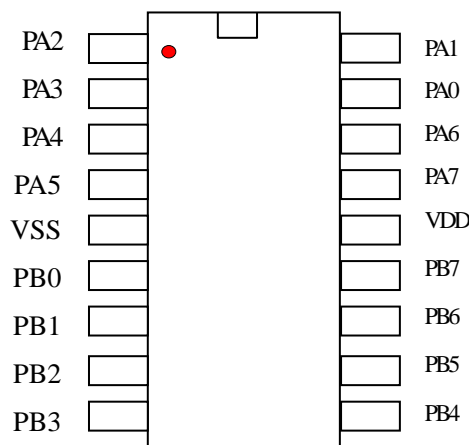


## 数码管全兼容电子温度计 IC

### 功能描述:

- 1) -9.9℃到 99.9℃温度测量,0.1 度分辨率
- 2) 14-211 华氏度测量, 0.1 度分辨率
- 3) 摄氏度和华氏度工作模式可选
- 4) 兼容 3 位与 2 位数码管显示
- 5) 线路结构简单,低成本方案
- 6) 强大的成本优势和兼容性

IC 引脚功能描述:



引脚序号	名称	功能描述
1	PA2	温度检测输入端
2	PA3	热敏电阻输入端
3	PA4	参考电阻输入端
4	PA5	接 VDD
5	GND	芯片接地
6	PB0	接数码管 A 端
7	PB1	接数码管 B 端
8	PB2	接数码管 C 端,
9	PB3	接数码管 D 端,
10	PB4	接数码管 E 端
11	PB5	接数码管 F 端
12	PB6	接数码管 G 端
13	PB7	接数码管 DOT 端,小数点显示
14	VDD	电源提供脚
15	PA6	显示扫描输出
16	PA7	C/F 选择, 接地为摄氏度模式, 接 VDD 为华氏度模式

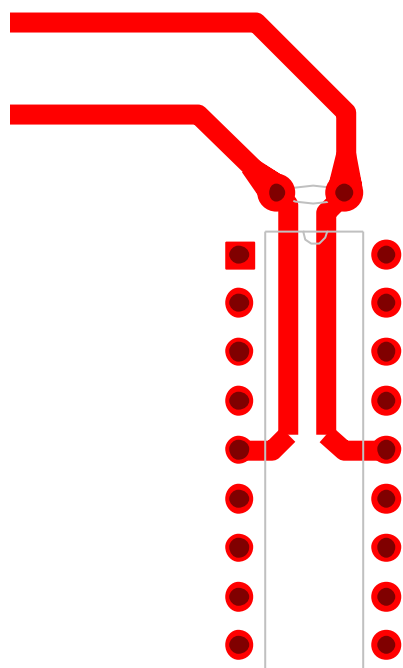
17	PA1	显示扫描输出
18	PA0	显示扫描输出

### IC 电气特性:

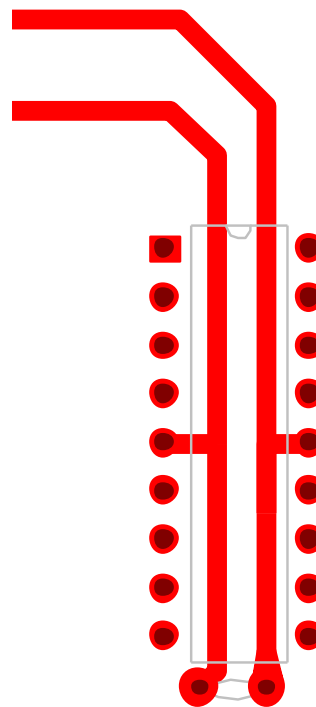
工作电压	DC2.5V---5.5V
工作电流	1.5MA
待机电流	1UA
工作温度	-10℃----70℃

### PCB 设计注意事项:

在 IC 的 VDD 到地之间一定要加一个 0.1U 的磁片电容,这个电容可以起到很好的抗电源干扰的作用,在 PCB 板上的位置尽量靠近 IC,尽可能的缩短和加粗.IC 的电源线与地线的走线.



正确的走线方法



错误的走线方法

6

5

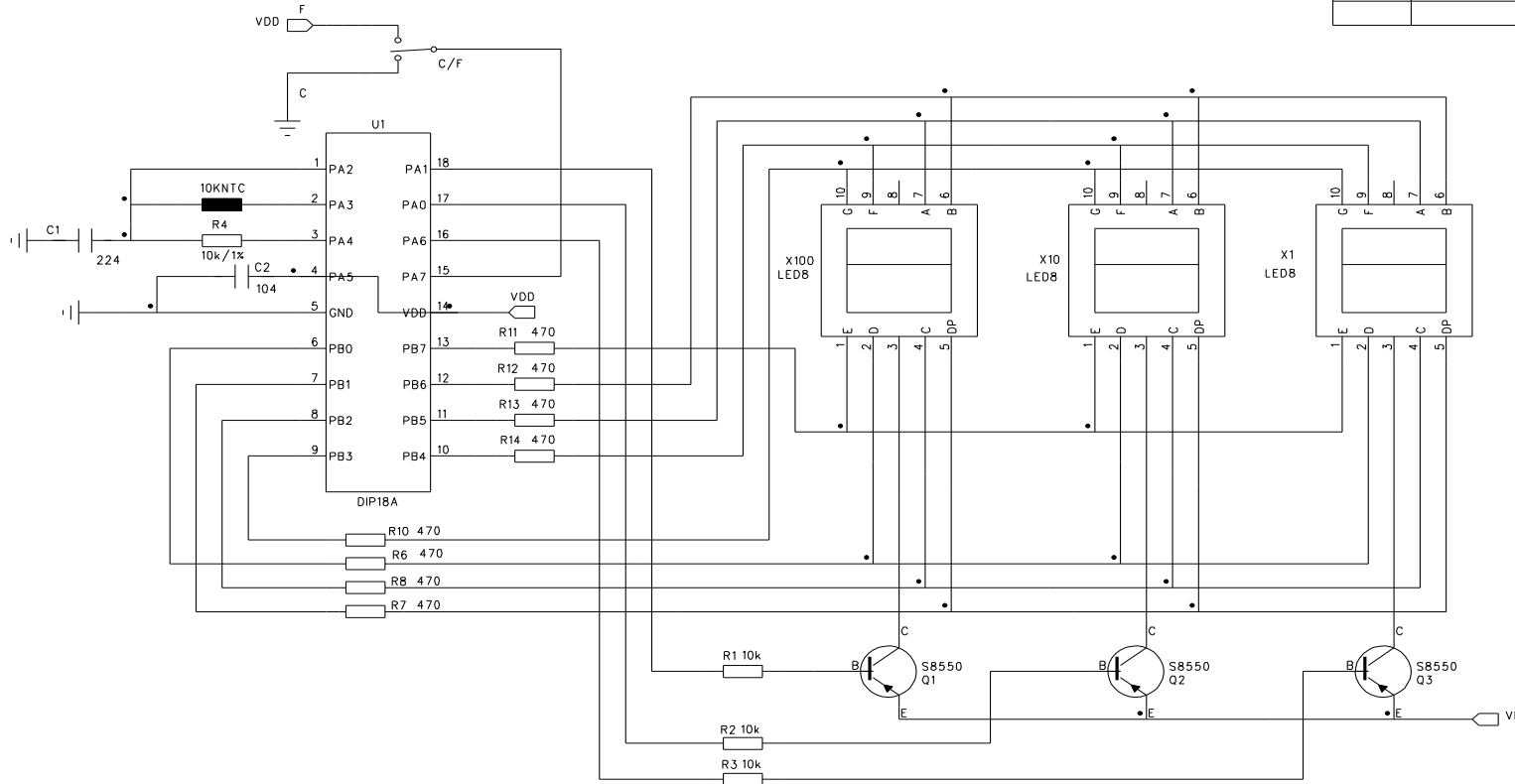
4

3

2

1

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY:			
TITLE:			
CODE:	SIZE:	DRAWING NO:	REV:
SCALE:		SHEET: OF	

DRAWN:	DATED:
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

## R&T-TABLE

R<sub>25</sub>=10000Ω 精度:±3% B<sub>25/50</sub>=3380K (B<sub>25/85</sub>=3435K) 精度:±1%

温度(°C)	电阻(Ω)			电阻精度(%)		温度精度(°C)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
-55	408305.000	437139.000	467587.000	6.965	6.595	2.828	2.678
-54	385208.000	412169.000	440619.000	6.902	6.541	2.782	2.637
-53	363546.000	388762.000	415354.000	6.840	6.486	2.738	2.596
-52	343221.000	366814.000	391677.000	6.777	6.432	2.694	2.556
-51	324144.000	346226.000	369480.000	6.716	6.377	2.650	2.516
-50	306232.000	326906.000	348662.000	6.655	6.324	2.607	2.478
-49	289408.000	308770.000	329131.000	6.594	6.270	2.565	2.439
-48	273600.000	291739.000	310800.000	6.533	6.217	2.523	2.401
-47	258742.000	275740.000	293591.000	6.473	6.164	2.482	2.364
-46	244772.000	260706.000	277428.000	6.413	6.111	2.442	2.327
-45	231632.000	246574.000	262243.000	6.354	6.059	2.402	2.290
-44	219269.000	233284.000	247971.000	6.295	6.007	2.363	2.255
-43	207633.000	220782.000	234553.000	6.237	5.955	2.324	2.219
-42	196677.000	209018.000	221934.000	6.179	5.904	2.286	2.184
-41	186359.000	197945.000	210062.000	6.121	5.853	2.248	2.150
-40	176638.000	187518.000	198889.000	6.063	5.802	2.211	2.116
-39	167476.000	177696.000	188370.000	6.006	5.751	2.175	2.082
-38	158839.000	168442.000	178465.000	5.950	5.700	2.139	2.049
-37	150694.000	159720.000	169133.000	5.893	5.650	2.103	2.017
-36	143011.000	151496.000	160340.000	5.837	5.600	2.069	1.985
-35	135760.000	143739.000	152051.000	5.782	5.551	2.034	1.953
-34	128916.000	136422.000	144235.000	5.727	5.501	2.000	1.922
-33	122454.000	129516.000	136862.000	5.672	5.452	1.967	1.891
-32	116350.000	122997.000	129906.000	5.617	5.403	1.934	1.860
-31	110583.000	116840.000	123341.000	5.563	5.355	1.901	1.830
-30	105133.000	111025.000	117142.000	5.509	5.307	1.869	1.801
-29	99980.900	105530.000	111288.000	5.455	5.259	1.838	1.771
-28	95108.500	100337.000	105758.000	5.402	5.211	1.807	1.743
-27	90499.500	95427.000	100532.000	5.349	5.163	1.776	1.714
-26	86138.400	90783.100	95592.200	5.297	5.116	1.746	1.686
-25	82010.700	86390.000	90921.200	5.245	5.069	1.716	1.659
-24	78102.700	82232.700	86503.200	5.193	5.022	1.687	1.631
-23	74401.700	78297.600	82323.400	5.141	4.975	1.658	1.604
-22	70895.700	74571.700	78367.700	5.090	4.929	1.629	1.578

-21	67573.500	71042.800	74623.000	5.039	4.883	1.601	1.552
-20	64424.600	67699.600	71077.000	4.988	4.837	1.574	1.526
-19	61439.200	64531.400	67718.300	4.938	4.791	1.546	1.501
-18	58607.800	61528.200	64536.100	4.888	4.746	1.520	1.475
-17	55921.900	58680.700	61520.200	4.838	4.701	1.493	1.451
-16	53373.300	55979.900	58661.100	4.789	4.656	1.467	1.426
-15	50954.200	53417.700	55949.900	4.740	4.611	1.441	1.402
-14	48657.600	50986.300	53378.400	4.691	4.567	1.416	1.378
-13	46476.600	48678.300	50938.500	4.643	4.523	1.391	1.355
-12	44404.800	46487.000	48623.000	4.594	4.479	1.366	1.332
-11	42436.200	44405.800	46424.900	4.547	4.435	1.342	1.309
-10	40565.300	42428.700	44337.700	4.499	4.391	1.318	1.287
-9	38786.700	40550.000	42355.300	4.452	4.348	1.295	1.265
-8	37095.300	38764.300	40471.900	4.405	4.305	1.272	1.243
-7	35486.600	37066.600	38682.100	4.358	4.262	1.249	1.221
-6	33956.100	35452.100	36980.800	4.311	4.219	1.226	1.200
-5	32499.600	33916.400	35363.200	4.265	4.177	1.204	1.179
-4	31113.200	32455.300	33824.800	4.219	4.135	1.182	1.158
-3	29793.100	31064.700	32361.400	4.174	4.093	1.161	1.138
-2	28536.000	29740.900	30968.800	4.128	4.051	1.139	1.118
-1	27338.400	28480.400	29643.500	4.083	4.009	1.118	1.098
0	26197.300	27280.000	28381.800	4.038	3.968	1.098	1.079
1	25109.800	26136.300	27180.300	3.994	3.927	1.077	1.059
2	24073.100	25046.500	26035.900	3.950	3.886	1.057	1.040
3	23084.600	24007.800	24945.600	3.906	3.845	1.038	1.022
4	22141.700	23017.600	23906.600	3.862	3.805	1.018	1.003
5	21242.300	22073.400	22916.300	3.818	3.765	0.999	0.985
6	20384.100	21172.700	21972.100	3.775	3.724	0.980	0.967
7	19564.900	20313.500	21071.700	3.732	3.685	0.962	0.949
8	18782.900	19493.600	20212.800	3.689	3.645	0.943	0.932
9	18036.300	18710.900	19393.400	3.647	3.605	0.925	0.915
10	17323.100	17963.800	18611.400	3.605	3.566	0.907	0.898
11	16641.800	17250.300	17864.900	3.563	3.527	0.890	0.881
12	15990.800	16568.800	17152.300	3.521	3.488	0.873	0.865
13	15368.600	15917.700	16471.700	3.479	3.449	0.856	0.848
14	14773.800	15295.600	15821.600	3.438	3.411	0.839	0.832
15	14205.100	14701.000	15200.500	3.397	3.373	0.822	0.816
16	13661.200	14132.500	14606.900	3.356	3.334	0.806	0.801
17	13140.900	13588.900	14039.600	3.316	3.297	0.790	0.785
18	12643.000	13069.000	13497.100	3.276	3.259	0.774	0.770

19	12166.600	12571.600	12978.400	3.235	3.221	0.758	0.755
20	11710.500	12095.700	12482.300	3.196	3.184	0.743	0.740
21	11273.900	11640.200	12007.700	3.156	3.147	0.728	0.725
22	10855.800	11204.200	11553.500	3.117	3.110	0.712	0.711
23	10455.300	10786.800	11118.800	3.078	3.073	0.696	0.695
24	10071.600	10387.000	10702.700	3.039	3.036	0.678	0.678
25	9700.000	10000.000	10300.000	3.000	3.000	0.665	0.665
26	9344.630	9637.200	9929.980	3.038	3.035	0.692	0.692
27	9000.370	9285.610	9571.270	3.076	3.071	0.702	0.701
28	8670.530	8948.630	9227.330	3.114	3.107	0.714	0.712
29	8354.440	8625.570	8897.490	3.152	3.143	0.727	0.725
30	8048.720	8313.000	8578.220	3.190	3.179	0.739	0.736
31	7761.000	8018.720	8277.540	3.227	3.213	0.753	0.750
32	7482.470	7733.740	7986.250	3.265	3.248	0.767	0.763
33	7215.330	7460.310	7706.670	3.302	3.283	0.780	0.776
34	6959.070	7197.920	7438.280	3.339	3.318	0.794	0.789
35	6713.180	6946.070	7180.580	3.376	3.352	0.808	0.802
36	6477.220	6704.300	6933.090	3.412	3.387	0.822	0.816
37	6250.720	6472.140	6695.370	3.449	3.421	0.836	0.829
38	6033.270	6249.180	6466.990	3.485	3.454	0.850	0.843
39	5824.470	6035.010	6247.530	3.521	3.488	0.864	0.856
40	5623.930	5829.240	6036.610	3.557	3.522	0.879	0.870
41	5431.290	5631.510	5833.860	3.593	3.555	0.893	0.884
42	5246.200	5441.470	5638.920	3.628	3.588	0.908	0.898
43	5068.340	5258.780	5451.460	3.664	3.621	0.922	0.912
44	4897.380	5083.120	5271.170	3.699	3.654	0.937	0.926
45	4733.030	4914.200	5097.720	3.734	3.686	0.952	0.940
46	4575.010	4751.730	4930.840	3.769	3.719	0.967	0.954
47	4423.040	4595.430	4770.240	3.803	3.751	0.982	0.968
48	4276.870	4445.040	4615.660	3.838	3.783	0.997	0.983
49	4136.240	4300.310	4466.850	3.872	3.815	1.012	0.997
50	4000.930	4161.000	4323.570	3.907	3.846	1.027	1.011
51	3870.700	4026.880	4185.590	3.941	3.878	1.043	1.026
52	3745.350	3897.740	4052.680	3.975	3.909	1.058	1.041
53	3624.680	3773.380	3924.640	4.008	3.940	1.074	1.055
54	3508.470	3653.590	3801.280	4.042	3.971	1.089	1.070
55	3396.560	3538.180	3682.390	4.075	4.002	1.105	1.085
56	3288.760	3426.980	3567.790	4.108	4.033	1.121	1.100
57	3184.910	3319.820	3457.320	4.142	4.063	1.137	1.115
58	3084.840	3216.520	3350.810	4.174	4.094	1.153	1.130

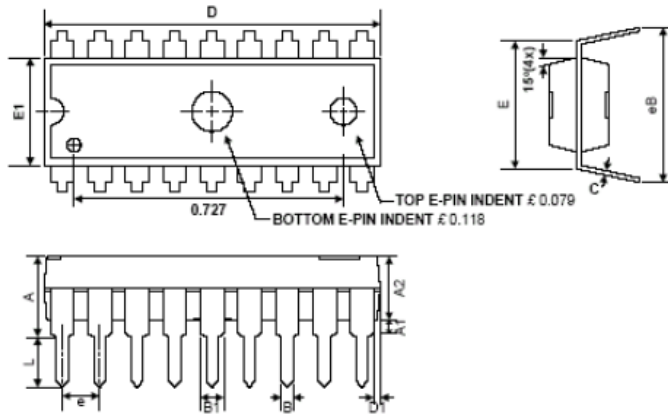
59	2988.390	3116.940	3248.090	4.207	4.124	1.169	1.145
60	2895.430	3020.930	3149.020	4.240	4.154	1.185	1.161
61	2805.810	2928.330	3053.450	4.272	4.184	1.201	1.176
62	2719.390	2839.020	2961.240	4.305	4.213	1.217	1.191
63	2636.050	2752.860	2872.260	4.337	4.243	1.234	1.207
64	2555.670	2669.730	2786.380	4.369	4.272	1.250	1.223
65	2478.120	2589.510	2703.480	4.401	4.301	1.267	1.238
66	2403.300	2512.090	2623.440	4.432	4.330	1.284	1.254
67	2331.090	2437.350	2546.160	4.464	4.359	1.300	1.270
68	2261.390	2365.190	2471.520	4.495	4.388	1.317	1.286
69	2194.120	2295.510	2399.430	4.526	4.417	1.334	1.302
70	2129.160	2228.220	2329.780	4.558	4.445	1.351	1.318
71	2066.440	2163.220	2262.490	4.589	4.473	1.368	1.334
72	2005.860	2100.420	2197.460	4.619	4.501	1.385	1.350
73	1947.340	2039.740	2134.600	4.650	4.529	1.403	1.366
74	1890.810	1981.110	2073.840	4.681	4.557	1.420	1.383
75	1836.190	1924.430	2015.100	4.711	4.585	1.438	1.399
76	1783.400	1869.650	1958.300	4.741	4.612	1.455	1.416
77	1732.380	1816.680	1903.370	4.771	4.640	1.473	1.432
78	1683.060	1765.460	1850.240	4.801	4.667	1.491	1.449
79	1635.370	1715.930	1798.840	4.831	4.694	1.508	1.466
80	1589.260	1668.020	1749.110	4.861	4.721	1.526	1.482
81	1544.660	1621.670	1700.980	4.890	4.748	1.544	1.499
82	1501.530	1576.830	1654.410	4.920	4.775	1.562	1.516
83	1459.800	1533.430	1609.330	4.949	4.801	1.581	1.533
84	1419.420	1491.430	1565.690	4.978	4.828	1.599	1.551
85	1380.560	1451.000	1523.650	5.007	4.854	1.617	1.568
86	1342.540	1411.420	1482.510	5.036	4.880	1.636	1.585
87	1305.930	1373.320	1442.880	5.065	4.906	1.654	1.602
88	1270.500	1336.420	1404.490	5.093	4.932	1.673	1.620
89	1236.190	1300.680	1367.310	5.122	4.958	1.692	1.637
90	1202.960	1266.060	1331.270	5.150	4.984	1.710	1.655
91	1170.780	1232.530	1296.360	5.179	5.009	1.729	1.673
92	1139.610	1200.030	1262.520	5.207	5.034	1.748	1.690
93	1109.410	1168.540	1229.720	5.235	5.060	1.767	1.708
94	1080.150	1138.030	1197.920	5.262	5.085	1.786	1.726
95	1051.800	1108.440	1167.090	5.290	5.110	1.806	1.744
96	1024.320	1079.770	1137.190	5.318	5.135	1.825	1.762
97	997.688	1051.960	1108.200	5.345	5.159	1.844	1.780
98	971.866	1025.000	1080.080	5.373	5.184	1.864	1.799

99	946.830	998.861	1052.800	5.400	5.209	1.884	1.817
100	922.552	973.500	1026.330	5.427	5.233	1.903	1.835
101	899.007	948.897	1000.650	5.454	5.257	1.923	1.854
102	876.169	925.028	975.732	5.481	5.281	1.943	1.872
103	854.015	901.867	951.542	5.508	5.305	1.963	1.891
104	832.521	879.390	928.062	5.534	5.329	1.983	1.910
105	811.665	857.575	905.267	5.561	5.353	2.003	1.928
106	791.425	836.399	883.134	5.587	5.377	2.023	1.947
107	771.780	815.842	861.642	5.613	5.400	2.044	1.966
108	752.712	795.881	840.770	5.640	5.424	2.064	1.985
109	734.199	776.499	820.496	5.666	5.447	2.085	2.004
110	716.225	757.675	800.803	5.692	5.470	2.105	2.023
111	698.771	739.392	781.669	5.717	5.493	2.126	2.042
112	681.820	721.631	763.079	5.743	5.516	2.147	2.062
113	665.356	704.376	745.013	5.769	5.539	2.167	2.081
114	649.363	687.610	727.455	5.794	5.562	2.188	2.101
115	633.824	671.317	710.388	5.820	5.584	2.209	2.120
116	618.727	655.483	693.798	5.845	5.607	2.230	2.140
117	604.055	640.092	677.669	5.870	5.629	2.252	2.159
118	589.797	625.131	661.985	5.895	5.652	2.273	2.179
119	575.937	610.585	646.734	5.920	5.674	2.294	2.199
120	562.465	596.441	631.901	5.945	5.696	2.316	2.219
121	549.366	582.688	617.474	5.969	5.718	2.337	2.239
122	536.630	569.311	603.439	5.994	5.740	2.359	2.259
123	524.245	556.301	589.785	6.019	5.762	2.381	2.279
124	512.200	543.644	576.499	6.043	5.783	2.403	2.299
125	500.484	531.331	563.571	6.067	5.805	2.425	2.320



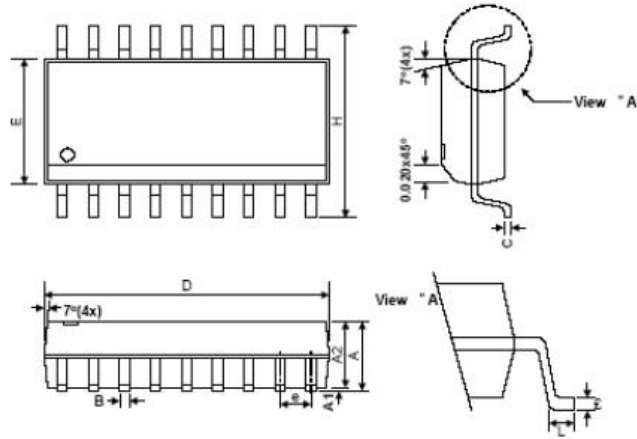
封装尺寸:

**6.1 18 Pin DIP 300 mil**



Symbols	Dimension In Millimeters			Dimension In Inches		
	Min	Nom	Max	Min	Nom	Max
A	-	-	4.57	-	-	0.180
A1	0.13	-	-	0.005	-	-
A2	-	3.30	3.56	-	0.130	0.140
B	0.36	0.46	0.56	0.014	0.018	0.022
B1	1.27	1.52	1.78	0.050	0.060	0.070
C	0.20	0.25	0.33	0.008	0.010	0.013
D	22.71	22.96	23.11	0.894	0.904	0.910
D1	0.43	0.56	0.69	0.017	0.022	0.027
E	7.62	-	8.26	0.300	-	0.325
E1	6.40	6.50	6.65	0.252	0.256	0.262
e	-	2.54	-	-	0.100	-
L	3.18	-	-	0.125	-	-

### 6.2 18 Pin SOP 300 mil



Symbols	Dimension In Millimeters			Dimension In Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.36	2.49	2.64	0.093	0.098	0.104
A1	0.10	-	0.30	0.04	-	0.012
A2	-	2.31	-	-	0.091	-
B	0.33	0.41	0.51	0.013	0.016	0.020
C	0.18	0.23	0.28	0.007	0.009	0.011
D	11.35	-	11.76	0.447	-	0.463
E	7.39	7.49	7.59	0.291	0.295	0.299
e	-	1.27	-	-	0.050	-
H	10.01	10.31	10.64	0.394	0.406	0.419
L	0.38	0.81	1.27	0.015	0.032	0.050
θ	0°	-	8°	0°	-	8°