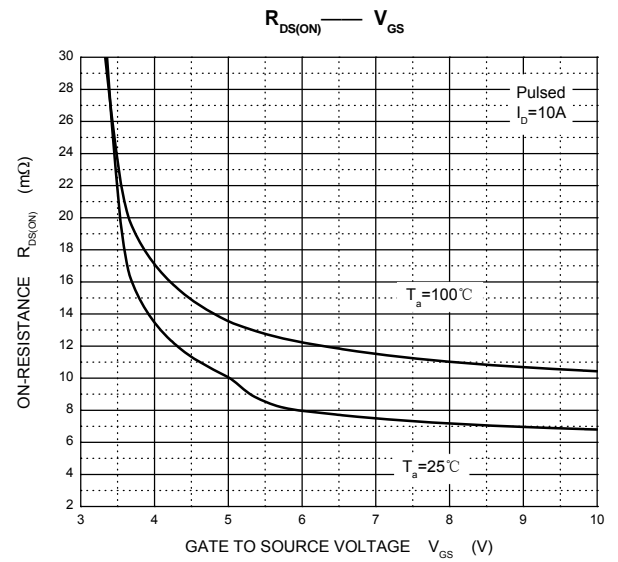
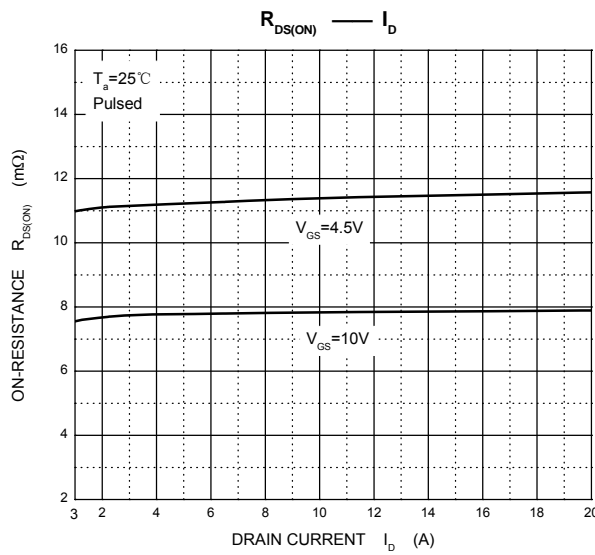
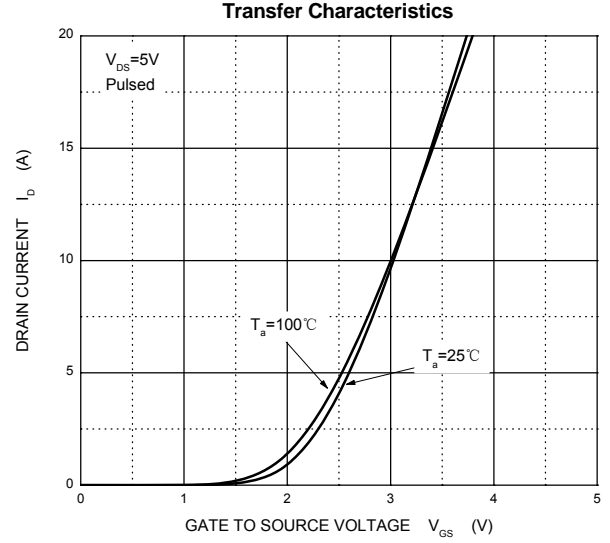
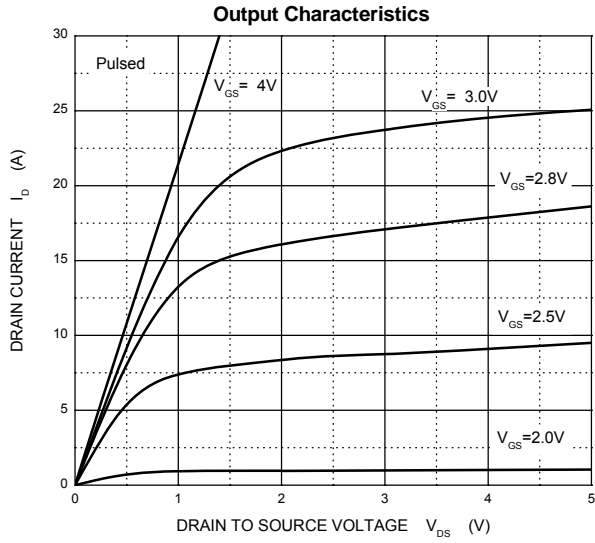
Electrical characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1		3	
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
Drain-source on-state resistance (note 3)	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 10A$			13.5	m Ω
		$V_{GS} = 4.5V, I_D = 5A$			20	
Forward transconductance (note 3)	g_{fs}	$V_{DS} = 15V, I_D = 5A$		8		S
Body diode voltage (note 3)	V_{SD}	$I_S = 2.3A, V_{GS} = 0$			1.1	V
Dynamic (note 4)						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 25V,$ $R_L = 25\Omega, I_D = 1A,$ $V_{GEN} = 10V, R_G = 6\Omega$			15	ns
Rise time	t_r				15	
Turn-off delay time	$t_{d(off)}$				60	
Fall time	t_f				25	
Gate Resistance	R_g	$f = 1\text{MHz}$	0.5		2.7	Ω

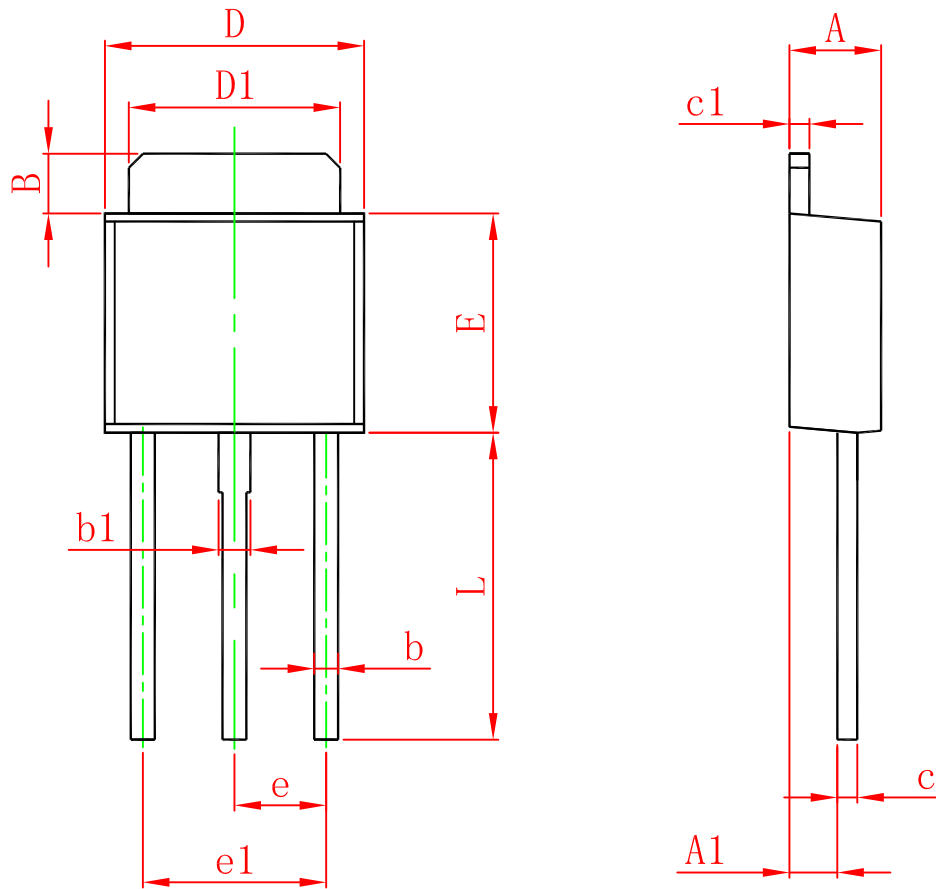
Notes :

1. This test is performed with no heat sink at $T_a=25^{\circ}\text{C}$.
2. This test is performed with infinite heat sink at $T_c=25^{\circ}\text{C}$.
3. Pulse Test : Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

Typical Characteristics



TO-251-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.050	1.350	0.042	0.054
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	7.500	7.900	0.295	0.311