

RESISTANCE (OHMS) VS. TEMPERATURE □

NTHC-02

DATE: SEPTEMBER 30, 2004

NTC THERMISTOR R-T CHARACTERISTICS

TYPE NTHC02-4CH152JTR

RESISTANCE (at25°C)	1.5 kΩ	R-TOLERANCE (±)	5 %
B-VALUE (25/50°C)	4100 K	B-TOLERANCE (±)	3 %

T (°C)	Rmin (kΩ)	Rnom (kΩ)	Rmax (kΩ)
-40	6.154E+001	7.267E+001	8.561E+001
-39	5.724E+001	6.744E+001	7.927E+001
-38	5.326E+001	6.262E+001	7.343E+001
-37	4.959E+001	5.817E+001	6.806E+001
-36	4.619E+001	5.406E+001	6.312E+001
-35	4.304E+001	5.027E+001	5.857E+001
-34	4.013E+001	4.677E+001	5.437E+001
-33	3.744E+001	4.354E+001	5.050E+001
-32	3.494E+001	4.055E+001	4.693E+001
-31	3.262E+001	3.778E+001	4.364E+001
-30	3.048E+001	3.522E+001	4.059E+001
-29	2.848E+001	3.284E+001	3.777E+001
-28	2.662E+001	3.064E+001	3.517E+001
-27	2.490E+001	2.860E+001	3.276E+001
-26	2.330E+001	2.671E+001	3.054E+001
-25	2.182E+001	2.496E+001	2.848E+001
-24	2.044E+001	2.334E+001	2.657E+001
-23	1.916E+001	2.183E+001	2.481E+001
-22	1.797E+001	2.043E+001	2.318E+001
-21	1.686E+001	1.913E+001	2.166E+001
-20	1.583E+001	1.793E+001	2.026E+001
-19	1.486E+001	1.680E+001	1.895E+001
-18	1.397E+001	1.576E+001	1.774E+001
-17	1.313E+001	1.479E+001	1.662E+001
-16	1.235E+001	1.388E+001	1.557E+001
-15	1.162E+001	1.304E+001	1.460E+001
-14	1.094E+001	1.225E+001	1.369E+001
-13	1.030E+001	1.152E+001	1.285E+001
-12	9.710E+000	1.084E+001	1.206E+001
-11	9.153E+000	1.020E+001	1.133E+001
-10	8.632E+000	9.599E+000	1.065E+001
-9	8.145E+000	9.042E+000	1.001E+001
-8	7.689E+000	8.520E+000	9.418E+000
-7	7.261E+000	8.032E+000	8.863E+000
-6	6.860E+000	7.575E+000	8.344E+000
-5	6.484E+000	7.147E+000	7.859E+000
-4	6.130E+000	6.746E+000	7.406E+000
-3	5.799E+000	6.371E+000	6.981E+000
-2	5.487E+000	6.018E+000	6.584E+000
-1	5.194E+000	5.688E+000	6.212E+000
0	4.919E+000	5.377E+000	5.863E+000

T (°C)	Rmin (kΩ)	Rnom (kΩ)	Rmax (kΩ)
0	4.919E+000	5.377E+000	5.863E+000
1	4.660E+000	5.086E+000	5.537E+000
2	4.417E+000	4.812E+000	5.230E+000
3	4.188E+000	4.555E+000	4.943E+000
4	3.972E+000	4.314E+000	4.673E+000
5	3.769E+000	4.086E+000	4.420E+000
6	3.577E+000	3.873E+000	4.182E+000
7	3.397E+000	3.672E+000	3.959E+000
8	3.227E+000	3.482E+000	3.749E+000
9	3.066E+000	3.304E+000	3.551E+000
10	2.915E+000	3.136E+000	3.366E+000
11	2.772E+000	2.978E+000	3.191E+000
12	2.637E+000	2.829E+000	3.026E+000
13	2.510E+000	2.688E+000	2.871E+000
14	2.389E+000	2.555E+000	2.726E+000
15	2.276E+000	2.430E+000	2.588E+000
16	2.168E+000	2.312E+000	2.459E+000
17	2.066E+000	2.200E+000	2.336E+000
18	1.970E+000	2.095E+000	2.221E+000
19	1.879E+000	1.995E+000	2.112E+000
20	1.793E+000	1.901E+000	2.010E+000
21	1.711E+000	1.811E+000	1.913E+000
22	1.634E+000	1.727E+000	1.821E+000
23	1.561E+000	1.647E+000	1.734E+000
24	1.491E+000	1.572E+000	1.653E+000
25	1.425E+000	1.500E+000	1.575E+000
26	1.359E+000	1.432E+000	1.506E+000
27	1.296E+000	1.368E+000	1.440E+000
28	1.236E+000	1.307E+000	1.378E+000
29	1.180E+000	1.249E+000	1.318E+000
30	1.126E+000	1.194E+000	1.262E+000
31	1.076E+000	1.142E+000	1.209E+000
32	1.028E+000	1.092E+000	1.158E+000
33	9.822E-001	1.045E+000	1.109E+000
34	9.389E-001	1.000E+000	1.063E+000
35	8.979E-001	9.579E-001	1.019E+000
36	8.589E-001	9.175E-001	9.776E-001
37	8.219E-001	8.790E-001	9.378E-001
38	7.867E-001	8.425E-001	9.000E-001
39	7.532E-001	8.077E-001	8.639E-001
40	7.214E-001	7.745E-001	8.295E-001



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-04

Size: 0402

TEMP (C)	1 Kohm (102)	1.5 Kohm (152)	2.2 Kohm (222)	3 Kohm (302)	3.3 Kohm (332)	4.7 Kohm (472)
-30	9.872K	16.01K	24.58K	37.10K	42.04K	65.82K
-25	7.716K	12.41K	19.12K	28.32K	31.96K	49.63K
-20	6.089K	9.707K	14.96K	21.83K	24.54K	37.76K
-15	4.851K	7.667K	11.76K	16.99K	19.00K	28.97K
-10	3.892K	6.104K	9.310K	13.32K	14.85K	22.44K
-5	3.143K	4.895K	7.426K	10.53K	11.72K	17.53K
-0	2.557K	3.956K	5.964K	8.392K	9.317K	13.81K
+5	2.094K	3.220K	4.823K	6.736K	7.467K	10.98K
+10	1.726K	2.636K	3.926K	5.447K	6.027K	8.785K
+15	1.431K	2.172K	3.217K	4.436K	4.898K	7.081K
+20	1.193K	1.800K	2.653K	3.636K	4.008K	5.749K
+25	1.000K	1.500K	2.200K	3.000K	3.300K	4.700K
+30	842	1.257K	1.835K	2.490K	2.733K	3.867K
+35	713	1.060K	1.539K	2.080K	2.277K	3.201K
+40	607	897	1.298K	1.746K	1.907K	2.666K
+45	519	764	1.100K	1.474K	1.606K	2.233K
+50	446	653	936	1.251K	1.359K	1.881K
+55	384	561	801	1.067K	1.155K	1.592K
+60	333	4847	689	914	986	1.355K
+65	290	4200	595	787	847	1.159K
+70	253	365	516	680	730	995
+75	222	319	449	590	633	858
+80	195	279	392	514	551	743
+85	172	246	344	450	481	647
+90	153	217	303	395	422	565
+95	136	192	268	348	372	496
+100	121	171	238	308	329	436



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-04

Size: 0402

TEMP (C)	6.8Kohm (682)	10Kohm (103)	15Kohm (153)	22Kohm (223)	33Kohm (333)	47Kohm (473)
-30	108.1K	181.1K	331.7K	386.0K	399.2K	579.0K
-25	80.09K	132.2K	236.5K	288.4K	305.2K	441.5K
-20	60.03K	97.70K	170.9K	216.0K	235.9K	340.2K
-15	45.59K	72.99K	125.1K	162.1K	184.2K	264.7K
-10	34.82K	55.14K	92.59K	122.7K	145.1K	207.8K
-5	26.91K	42.09K	69.32K	93.70K	115.0K	164.5K
-0	20.97K	32.42K	52.45K	72.17K	92.11K	131.2K
+5	16.49K	25.21K	40.08K	56.07K	74.30K	105.4K
+10	13.06K	19.76K	30.93K	43.88K	60.38K	85.32K
+15	10.43K	15.62K	24.09K	34.60K	49.36K	69.50K
+20	8.391K	12.45K	18.93K	27.49K	40.34K	56.98K
+25	6.800K	10.00K	15.00K	22.00K	33.00K	47.00K
+30	5.549K	8.090K	11.98K	17.73K	27.06K	38.98K
+35	4.559K	6.591K	9.650K	14.39K	22.29K	32.52K
+40	3.769K	5.406K	7.830K	11.76K	18.44K	27.26K
+45	3.136K	4.465K	6.402K	9.668K	15.33K	22.98K
+50	2.624K	3.711K	5.272K	7.997K	12.80K	19.45K
+55	2.208K	3.105K	4.370K	6.652K	10.72K	16.54K
+60	1.868K	2.612K	3.645K	5.565K	9.026K	14.11K
+65	1.589K	2.209K	3.057K	4.682K	7.640K	12.08K
+70	1.358K	1.877K	2.579K	3.959K	6.491K	10.36K
+75	1.166K	1.604K	2.187K	3.364K	5.535K	8.905K
+80	1.006K	1.377K	1.865K	2.872K	4.737K	7.668K
+85	871	1.188K	1.598K	2.462K	4.068K	6.612K
+90	757	1.029K	1.376K	2.120K	3.507K	5.718K
+95	662	894	1.189K	1.835K	3.304K	4.954K
+100	580	781	1.033K	1.595K	2.636K	4.310K



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-04

Size: 0402

TEMP (C)	68Kohm (683)	80Kohm (803)	100Kohm (104)	150Kohm (154)	2Mohm (205)
-30	866.2K	1045K	1329K	2090K	69.83M
-25	659.7K	794.0K	1009K	1586K	48.55M
-20	507.1K	609.2K	772.9K	1212K	33.96M
-15	393.2K	471.6K	597.4K	931.9K	23.89M
-10	307.6K	368.2K	465.6K	722.8K	16.97M
-5	242.6K	289.8K	365.7K	564.9K	12.17M
-0	192.8K	229.8K	289.6K	445.2K	8.812M
+5	154.4K	183.6K	231.1K	353.8K	6.436M
+10	124.5K	147.7K	185.7K	282.9K	4.744M
+15	101.1K	119.7K	150.2K	227.5K	3.528M
+20	82.68K	97.54K	122.2K	184.2K	2.645M
+25	68.00K	80.00K	100.0K	150.0K	2.000M
+30	56.26K	66.00K	82.33K	122.9K	1.524M
+35	46.80K	54.75K	68.16K	101.3K	1.170M
+40	39.13K	45.66K	56.73K	83.97K	0.9051M
+45	32.89K	38.29K	47.47K	70.00K	0.7053M
+50	27.78K	32.26K	39.91K	58.63K	0.5536M
+55	23.57K	27.31K	33.72K	49.31K	0.4377M
+60	20.08K	23.22K	28.61K	41.66K	0.3483M
+65	17.19K	19.83K	24.38K	35.37K	0.2788M
+70	14.76K	17.01K	20.85K	30.15K	0.2245M
+75	12.72K	14.65K	17.92K	25.77K	0.1820M
+80	11.00K	12.66K	15.46K	22.13K	0.1483M
+85	9.557K	10.98K	13.39K	19.09K	0.1216M
+90	8.327K	9.559K	11.64K	16.54K	0.1001M
+95	7.277K	8.348K	10.14K	14.37K	0.08280M
+100	6.377K	7.312K	8.867K	12.53K	0.06883M



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-06

Size: 0603

TEMP (C)	30 Ohm (300)	40 Ohm (400)	50 Ohm (500)	68 Ohm (680)	100 Ohm (101)	120 Ohm (121)
-30	151	206	268	393	711	906
-25	127	172	224	325	581	727
-20	107	145	188	271	476	589
-15	91	123	159	227	392	482
-10	78	105	135	192	325	397
-5	67	90	115	163	270	329
-0	58	78	99	139	226	275
+5	50	68	86	119	190	230
+10	44	59	74	103	161	194
+15	39	52	65	89	137	165
+20	34	45	57	78	117	140
+25	30	40	50	68	100	120
+30	27	35	44	60	86	103
+35	24	32	39	53	75	89
+40	21	28	35	47	65	77
+45	19.1	25	31	42	57	67
+50	17.2	23	28	37	50	59
+55	15.5	20	25	33	44	52
+60	14	18.3	23	30	39	45
+65	12.8	16.5	20	27	34	40
+70	11.6	14.9	18.5	24	30	36
+75	10.6	13.4	16.8	22	27	32
+80	9.73	12.2	15.2	19.7	24	28
+85	8.94	11	13.9	17.9	22	25
+90	8.23	10	12.7	16.2	19.5	23
+95	7.59	9.11	11.6	14.7	17.6	20
+100	7.01	8.29	10.7	13.3	15.9	18.5



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-06

Size: 0603

TEMP (C)	150 Ohm (151)	220 Ohm (221)	330 Ohm (331)	470 Ohm (471)	680 Ohm (681)	1000 Ohm (102)
-30	1174	1866	3052	4696	7122	11270
-25	943	1482	2400	3661	5505	8681
-20	762	1189	1906	2883	4307	6751
-15	621	963	1526	2291	3406	5298
-10	510	786	1232	1836	2719	4194
-5	421	644	1002	1483	2186	3347
-0	350	531	820	1205	1770	2690
+5	292	440	675	986	1443	2178
+10	245	367	559	811	1185	1776
+15	207	308	466	672	979	1457
+20	176	259	391	561	814	1204
+25	150	220	330	470	680	1000
+30	129	188	280	396	572	836
+35	111	161	238	336	483	702
+40	96	138	204	286	410	593
+45	83	120	176	245	350	504
+50	73	104	152	210	300	430
+55	64	90	131	182	259	369
+60	56	79	114	157	224	318
+65	49	70	100	137	194	275
+70	44	61	88	120	169	239
+75	39	54	77	105	148	208
+80	35	48	68	92	130	182
+85	31	43	60	81	114	160
+90	28	39	54	72	101	141
+95	25	35	48	64	89	125
+100	22	32	43	57	79	111



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-06

Size: 0603

Temp (C)	1.5Kohm (152)	2.2Kohm (222)	3.3Kohm (332)	4.7Kohm (472)	6.8Kohm (682)	10Kohm (103)
-30	19.0K	30.4K	52.7K	81.7K	133.0K	235.0K
-25	14.5K	22.9K	38.4K	59.8K	96.3K	167.0K
-20	11.1K	17.5K	28.8K	44.4K	70.6K	120.0K
-15	8.61K	13.4K	21.9K	33.3K	52.4K	86.9K
-10	6.74K	10.4K	16.8K	25.3K	39.2K	64.0K
-5	5.32K	8.13K	13.0K	19.4K	29.7K	47.7K
-0	4.23K	6.42K	10.1K	15.0K	22.7K	35.9K
+5	3.39K	5.10K	7.96K	11.7K	17.5K	27.2K
+10	2.74K	4.09K	6.31K	9.21K	13.7K	20.9K
+15	2.23K	3.30K	5.05K	7.30K	10.7K	16.2K
+20	1.82K	2.69K	4.07K	5.84K	8.51K	12.7K
+25	1.5K	2.2K	3.3K	4.7K	6.8K	10.0K
+30	1.24K	1.81K	2.70K	3.71K	5.48K	7.96K
+35	1.04K	1.50K	2.22K	3.12K	4.44K	6.39K
+40	869	1.25K	1.84K	2.57K	3.63K	5.16K
+45	733	1.05K	1.53K	2.13K	2.99K	4.21K
+50	621	887	1.28K	1.78K	2.47K	3.45K
+55	529	752	1.08K	1.49K	2.06K	2.85K
+60	453	641	913	1.26K	1.73K	2.37K
+65	389	549	777	1.06K	1.46K	1.99K
+70	336	472	665	905	1.23K	1.67K
+75	292	408	572	773	1.05K	1.41K
+80	254	354	494	664	900	1.20K
+85	222	308	429	572	774	1.03K
+90	195	269	373	495	669	884
+95	172	237	327	429	580	763
+100	152	208	287	374	505	661



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-06

Size: 0603

TEMP (C)	15Kohm (153)	22Kohm (223)	33Kohm (333)	47Kohm (473)	68Kohm (683)	100Kohm (104)	150Kohm (154)
-30	227K	269K	422K	615K	944K	1472K	2260K
-25	174K	205K	321K	468K	715K	1107K	1692K
-20	134K	158K	246K	359K	545K	840K	1279K
-15	103K	123K	191K	277K	420K	643K	976K
-10	79.2K	96.5K	149K	217K	326K	497K	751K
-5	61.3K	76.5K	118K	170K	255K	387K	583K
-0	47.7K	61.1K	93.6K	135K	201K	304K	457K
+5	37.4K	49.2K	75.0K	108K	159K	240K	361K
+10	29.4K	39.9K	60.5K	86.9K	128K	191K	287K
+15	23.4K	32.5K	49.1K	70.3K	103K	153K	230K
+20	18.7K	26.7K	40.1K	57.3K	83.3K	123K	185K
+25	15K	22K	33K	47K	68K	100K	150K
+30	12.1K	18.2K	27.3K	38.8K	55.8K	81.6K	122K
+35	9.89K	15.2K	22.7K	32.2K	46.1K	67K	100K
+40	8.10K	12.6K	19K	26.8K	38.3K	55.3K	82.3K
+45	6.67K	10.6K	16.0K	22.5K	31.9K	45.9K	68.2K
+50	5.52K	8.87K	13.5K	19.0K	26.7K	38.3K	56.7K
+55	4.60K	7.47K	11.4K	16.0K	22.5K	32.1K	47.4K
+60	3.86K	6.31K	9.75K	13.6K	19.0K	27.1K	39.8K
+65	3.25K	5.34K	8.34K	11.6K	16.2K	22.9K	33.6K
+70	2.74K	4.54K	7.17K	9.98K	13.8K	19.4K	28.5K
+75	2.33K	3.87K	6.18K	8.60K	11.8K	16.6K	24.2K
+80	1.99K	3.31K	5.35K	7.44K	10.2K	14.2K	20.7K
+85	1.71K	2.84K	4.64K	6.45K	8.77K	12.2K	17.8K
+90	1.47K	2.45K	4.03K	5.60K	7.60K	10.5K	15.3K
+95	1.27K	2.12K	3.50K	4.89K	6.61K	9.11K	13.2K
+100	1.10K	1.85K	3.05K	4.28K	5.77K	7.92K	11.4K



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-08

Size: 0805

TEMP (C)	40 Ohm (400)	50 Ohm (500)	56 Ohm (560)	68 Ohm (680)	100 Ohm (101)	150 Ohm (151)
-30	222	292	328	477	750	1194
-25	184	242	271	389	608	955
-20	154	202	226	319	495	771
-15	130	169	189	263	405	626
-10	110	142	159	218	333	513
-5	93.8	121	135	181	276	423
-0	80.3	103	115	152	230	351
+5	69.2	88.1	98.7	128	192	293
+10	59.9	76.0	85.1	109	162	246
+15	52.1	65.8	73.7	92.4	137	207
+20	45.6	57.2	64.1	79.1	117	176
+25	40.0	50	56	68	100	150
+30	35.2	43.9	49.1	58.8	86	129
+35	31.2	38.6	43.2	51	74.2	111
+40	27.7	34.1	38.1	44.5	64.4	95.8
+45	24.7	30.2	33.8	38.9	56	83.2
+50	22.0	26.8	30	34.2	49	72.5
+55	19.8	23.9	26.8	30.1	43	63.5
+60	17.8	21.4	23.9	26.7	37.9	55.8
+65	16	19.1	21.4	23.7	33.5	49.8
+70	14.5	17.2	19.2	21	29.7	43.6
+75	13.2	15.5	17.3	18.8	26.5	38.7
+80	12	13.9	15.6	16.8	23.7	34.5
+85	11	12.6	14.1	15.1	21.2	30.9
+90	10	11.5	12.8	13.7	19.1	27.7
+95	9.2	10.4	11.7	12.4	17.2	24.9
+100	8.46	9.49	10.6	11.2	15.6	22.5



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-08

Size: 0805

TEMP (C)	220 Ohm (221)	330 Ohm (331)	470 Ohm (471)	680 Ohm (681)	1000 Ohm (102)	1500 Ohm (152)
-30	1,879	3,027	4,633	7,286	10,610	19,110
-25	1,491	2,385	3,626	5,646	8,244	14,530
-20	1,194	1,897	2,862	4,416	6,459	11,160
-15	964	1,520	2,278	3,484	5,102	8,648
-10	785	1,228	1,826	2,772	4,062	6,761
-5	642	999	1,477	2,223	3,259	5,330
-0	530	819	1,201	1,796	2,633	4,236
+5	439	675	984	1,460	2,143	3,393
+10	366	559	810	1,195	1,755	2,739
+15	308	467	672	984	1,446	2,226
+20	259	391	560	816	1,199	1,821
+25	220	330	470	680	1,000	1,500
+30	188	280	396	570	839	1,243
+35	161	238	336	481	707	1,036
+40	138	204	286	407	599	869
+45	119	175	245	347	510	733
+50	104	152	210	296	436	621
+55	90.3	131	182	255	374	529
+60	79	114	157	220	323	453
+65	69.4	100	137	190	280	389
+70	61.2	87.7	120	166	243	336
+75	54.1	77.3	105	145	213	291
+80	48	68.3	92.3	127	186	254
+85	47.7	60.5	81.4	112	164	222
+90	38.1	53.8	72.1	98.3	144	195
+95	34.1	47.9	64.1	87.1	128	171
+100	30.7	42.8	57.1	77.3	114	151



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-08

Size: 0805

TEMP (C)	2.0Kohm (202)	3.3Kohm (332)	4.7Kohm (472)	6.8Kohm (682)	10Kohm (103)	15Kohm (682)	22Kohm (223)
-30	27,760	56,640	97,200	161,200	109,200	212,500	340,000
-25	20,920	41,680	70,000	114,400	84,900	160,500	254,200
-20	15,920	31,000	51,000	82,150	66,470	122,300	191,900
-15	12,320	23,290	37,600	59,680	52,410	94,010	146,200
-10	9,476	17,670	27,980	43,850	41,610	72,830	112,300
-5	7,410	13,540	21,060	32,590	33,270	56,930	87,040
0	5,842	10,470	16,020	24,490	26,810	44,810	67,980
+5	4,644	8,168	12,300	18,590	21,760	35,530	53,490
+10	3,720	6,429	9,538	14,260	17,770	28,360	42,400
+15	3,002	5,102	7,462	11,040	14,590	22,790	33,850
+20	2,442	4,087	5,897	8,624	12,050	18,435	27,200
+25	2,000	3,300	4,700	6,800	10,000	15,000	22,000
+30	1,648	2,680	3,772	5,409	8,336	12,280	17,904
+35	1,366	2,192	3,051	4,338	6,976	10,110	14,661
+40	1,140	1,805	2,487	3,507	5,859	8,366	12,070
+45	956	1,496	2,041	2,858	4,938	6,959	9,988
+50	807	1,247	1,686	2,347	4,171	5,818	8,314
+55	684	1,046	1,402	1,939	3,540	4,887	6,954
+60	583	882	1,174	1,612	3,013	4,123	5,844
+65	499	748	988	1,349	2,571	3,495	4,935
+70	430	637	836	1,136	2,200	2,975	4,187
+75	371	546	711	962	1,889	2,545	3,568
+80	322	469	608	819	1,627	2,185	3,053
+85	281	405	523	701	1,406	1,882	2,622
+90	245	352	451	602	1,219	1,628	2,261
+95	216	306	391	521	1,061	1,412	1,957
+100	190	268	340	452	926	1,230	1,700



RESISTANCE (OHM) VS. TEMPERATURE

NTHC-08

Size: 0805

TEMP (C)	33Kohm (333)	47Kohm (473)	68Kohm (683)	80Kohm (803)	100Kohm (104)	150Kohm (154)	2Megohm (205)
-30	529,300	773,100	966,100	1,172,000	1,966,000	3,100,000	76,600,000
-25	393,700	574,400	729,600	882,500	1,436,000	2,248,000	52,140,000
-20	295,800	431,100	555,900	670,200	1,058,000	1,647,000	35,900,000
-15	224,400	326,500	427,100	513,300	787,100	1,219,000	24,990,000
-10	171,800	249,500	330,900	396,300	590,600	911,600	17,590,000
-5	132,700	192,200	258,400	308,400	446,900	687,000	12,520,000
-0	103,300	149,200	203,300	241,900	341,400	522,500	9,006,000
+5	81,080	116,800	161,200	191,300	263,100	400,700	6,541,000
+10	64,090	92,050	128,700	152,300	204,300	309,900	4,796,000
+15	50,990	73,090	103,400	122,100	159,900	241,500	3,552,000
+20	40,890	58,420	83,580	98,540	126,000	189,600	2,654,000
+25	33,000	47,000	68,000	80,000	100,000	150,000	2,000,000
+30	26,790	38,050	55,650	65,330	79,870	119,400	1,520,000
+35	21,880	30,990	45,810	53,640	64,200	95,700	1,164,000
+40	17,970	25,380	37,920	44,280	51,920	77,180	898,300
+45	14,840	20,900	31,550	36,740	42,220	62,210	698,200
+50	12,320	17,310	26,380	30,630	34,510	51,110	546,500
+55	10,280	14,410	22,180	25,670	28,390	41,930	430,900
+60	8,616	12,050	18,740	21,610	23,470	34,580	342,000
+65	7,258	10,110	15,890	18,280	19,510	28,670	273,200
+70	6,141	8,545	13,530	15,540	16,290	23,880	219,600
+75	5,220	7,244	11,560	13,260	13,670	19,990	177,400
+80	4,455	6,167	9,921	11,360	11,530	16,820	144,100
+85	3,818	5,272	8,548	9,767	9,763	14,210	117,600
+90	3,285	4,524	7,394	8,426	8,304	12,050	96,350
+95	2,837	3,897	6,409	7,296	7,095	10,260	79,220
+100	2,459	3,368	5,569	6,334	6,087	8,775	65,350