

Kingtronics®

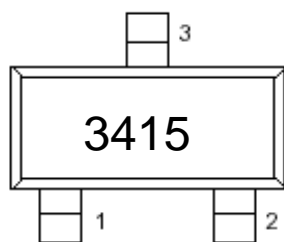
CDL3415-ME

MOSFET

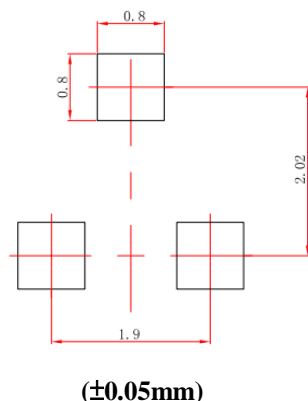
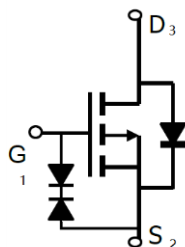
Marking: 3415

Suggested Layout

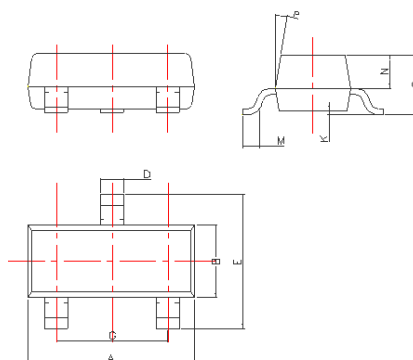
SOT-23



Top view



Dimension



DIM	Millimeters
A	2.85~3.04
B	1.30±0.10
C	1.00±0.10
D	0.45±0.05
E	2.25~2.55
G	1.90±0.1
K	0.00-0.10
M	0.20 min
N	0.60±0.10
P	7±2°

MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Rating	Unit
Drain-Source Voltage	VDSS	-20	Vdc
Gate-Source Voltage	VGSS	±8	Vdc
Drain Current—Continuous	ID	-4.0	Adc
Peak Drain Current	IDM	10	Adc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board(1) TA=25°C	PD	225	mW
Total Device Dissipation Alumina Substrate,(2) TA=25°C	PD	300	mW
Junction and Storage Temperature	T _J , T _{stg}	150, -55 to +150	°C

- FR-5=1.0×0.75×0.062in, printed-circuit board.
- Alumina=0.4×0.3×0.024in, 99.5%alumina

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Characteristic	Symbol	Test Condition	Min	Type	Max	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250 μA	-20	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V	-	-	-1.0	μA
Gate-Body Leakage Current,Forward	I _{GSS}	V _{GS} =±8V	-	-	±10	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =-250 μA	-0.3	-0.6	-1.0	V
Static Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-4.0A V _{GS} =-2.5V, I _D =-3.0A	-	30 40	50 60	mΩ
Forward Transconductance	g _{fs}	V _{DS} =-5V, I _D =-4.0A	8	-	-	S
Diode Forward On-Voltage	V _{SD}	V _{GS} =0V, I _S =-1.0A	-	-	-1.2	V

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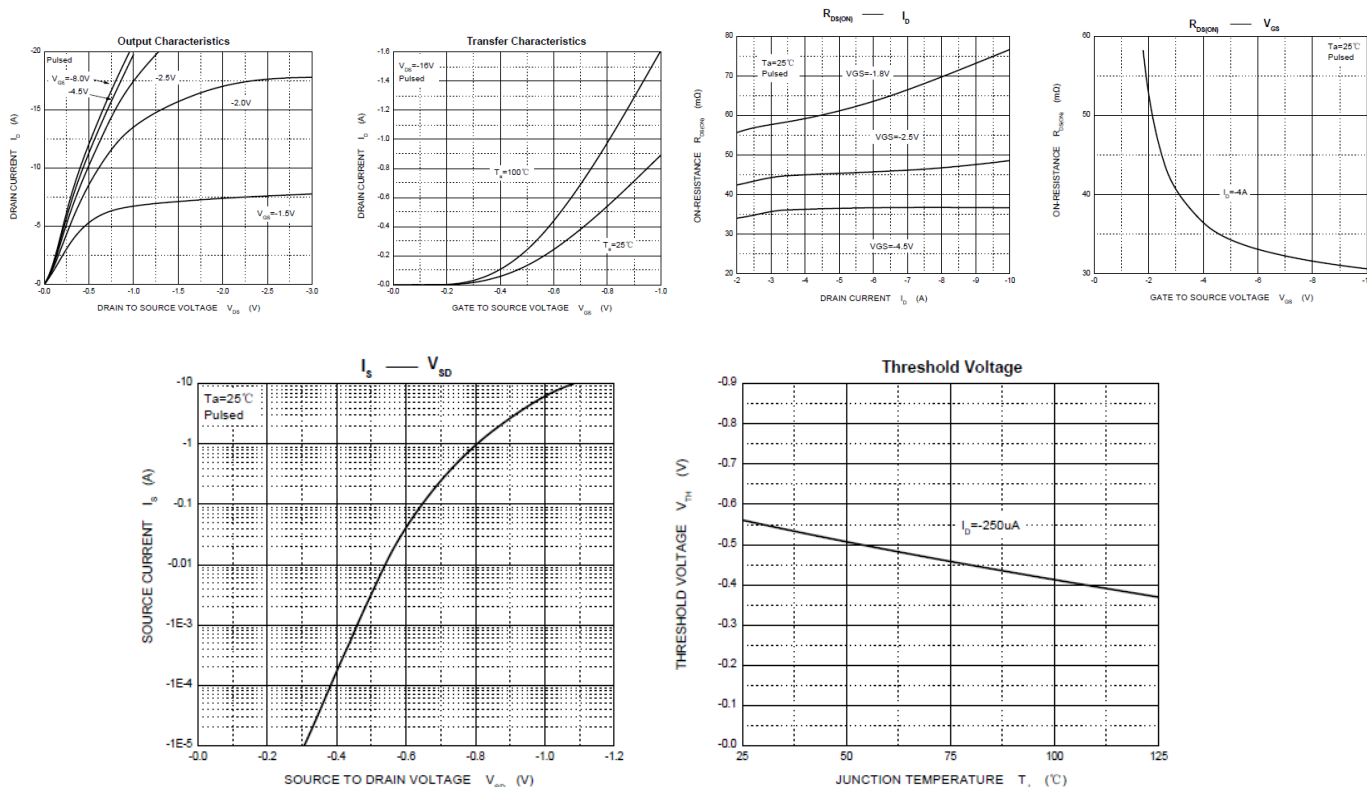
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CDL3415-ME

Turn-On Delay Time	$t_{d(on)}$	VDD = -10V, ID = 2.0A, RL = 2.5Ω, VGS = -4.5V, RGEN = 3Ω	-	9.5	-	ns
Turn-On Time	tr		-	17	-	
Turn-Off Delay Time	$t_{d(off)}$		-	94	-	
Turn-On Fall Time	t_f		-	35	-	
Input Capacitance	Ciss	VDS = -10V, VGS = 0V, f = 1.0 MHz	-	1450	-	pF
Output Capacitance	Coss		-	205	-	
Reverse Transfer Capacitance	Crss		-	160	-	
Total Gate Charge	QG	VDS = -10V, ID = -4.0A, VGS = -4.5V	-	17.2	-	nC
Gate.to source charge	QGS		-	1.3	-	
Gate.to drain charge	QGD		-	4.5	-	

Typical Performance Characteristics



Note: Specifications are subject to change without notice.

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