



TO-251-3L Plastic-Encapsulate MOSFETS

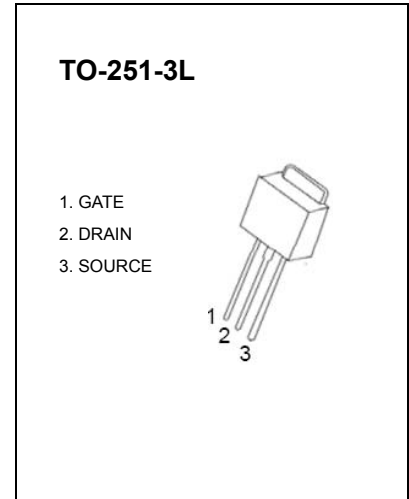
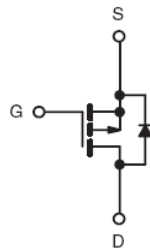
CJD4435 P-Channel 30-V(D-S) MOSFET

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	-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	$^{\circ}\text{C}/\text{W}$
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)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -9.1A$			0.024	Ω
		$V_{GS} = -4.5V, I_D = -6.9A$			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.