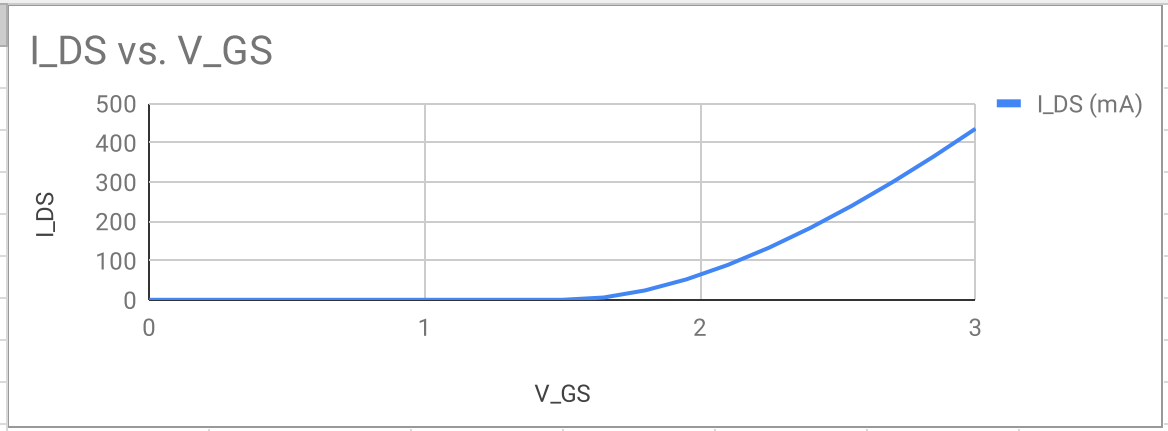
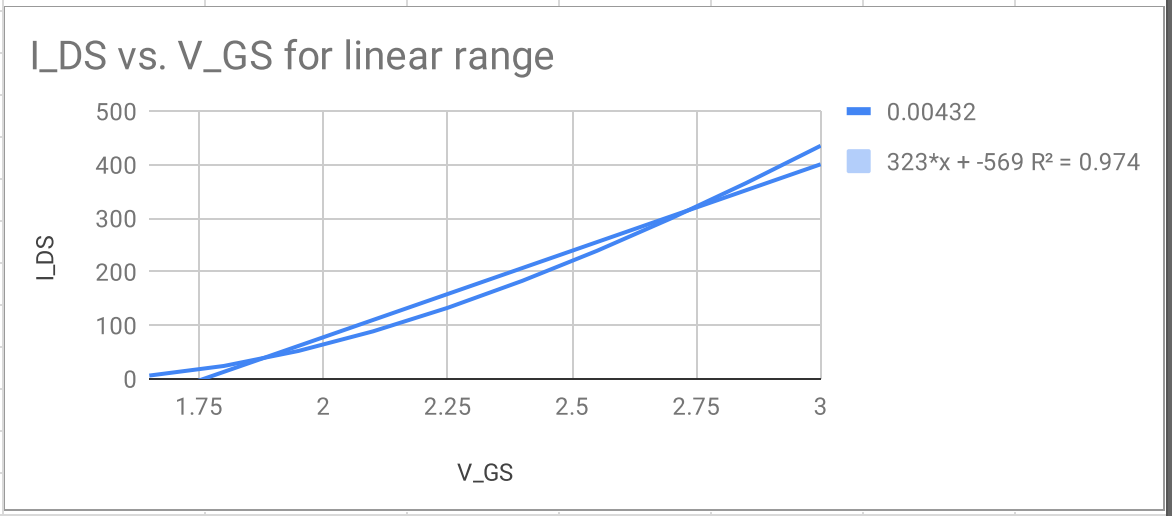
PART 1

V_GS (V)	I_DS (mA)
0	0
0.15	0
0.3	0
0.45	0
0.6	0
0.75	0
0.9	0
1.05	0
1.2	0
1.35	0.000176
1.5	0.00432
1.65	5.83707
1.8	23.810288
1.95	51.889473
2.1	88.512348
2.25	132.4867
2.4	182.87388
2.55	238.9192
2.7	300.0051
2.85	365.6187
3	435.3284





Using the equation:

Threshold Voltage: 1.7616

This is very comparable to the datasheet's listed value of the range between .8 and 2.4 V

PART 2

V_OD	V_DS	I_DS (mA)	Lambda	Cap (pF)	Δt (s)	ΔV (V)	ΔV_step (V)	R (Ohm)
0.5	0.907	135.8967		60.16820	0.00025652	0.694209	2	10000000
0.5	0.9967	135.9146	0.001470383	59.62664	0.00066941	1.34918	2	10000000
0.5	1.206	135.9564	0.001471558	59.73334	0.00159988	1.86265	2	10000000
0.5	1.4153	135.9982	0.001471558	60.03463	0.00033564	1.41327	3.3	10000000
0.5	1.5947	136.034	0.001470382	59.82181	0.00079488	2.42613	3.3	10000000
0.5	1.804	136.0757	0.00146803	59.74890	0.00196369	3.17664	3.3	10000000
0.5	2.0133	136.1174	0.00146803	59.91100	0.00042944	2.55843	5	10000000
0.5	2.2226	136.1592	0.001471561	59.96235	0.00076233	3.597733	5	10000000
0.5	2.402	136.1949	0.001466263	59.64647	0.00163308	4.67648	5	10000000
0.5	2.6113	136.2367	0.001471562					
Average Lambda		***0.001469925222***						
1	1.3854	325.8245						
1	1.505	325.9004	0.001952991					
1	1.5947	325.9382	0.001295569					
1	1.7442	326.0011	0.001293508					
1	1.8638	326.0515	0.001295569					
1	1.9834	326.1019	0.001295569					
1	2.3123	326.2404	0.001294632					
1	2.5216	326.3285	0.001294096					
1	2.6412	326.3788	0.001292991					
1	2.8206	326.4543	0.001293851					
Average Lambda		***0.001367641778***						

The capacitance of ~60 pF is very close to what the data-sheet says. The datasheet shows that for a V_DS of 1V, there is just below 60pF of Capacitance on the Ciss channel, which what I calculated