Variation of Rx1 for measurement of characteristics

device: **SAB 80C517A ES-LA**
Vcc = 4.25 V;
C1 = C2 = 10 pF;

$DL = I^2 * R1 * (1 + C0/CL)^2$;
$I = Ipp/(2*1.41)$;
$CL = C1 * C2/(C1 + C2)$;
Telequarz specification - values
R1 = 50 Ohm;
C0 = 4.5 pF;

		fosc = 12 MHz Rq = 0 Ohm			**fosc = 12 MHz maximum Rq where the oscillation circuit still works**	
Rx1 [Ohm]	**Ipp [mA]/***	**I [mA]**	**DL [µW]**	**ta [ms]**	**Rq [Ohm]**	**Rq/50 Ohm**
0	76,54/10	2.714	1321,8	2,09	750	15
470	62,65/10	2,221	885,6	2,25	619	12,4
750	56,65/10	2,009	724,1	2,32	550	11
1000	52,91/10	1,876	631,6	2,46	470	9,4
1200	49,80/10	1,766	559,6	2,56	390	7,8
1500	46,18/10	1,638	481,2	2,9	330	6,6

		fosc = 16 MHz Rq = 0 Ohm			**fosc = 16 MHz maximum Rq where the oscillation circuit still works**	
Rx1 [Ohm]	**Ipp [mA]/***	**I [mA]**	**DL [µW]]**	**ta [ms]**	**Rq [Ohm]**	**Rq/50 Ohm**
0	49,11/5	3,483	2176,6	1,536	390	7,8
470	72,70/10	2,578	1192,5	1,83	300	6
750	62,33/10	2,21	876,6	2,04	220	4,4
1000	54,75/10	1,941	676,3	2,33	180	3,6
1200	48,79/10	1,73	537,1	2,59	150	3
1500	41,45/10	1,47	387,6	3	100	2

		fosc = 18 MHz Rq = 0 Ohm			**fosc = 18 MHz maximum Rq where the oscillation circuit still works**	
Rx1 [Ohm]	**Ipp [mA]/***	**I [mA]**	**DL [µW]]**	**ta [ms]**	**Rq [Ohm]**	**Rq/50 Ohm**
0	93,48/10	3,315	1971,6	1,81	300	6
470	63,94/10	2,267	922,4	2,33	200	4
750	51,02/10	1,809	587,3	2,74	120	2,4
1000	43,68/10	1,549	430,5	3,4	82	1,64

/* devide factor of current probe amplifier AM 503

Variation of Rx1 for measurement of characteristics

device: **SAB 80C517A ES-LA**
Vcc = 5.50 V;
C1 = C2 = 10 pF;

$DL = I^2 * R1 * (1 + C0/CL)^2$;
$I = Ipp/(2*1.41)$;
$CL = C1 * C2/(C1 + C2)$;
Telequarz specification - values
R1 = 50 Ohm;
C0 = 4.5 pF;

	fosc = 12 MHz Rq = 0 Ohm				**fosc = 12 MHz maximum Rq where the oscillation circuit still works**	
Rx1 [Ohm]	**Ipp [mA]/***	**I [mA]**	**DL [µW]**	**ta [ms]**	**Rq [Ohm]**	**Rq/50 Ohm**
0	93,10/10	3,301	1955,6	1,51	1000	20
750	70,81/10	2,511	1131,3	1,71	820	16,4
1500	62,07/10	2,201	869,3	1,94	550	11
2200	56,17/10	1,992	711,9	1,98	330	6,6
2600	51,83/10	1,838	606,1	1,98	270	5,4
3010	48,96/10	1,736	540,8	1,98	220	4,4
3300	48,24	1,71	525,1	1,98	180	3,6

	fosc = 16 MHz Rq = 0 Ohm				**fosc = 16 MHz maximum Rq where the oscillation circuit still works**	
Rx1 [Ohm]	**Ipp [mA]/***	**I [mA]**	**DL [µW]]**	**ta [ms]**	**Rq [Ohm]**	**Rq/50 Ohm**
0	71,00/5	5,04	4549,5	0,972	550	11
750	90,65/10	3,215	1854,1	1,4	330	6,6
1500	73,60/10	2,61	1222,2	1,85	180	3,6
2600	52,35/10	1,856	618,3	1,9	47	0,94
3010	46,20/10	1,638	481,6	1,9	0	0

	fosc = 18 MHz Rq = 0 Ohm				**fosc = 18 MHz maximum Rq where the oscillation circuit still works**	
Rx1 [Ohm]	**I [mA]/***	**I [mA]**	**DL [µW]]**	**ta [ms]**	**Rq [Ohm]**	**Rq/50 Ohm**
0	72,16/5	5,118	4699,4	1,212	390	7,8
750	87,27/10	3,09	1718,4	1,88	180	3,6
1500	60,00/10	2,128	812,3	1,9	68	1,36
1800	48,10/10	1,706	522	1,92	18	0,36

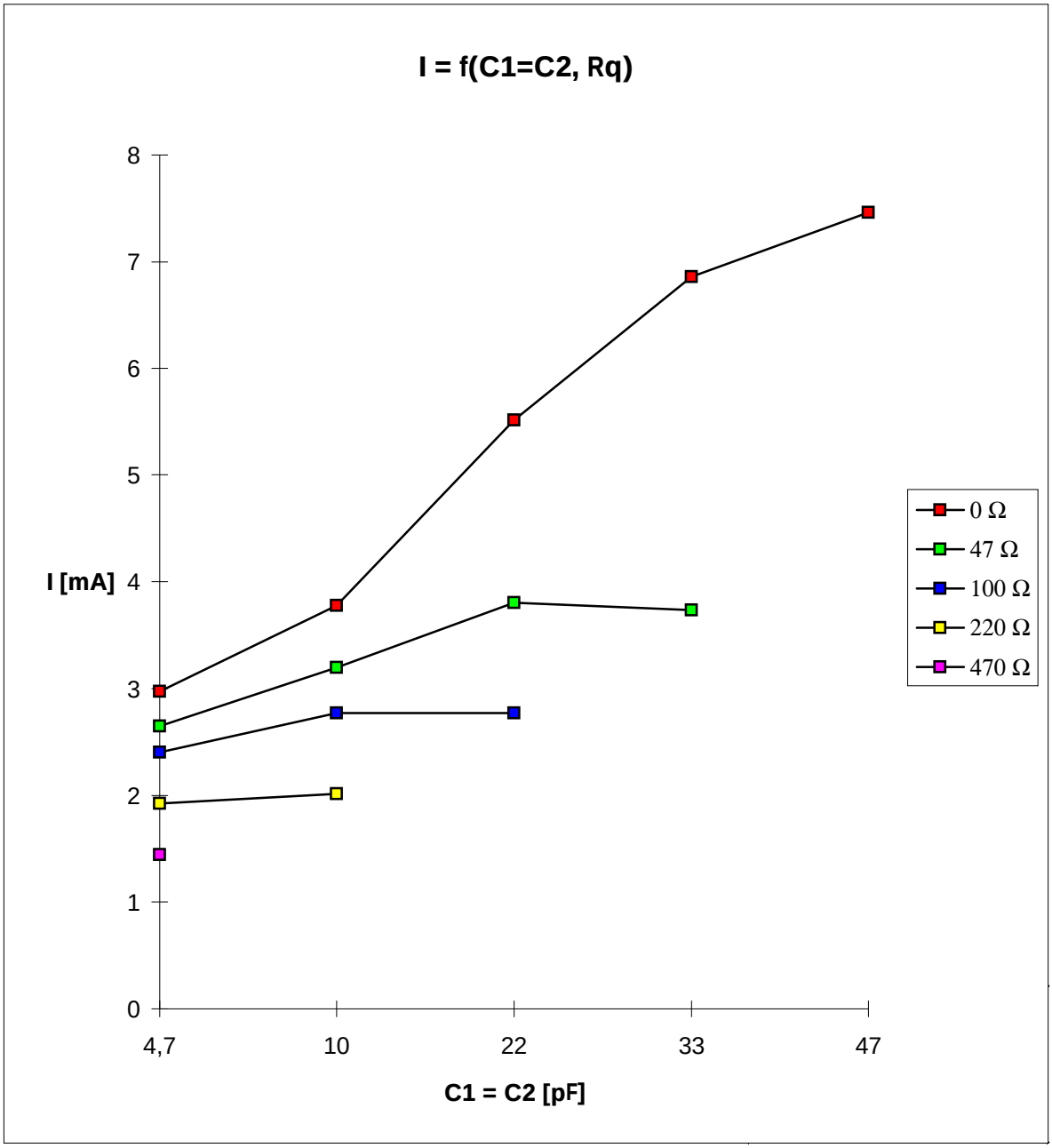
/* devider of current probe amplifier AM 503

Drive current dependent of Rq and the load capacitors C1/C2

SAB 80C517A ES-LA **Vcc = 4,25 V** f = 16 MHz
dVcc / dt = 1V / ms T = 25 °C

	Rq				
	0 Ω	47 Ω	100 Ω	220 Ω	470 Ω
4,7	2,97	2,645	2,404	1,923	1,442
10	3,776	3,196	2,772	2,015	
C1 = C2 [pF] 22	5,515	3,804	2,772		
33	6,859	3,734			
47	7,46				

blank....oscillator does not work

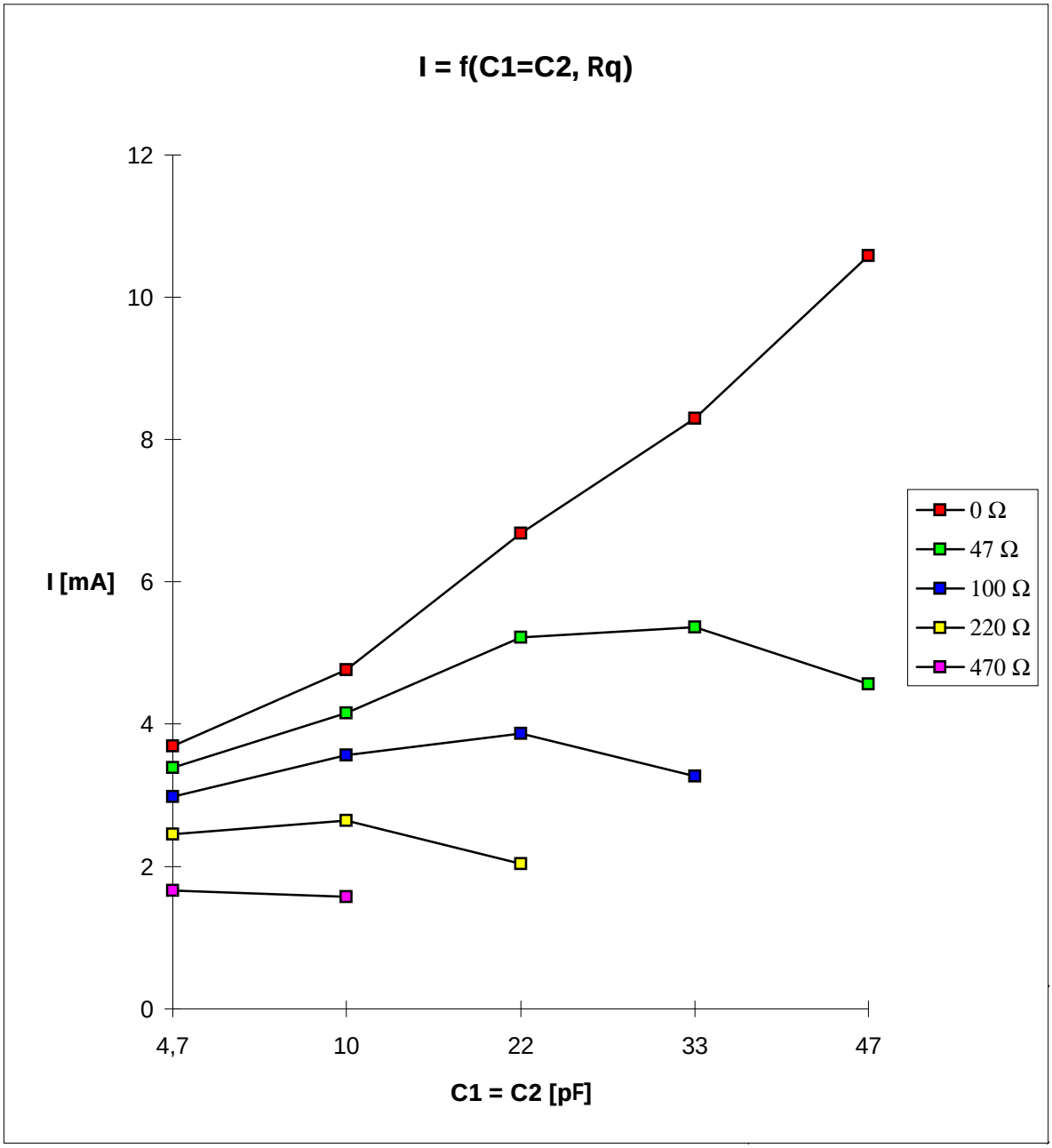


Drive current dependent of Rq and the load capacitors C1/C2

SAB 80C517A ES-LA **Vcc = 5,50 V** f = 16 MHz
dVcc / dt = 1V / ms T = 25 °C

	Rq				
	0 Ω	47 Ω	100 Ω	220 Ω	470 Ω
C1 =C2 [pF] 4,7	3,694	3,388	2,984	2,452	1,66
10	4,759	4,151	3,561	2,642	1,573
22	6,682	5,22	3,867	2,035	
33	8,289	5,364	3,269		
47	10,589	4,561			

blank....oscillator circuit does not work



Drive level dependent of Rq and the load capacitors C1/C2

SAB 80C517A ES-LA **Vcc = 4,25 V** f = 16 MHz
dVcc / dt = 1V / ms T = 25 °C

	Rq				
C1 = C2 [pF]	0 Ω	47 Ω	100 Ω	220 Ω	470 Ω
4,7	3747,4	2972,1	2455,2	1571	883,4
10	2573,6	1843,7	1387	732,9	
22	3019,5	1436,6	762,8		
33	3810,3	1134,7			
47	3950,3				

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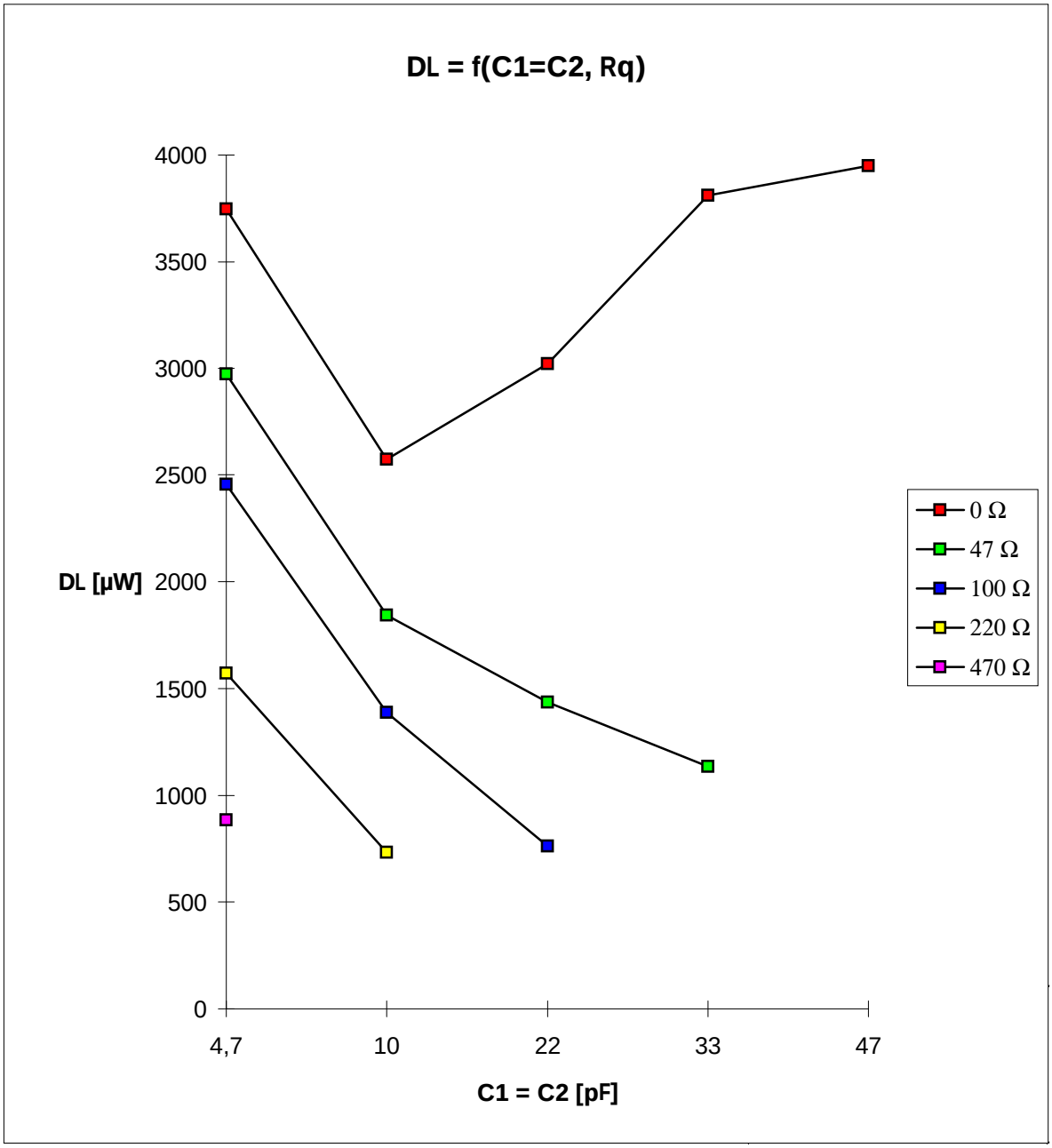
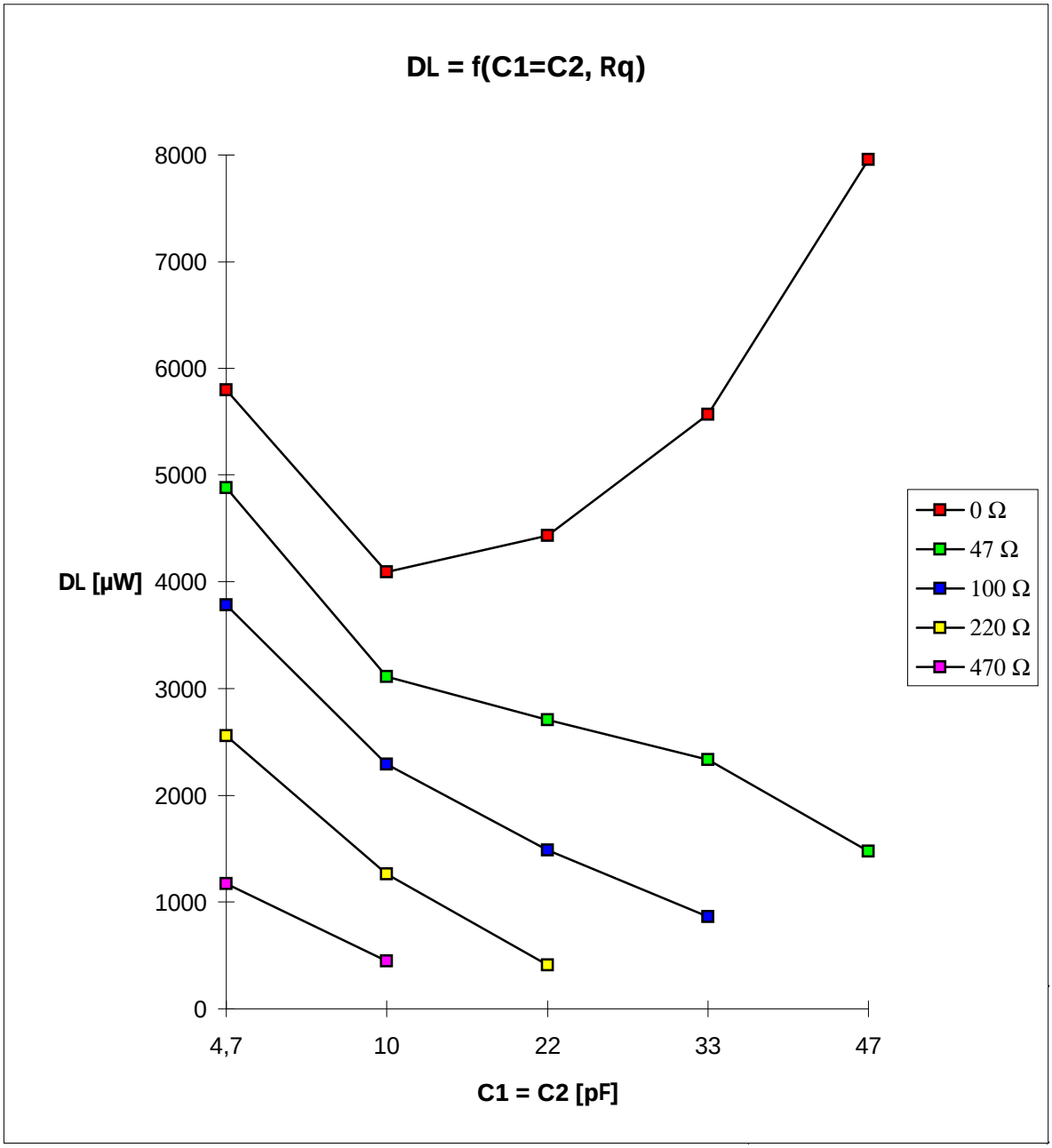


Drive level dependent of Rq and the load cpacitors C1/C2

SAB 80C517A ES-LA **Vcc = 5,50 V** f = 16 MHz
dVcc / dt = 1V / ms T = 25 °C

	Rq				
	0 Ω	47 Ω	100 Ω	220 Ω	470 Ω
4,7	5797,1	4876,4	3782,9	2554,2	1170,7
10	4088	3110,2	2288,9	1259,9	446,6
C1 = C2 [pF] 22	4432,6	2705,1	1484,6	411,1	
33	5564,7	2330,3	865,5		
47	7959	1476,6			

blank....oscillator circuit does not work

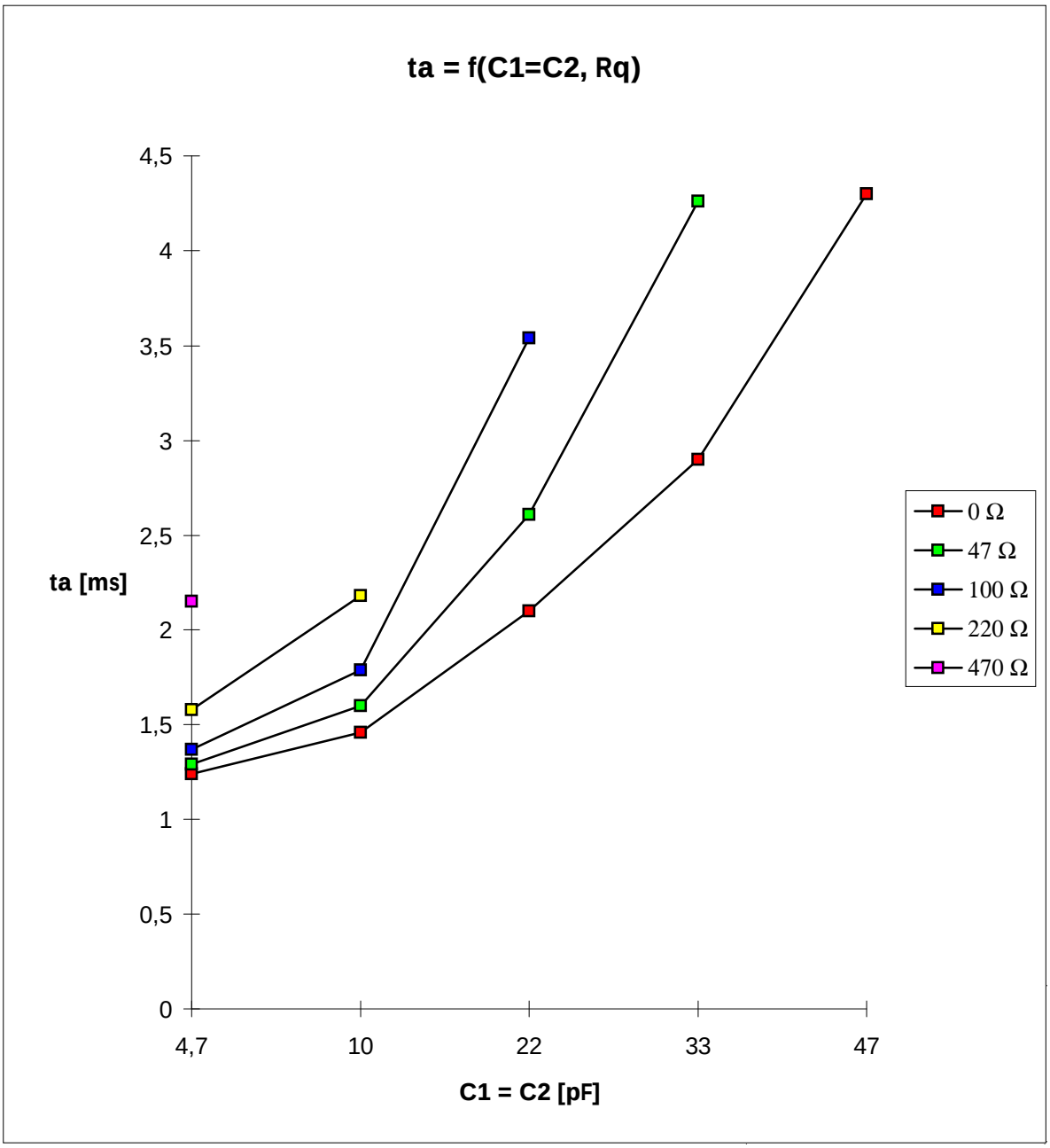


Oscillator start up time dependent of Rq and the load capacitors C1/C2

SAB 80C517A ES-LA **Vcc = 4,25 V** f = 16 MHz
dVcc / dt = 1V / ms T = 25 °C

	Rq					
		0 Ω	47 Ω	100 Ω	220 Ω	470 Ω
C1 =C2 [pF]	4,7	1,24	1,29	1,37	1,58	2,15
	10	1,46	1,6	1,79	2,18	
	22	2,1	2,61	3,54		
	33	2,9	4,26			
	47	4,3				

blank....oscillator circuit does not work



Oscillator start up time dependent of Rq and the load capacitors C1/C2

SAB 80C517A ES-LA **Vcc = 5,50 V** f = 16 MHz
dVcc / dt = 1V / ms T = 25 °C

	Rq				
	0 Ω	47 Ω	100 Ω	220 Ω	470 Ω
C1 = C2 [pF] 4,7	0,688	0,74	0,816	1,03	1,61
10	1	1,1	1,2	1,4	2,02
22	1,51	1,98	2,39	7,6	
33	2,14	2,86	5,02		
47	3,16	7,04			

blank....oscillator circuit does not work