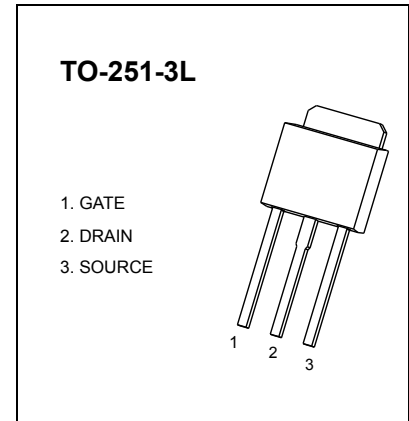


TO-251-3L Plastic-Encapsulate MOSFETS

CJD4435 P-Channel 30-V(D-S) MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-30 V	24mΩ@-10V	-9.1A
	35mΩ@-4.5V	



FEATURE

TrenchFET Power MOSFET

APPLICATIONS

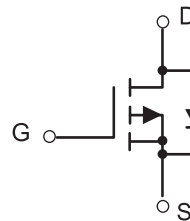
- Load Switch
- Battery Switch

MARKING



CJD4435= Device code
Solid dot = Green molding compound device,
if none, the normal device
XXX=Date Code

EQUIVALENT CIRCUIT



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	-9.1	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	

MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25^\circ\text{C}$ unless otherwise specified

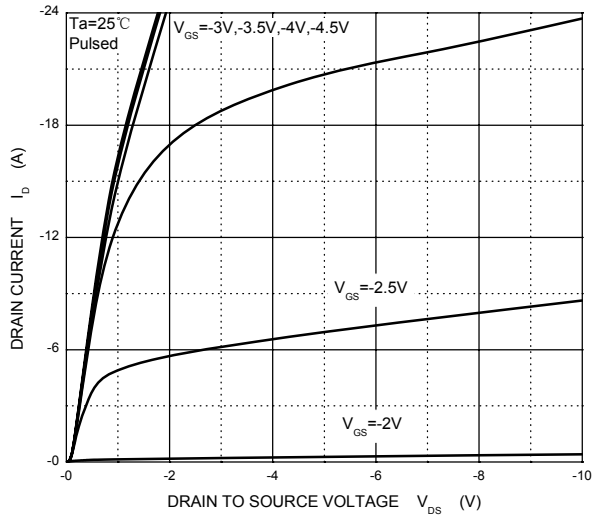
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.5	-3	
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0V$			-1	μA
Drain-source on-state resistance (note 3)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -9.1A$		0.018	0.024	Ω
		$V_{GS} = -4.5V, I_D = -6.9A$		0.024	0.035	
Forward transconductance (note 3)	g_{fs}	$V_{DS} = -10V, I_D = -9.1A$	20			S
Dynamic (note 4)						
Input capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		1350		pF
Output capacitance	C_{oss}			215		
Reverse transfer capacitance	C_{rss}			185		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -15V,$ $R_L = 15\Omega, I_D \approx -1A,$ $V_{GEN} = -10V, R_G = 1\Omega$			15	ns
Rise time	t_r				15	
Turn-off delay time	$t_{d(off)}$				70	
Fall time	t_f				25	
Gate Resistance	R_g	$f = 1MHz$		5.8		Ω
Drain-source Body diode characteristics						
Body diode voltage	V_{SD}	$I_S = -2A, V_{GS} = 0$			-1.2	V

Notes :

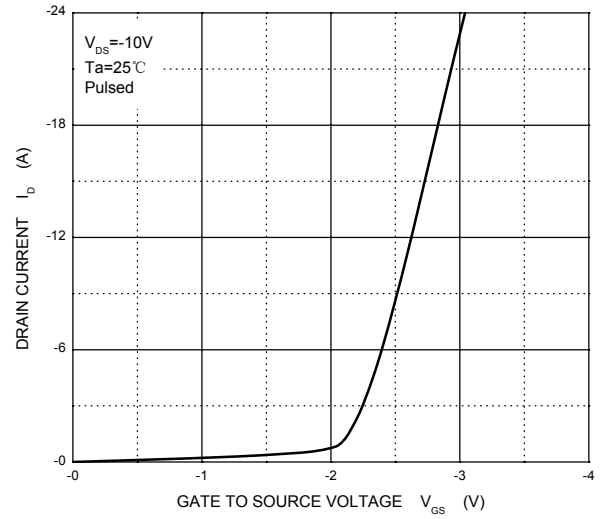
1. This test is performed with no heat sink at $T_a=25^\circ\text{C}$.
2. This test is performed with infinite heat sink at $T_c=25^\circ\text{C}$.
3. Pulse Test : Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

Typical Characteristics

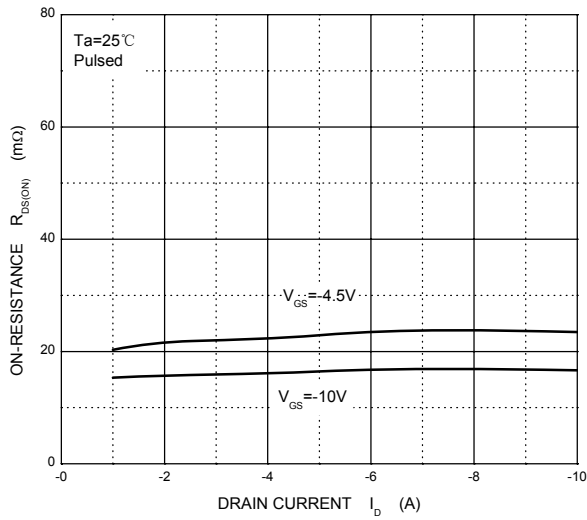
Output Characteristics



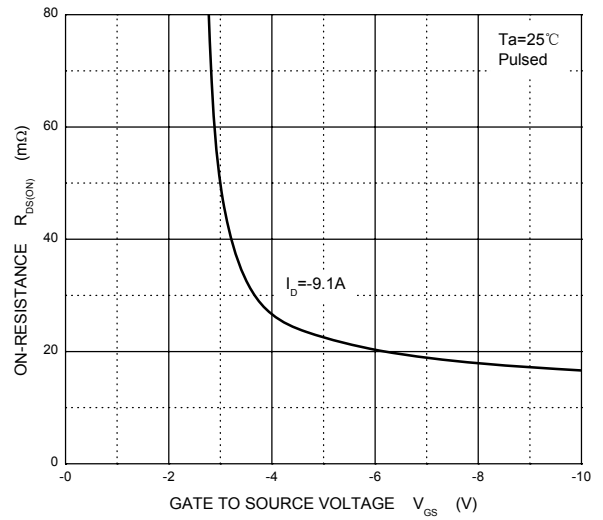
Transfer Characteristics



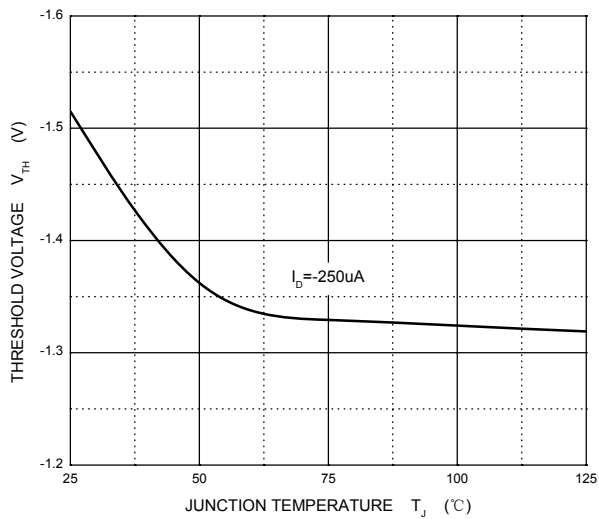
$R_{DS(ON)}$ — I_D



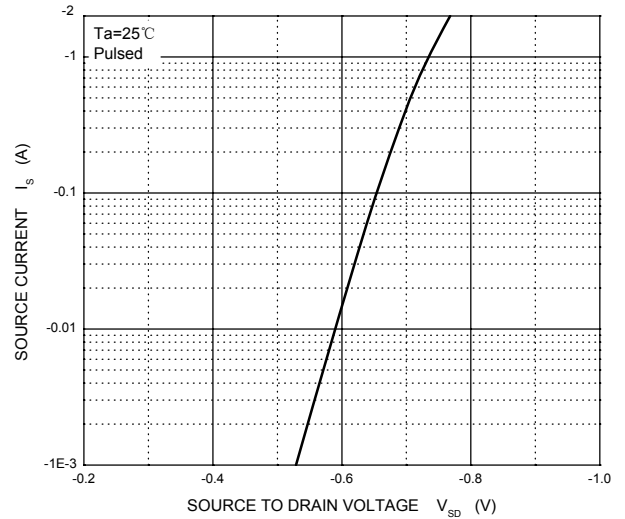
$R_{DS(ON)}$ — V_{GS}



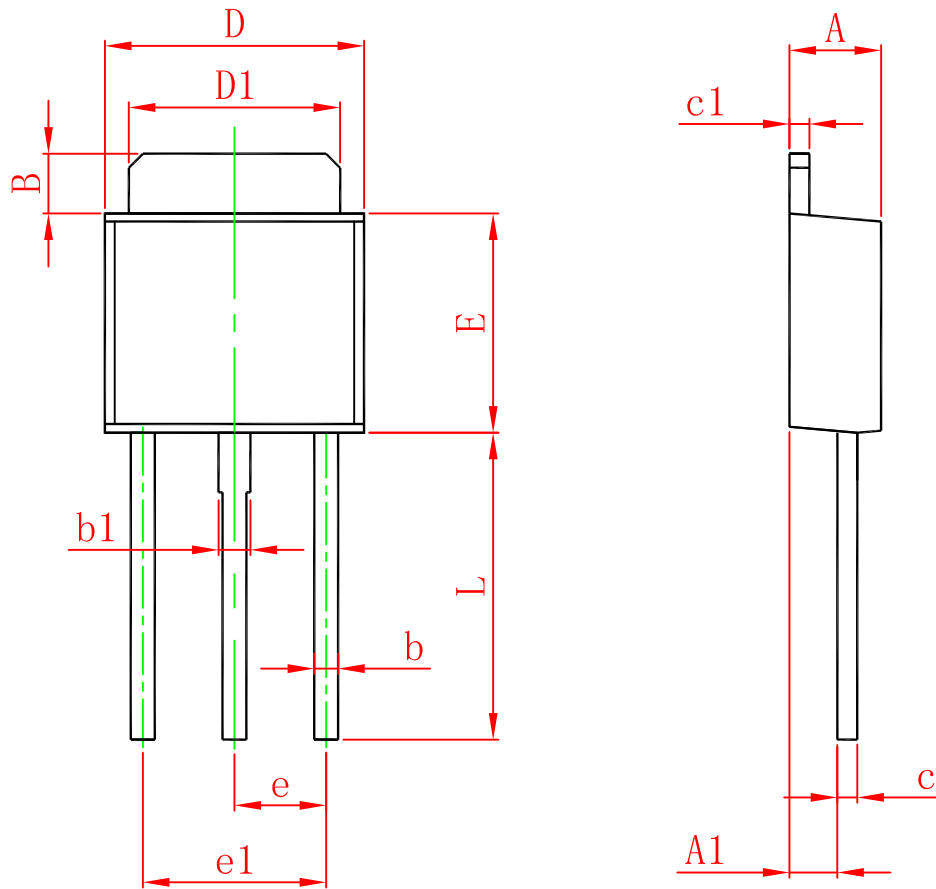
Threshold Voltage



I_S — V_{SD}



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