

ADM5247_128tap_RDACs

Calculation Tables

Code in Hex	Code in Decimal	Rwb(d)=	Rwa(D)=	Sensor Excitation Voltage from ADP3331	Rab=	Rw _{typ} = (in Ω)	ΔVoltage Step from previous state.	ADP3331 current for 120Ω sensor	ADP3331 current for 350Ω sensor	ADP3331 current for 5kΩ sensor
0	0	100	10100	1.215921	10,000	50		0.010133	0.003474	0.000243
1	1	178	10022	1.225399	<i>The ADP3331 specified to work down to 1.5volts, below which will not meet tolerance, stability or transient performance values listed in the data sheet.</i>		0.009479	0.010212	0.003501	0.000245
2	2	256	9944	1.235027			0.009628	0.010292	0.003529	0.000247
3	3	334	9866	1.244807			0.009780	0.010373	0.003557	0.000249
4	4	413	9788	1.254743			0.009936	0.010456	0.003585	0.000251
5	5	491	9709	1.264839			0.010096	0.010540	0.003614	0.000253
6	6	569	9631	1.275099			0.010260	0.010626	0.003643	0.000255
7	7	647	9553	1.285527			0.010428	0.010713	0.003673	0.000257
8	8	725	9475	1.296127			0.010600	0.010801	0.003703	0.000259
9	9	803	9397	1.306903			0.010776	0.010891	0.003734	0.000261
A	10	881	9319	1.317859			0.010957	0.010982	0.003765	0.000264
B	11	959	9241	1.329001			0.011142	0.011075	0.003797	0.000266
C	12	1038	9163	1.340333			0.011332	0.011169	0.003830	0.000268
D	13	1116	9084	1.351860			0.011527	0.011265	0.003862	0.000270
E	14	1194	9006	1.363586			0.011727	0.011363	0.003896	0.000273
F	15	1272	8928	1.375518			0.011932	0.011463	0.003930	0.000275
10	16	1350	8850	1.387661			0.012143	0.011564	0.003965	0.000278
11	17	1428	8772	1.400020			0.012359	0.011667	0.004000	0.000280
12	18	1506	8694	1.412601			0.012581	0.011772	0.004036	0.000283
13	19	1584	8616	1.425410			0.012809	0.011878	0.004073	0.000285
14	20	1663	8538	1.438454	0.013044	0.011987	0.004110	0.000288		
15	21	1741	8459	1.451738	0.013285	0.012098	0.004148	0.000290		
16	22	1819	8381	1.465271	0.013532	0.012211	0.004186	0.000293		
17	23	1897	8303	1.479058	0.013787	0.012325	0.004226	0.000296		
18	24	1975	8225	1.493106	0.014049	0.012443	0.004266	0.000299		
19	25	2053	8147	1.507425	<i>75 valid codes, total, for voltages ≥ +1.500v and for voltages ≤ +5.200v</i>		0.014318	0.012562	0.004307	0.000301
1A	26	2131	8069	1.522020			0.014596	0.012684	0.004349	0.000304
1B	27	2209	7991	1.536901			0.014881	0.012808	0.004391	0.000307
1C	28	2288	7913	1.552076			0.015175	0.012934	0.004435	0.000310
1D	29	2366	7834	1.567553			0.015477	0.013063	0.004479	0.000314
1E	30	2444	7756	1.583342			0.015789	0.013195	0.004524	0.000317
1F	31	2522	7678	1.599453			0.016111	0.013329	0.004570	0.000320
20	32	2600	7600	1.615895			0.016442	0.013466	0.004617	0.000323
21	33	2678	7522	1.632678			0.016783	0.013606	0.004665	0.000327
22	34	2756	7444	1.649814			0.017136	0.013748	0.004714	0.000330
23	35	2834	7366	1.667313			0.017499	0.013894	0.004764	0.000333
24	36	2913	7288	1.685187			0.017874	0.014043	0.004815	0.000337
25	37	2991	7209	1.703449			0.018262	0.014195	0.004867	0.000341
26	38	3069	7131	1.722110			0.018662	0.014351	0.004920	0.000344
27	39	3147	7053	1.741186			0.019075	0.014510	0.004975	0.000348
28	40	3225	6975	1.760688			0.019503	0.014672	0.005031	0.000352
29	41	3303	6897	1.780633			0.019944	0.014839	0.005088	0.000356
2A	42	3381	6819	1.801034	0.020401	0.015009	0.005146	0.000360		
2B	43	3459	6741	1.821908	0.020874	0.015183	0.005205	0.000364		
2C	44	3538	6663	1.843272	0.021364	0.015361	0.005266	0.000369		
2D	45	3616	6584	1.865143	0.021871	0.015543	0.005329	0.000373		
2E	46	3694	6506	1.887539	0.022396	0.015729	0.005393	0.000378		

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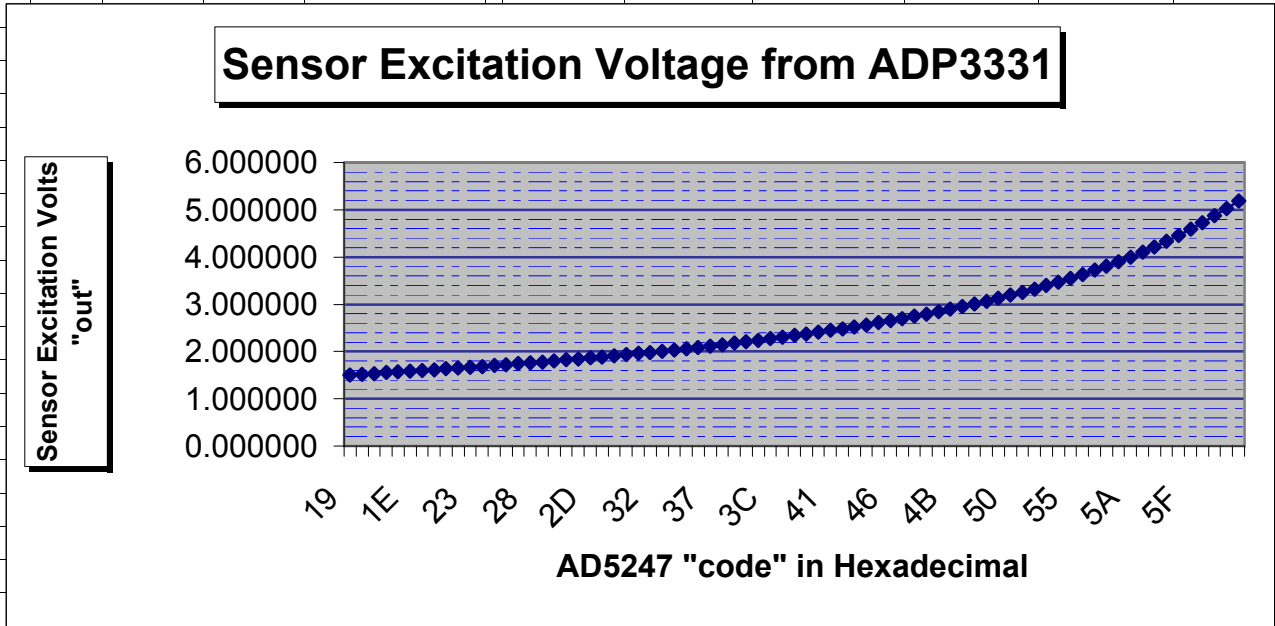
Calculation Tables

2F	47	3772	6428	1.910479			0.022940	0.015921	0.005459	0.000382
30	48	3850	6350	1.933984			0.023505	0.016117	0.005526	0.000387
31	49	3928	6272	1.958075			0.024090	0.016317	0.005594	0.000392
32	50	4006	6194	1.982773			0.024698	0.016523	0.005665	0.000397
33	51	4084	6116	2.008102			0.025329	0.016734	0.005737	0.000402
34	52	4163	6038	2.034087			0.025985	0.016951	0.005812	0.000407
35	53	4241	5959	2.060753			0.026666	0.017173	0.005888	0.000412
36	54	4319	5881	2.088128			0.027375	0.017401	0.005966	0.000418
37	55	4397	5803	2.116239			0.028112	0.017635	0.006046	0.000423
38	56	4475	5725	2.145118			0.028879	0.017876	0.006129	0.000429
39	57	4553	5647	2.174796			0.029678	0.018123	0.006214	0.000435
3A	58	4631	5569	2.205306			0.030511	0.018378	0.006301	0.000441
3B	59	4709	5491	2.236685			0.031379	0.018639	0.006391	0.000447
3C	60	4788	5413	2.268970			0.032285	0.018908	0.006483	0.000454
3D	61	4866	5334	2.302200			0.033230	0.019185	0.006578	0.000460
3E	62	4944	5256	2.336419			0.034218	0.019470	0.006675	0.000467
3F	63	5022	5178	2.371669			0.035251	0.019764	0.006776	0.000474
40	64	5100	5100	2.408000	← Default V _{out} .		0.036331	0.020067	0.006880	0.000482
41	65	5178	5022	2.445461			0.037461	0.020379	0.006987	0.000489
42	66	5256	4944	2.484106			0.038645	0.020701	0.007097	0.000497
43	67	5334	4866	2.523992			0.039886	0.021033	0.007211	0.000505
44	68	5413	4788	2.565180			0.041188	0.021377	0.007329	0.000513
45	69	5491	4709	2.607735			0.042554	0.021731	0.007451	0.000522
46	70	5569	4631	2.651725			0.043990	0.022098	0.007576	0.000530
47	71	5647	4553	2.697224			0.045500	0.022477	0.007706	0.000539
48	72	5725	4475	2.744313			0.047088	0.022869	0.007841	0.000549
49	73	5803	4397	2.793075			0.048762	0.023276	0.007980	0.000559
4A	74	5881	4319	2.843601			0.050526	0.023697	0.008125	0.000569
4B	75	5959	4241	2.895988			0.052388	0.024133	0.008274	0.000579
4C	76	6038	4163	2.950342			0.054354	0.024586	0.008430	0.000590
4D	77	6116	4084	3.006776			0.056433	0.025056	0.008591	0.000601
4E	78	6194	4006	3.065410			0.058634	0.025545	0.008758	0.000613
4F	79	6272	3928	3.126377			0.060967	0.026053	0.008933	0.000625
50	80	6350	3850	3.189818			0.063441	0.026582	0.009114	0.000638
51	81	6428	3772	3.255887			0.066069	0.027132	0.009303	0.000651
52	82	6506	3694	3.324751			0.068864	0.027706	0.009499	0.000665
53	83	6584	3616	3.396591			0.071840	0.028305	0.009705	0.000679
54	84	6663	3538	3.471604			0.075013	0.028930	0.009919	0.000694
55	85	6741	3459	3.550005			0.078401	0.029583	0.010143	0.000710
56	86	6819	3381	3.632030			0.082024	0.030267	0.010377	0.000726
57	87	6897	3303	3.717934			0.085904	0.030983	0.010623	0.000744
58	88	6975	3225	3.808000			0.090066	0.031733	0.010880	0.000762
59	89	7053	3147	3.902538			0.094538	0.032521	0.011150	0.000781
5A	90	7131	3069	4.001890			0.099352	0.033349	0.011434	0.000800
5B	91	7209	2991	4.106433			0.104543	0.034220	0.011733	0.000821
5C	92	7288	2913	4.216584			0.110151	0.035138	0.012047	0.000843
5D	93	7366	2834	4.332807			0.116223	0.036107	0.012379	0.000867
5E	94	7444	2756	4.455619			0.122812	0.037130	0.012730	0.000891
5F	95	7522	2678	4.585596			0.129977	0.038213	0.013102	0.000917
60	96	7600	2600	4.723385			0.137788	0.039362	0.013495	0.000945
61	97	7678	2522	4.869710			0.146325	0.040581	0.013913	0.000974

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62	98	7756	2444	5.025391			0.155681	0.041878	0.014358	0.001005
63	99	7834	2366	5.191355			0.165964	0.043261	0.014832	0.001038
64	100	7913	2288	5.368656	These AD5247 RDAC states, though normally possible with the ADP3331, will NOT be used for SER, since the highest EXCitation voltage will be around +5.2volts.					
65	101	7991	2209	5.558495						
66	102	8069	2131	5.762252						
67	103	8147	2053	5.981516						
68	104	8225	1975	6.218127						
69	105	8303	1897	6.474227						
6A	106	8381	1819	6.752330						
6B	107	8459	1741	7.055397						
6C	108	8538	1663	7.386947						
6D	109	8616	1584	7.751195						
6E	110	8694	1506	8.153228						
6F	111	8772	1428	8.599247						
70	112	8850	1350	9.096889						
71	113	8928	1272	9.655666						
72	114	9006	1194	10.287581						
73	115	9084	1116	11.008000	These AD5247 RDAC states create theoretical voltages that are beyond the ADP3331's abilities.					
74	116	9163	1038	11.836916						
75	117	9241	959	12.800834						
76	118	9319	881	13.935660						
77	119	9397	803	15.291268						
78	120	9475	725	16.939034						
79	121	9553	647	18.984812						
7A	122	9631	569	21.592615						
7B	123	9709	491	25.030930						
7C	124	9788	413	29.771636						
7D	125	9866	334	36.727626						
7E	126	9944	256	47.925073						
7F	127	10022	178	68.944842						



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