

TO-251-3L Plastic-Encapsulate MOSFETS

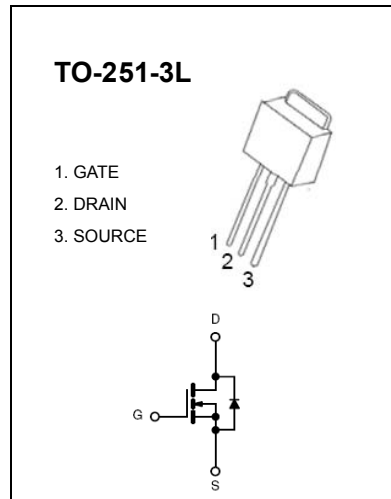
CJD4410 N-Channel 30-V(D-S) MOSFET

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	$f = 1MHz$	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.