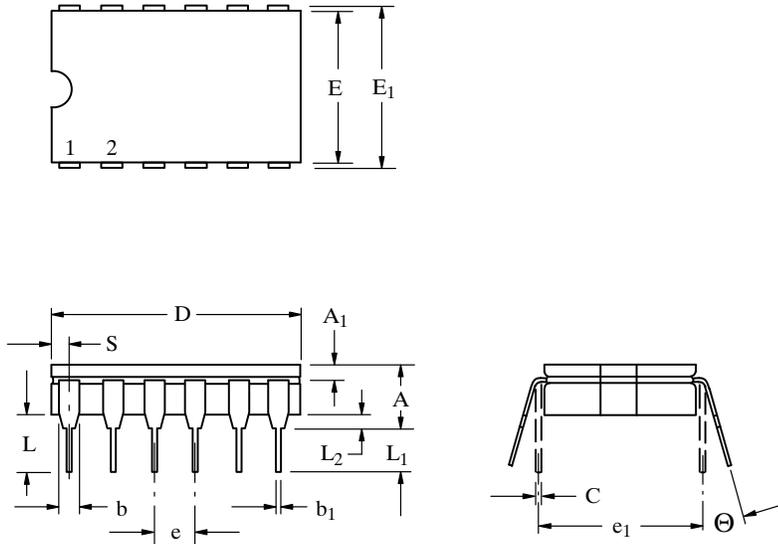
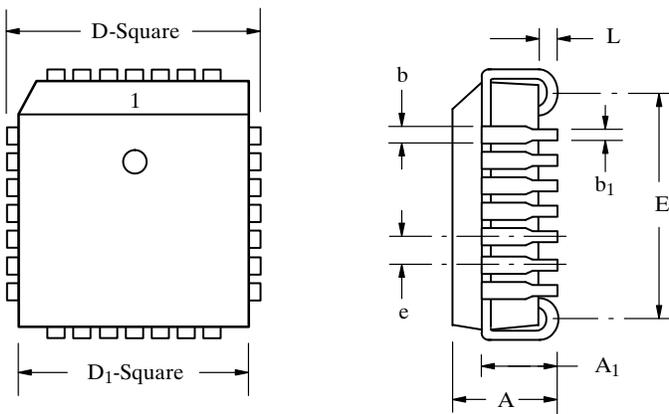


## Ceramic DIP, 8–16 Leads



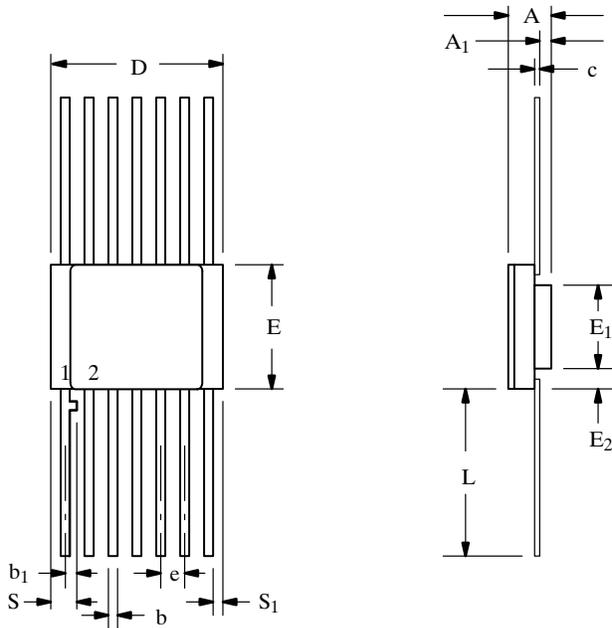
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	4.06	5.08	0.160	0.200
A <sub>1</sub>	1.27	2.16	0.050	0.085
b	1.14	1.65	0.045	0.065
b <sub>1</sub>	0.38	0.51	0.015	0.020
C	0.20	0.30	0.008	0.012
D-8	9.40	10.16	0.370	0.400
D-14	19.05	19.56	0.750	0.770
D-16	19.05	19.56	0.750	0.770
E	6.60	7.62	0.260	0.300
E <sub>1</sub>	7.62	8.26	0.300	0.325
e	2.54 BSC		0.100 BSC	
e <sub>1</sub>	7.62 BSC		0.300 BSC	
L	3.81	5.08	0.150	0.200
L <sub>1</sub>	3.18	3.81	0.125	0.150
L <sub>2</sub>	0.51	1.14	0.020	0.045
S-8	0.64	1.52	0.025	0.060
S-14	1.65	2.41	0.065	0.095
S-16	0.38	1.14	0.015	0.045
Θ	0°	15°	0°	15°

## CerQuad Package (M Suffix), 28 & 44 Leads



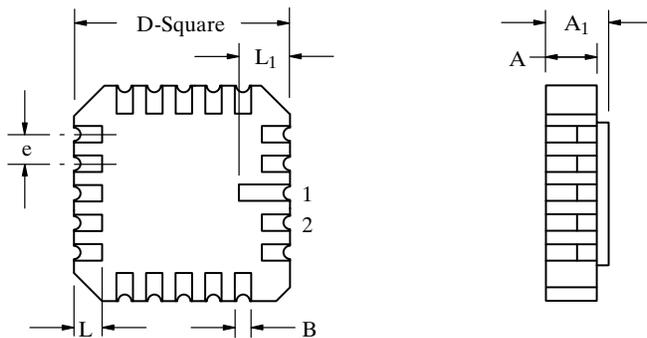
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	4.20	4.83	0.165	0.190
A <sub>1</sub>	2.29	3.04	0.090	0.120
b	0.66	0.81	0.026	0.032
b <sub>1</sub>	0.46	0.56	0.018	0.022
D-28	12.32	12.57	0.485	0.495
D-44	17.40	17.65	0.685	0.695
D <sub>1</sub> -28	11.23	11.63	0.442	0.458
D <sub>1</sub> -44	16.31	16.71	0.642	0.658
E-28	9.91	10.92	0.390	0.430
E-44	14.99	16.00	0.590	0.630
e	1.27 BSC		0.050 BSC	
L	0.51	—	0.020	—

## Flat Package (L Suffix), 14 & 16 Leads



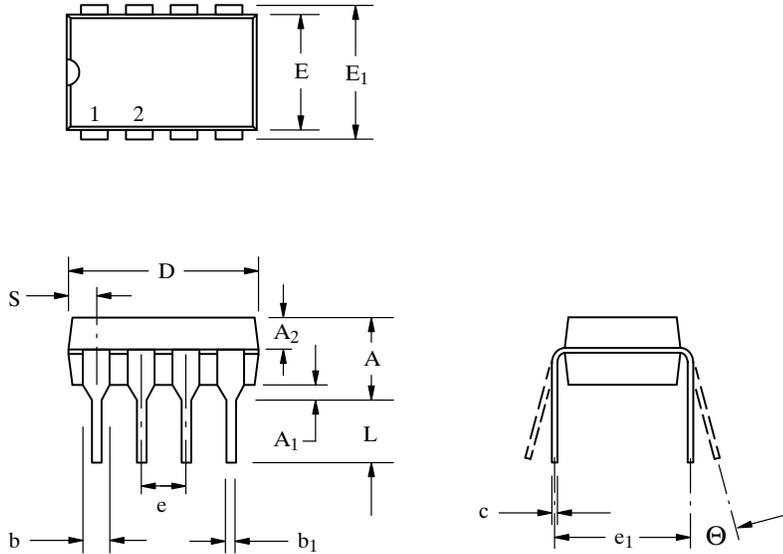
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	2.03	2.54	0.080	0.100
A <sub>1</sub>	0.66	1.14	0.026	0.045
b	0.38	0.48	0.015	0.019
b <sub>1</sub>	0.20	0.38	0.008	0.015
c	0.10	0.15	0.004	0.006
D-14	8.64	9.14	0.340	0.360
D-16	9.91	10.41	0.390	0.410
E-14	6.10	6.60	0.240	0.260
E-16	6.60	7.11	0.260	0.280
E <sub>1</sub>	4.45	4.95	0.175	0.195
E <sub>2</sub>	0.76	1.27	0.030	0.050
e	1.27 BSC		0.050 BSC	
L	7.62	8.89	0.300	0.350
S	–	1.14	–	0.045
S <sub>1</sub>	0.13	–	0.005	–

## LCC Package, 20–28 Leads



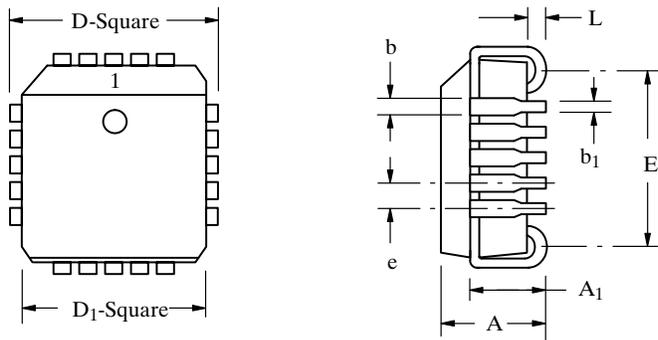
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	1.37	2.24	0.054	0.088
A <sub>1</sub>	1.63	2.54	0.064	0.100
B	0.56	0.71	0.022	0.028
D-20	8.69	9.09	0.342	0.358
D-28	11.23	11.63	0.442	0.458
e	1.27 BSC		0.050 BSC	
L	1.14	1.40	0.045	0.055
L <sub>1</sub>	1.96	2.36	0.077	0.093

## Plastic DIP, 8–20 Leads



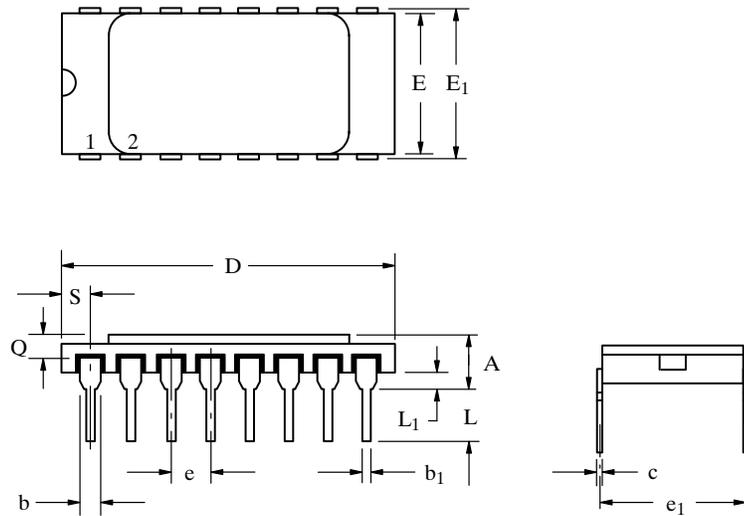
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	3.81	5.08	0.150	0.200
A <sub>1</sub>	0.38	1.27	0.015	0.050
A <sub>2</sub>	1.27	2.03	0.050	0.080
b	0.89	1.65	0.035	0.065
b <sub>1</sub>	0.38	0.51	0.015	0.020
c	0.20	0.30	0.008	0.012
D-8	9.65	11.68	0.380	0.460
D-14	17.27	19.30	0.680	0.760
D-16	18.93	21.33	0.745	0.840
D-20	24.89	26.92	0.980	1.060
E	5.59	7.11	0.220	0.280
E <sub>1</sub>	7.62	8.26	0.300	0.325
e	2.29	2.79	0.090	0.110
e <sub>1</sub>	7.37	7.87	0.290	0.310
L	2.79	3.81	0.110	0.150
S-8	1.02	2.03	0.040	0.080
S-14	1.02	2.03	0.040	0.080
S-16	0.38	1.52	0.015	0.060
S-20	1.02	2.03	0.040	0.080
Θ	0°	15°	0°	15°

## PLCC, 20–44 Leads



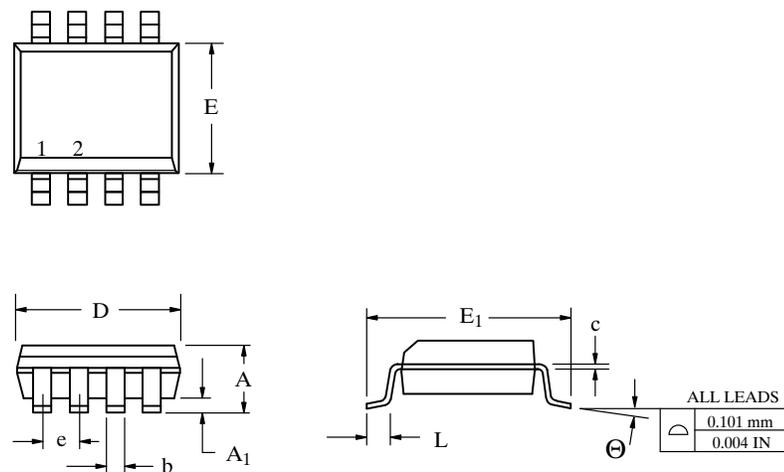
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	4.20	4.57	0.165	0.180
A <sub>1</sub>	2.29	3.04	0.090	0.120
b	0.66	0.81	0.026	0.032
b <sub>1</sub>	0.33	0.55	0.013	0.021
D-20	9.78	10.03	0.385	0.395
D-44	17.40	17.65	0.685	0.695
D <sub>1</sub> -20	8.89	9.04	0.350	0.356
D <sub>1</sub> -44	16.51	16.66	0.650	0.656
E-20	9.78	10.03	0.385	0.395
E-44	17.40	17.65	0.685	0.695
e	1.27 BSC		0.050 BSC	
L	0.51	–	0.020	–

## Sidebrazed DIP, 14–24 Leads



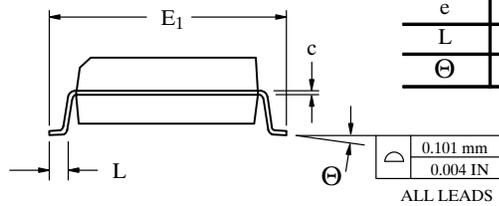
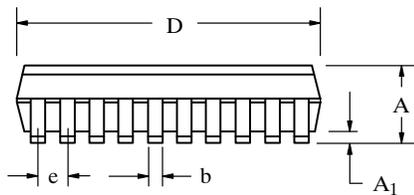
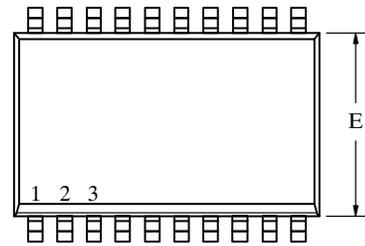
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	2.67	4.44	0.105	0.175
b	0.97	1.52	0.038	0.060
b <sub>1</sub>	0.38	0.53	0.015	0.021
c	0.20	0.30	0.008	0.012
D-14	17.53	19.55	0.690	0.770
D-16	19.56	21.08	0.770	0.830
D-20	24.89	26.16	0.890	1.030
D-24	29.97	31.24	1.180	1.230
E	7.12	7.87	0.280	0.310
E <sub>1</sub>	7.37	8.25	0.290	0.325
e	2.54 BSC		0.100 BSC	
e <sub>1</sub>	7.62 BSC		0.300 BSC	
L	3.18	4.44	0.125	0.175
L <sub>1</sub>	0.64	1.39	0.025	0.055
Q	0.25	—	0.010	—
S-14	0.77	2.41	0.030	0.095
S-16	0.51	1.65	0.020	0.065
S-20	0.77	1.65	0.030	0.065
S-24	0.77	2.41	0.030	0.095

## SOIC, 8–16 Leads



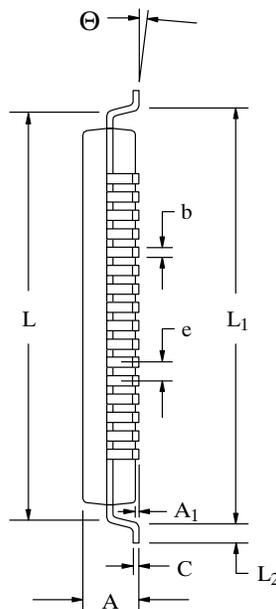
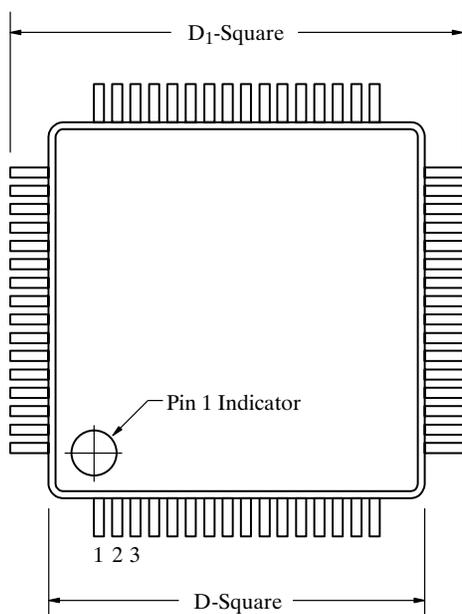
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	1.35	1.75	0.053	0.069
A <sub>1</sub>	0.10	0.20	0.004	0.008
B	0.35	0.45	0.014	0.018
c	0.18	0.23	0.007	0.009
D-8	4.69	5.00	0.185	0.196
D-14	8.55	8.75	0.336	0.344
D-16	9.80	10.00	0.385	0.393
E	3.50	4.05	0.140	0.160
E <sub>1</sub>	5.70	6.30	0.224	0.248
e	1.27 BSC		0.050 BSC	
L	0.60	0.80	0.024	0.031
Θ	0°	8°	0°	8°

## SOIC Wide-Body, 16–28 Leads



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	2.15	2.90	0.085	0.114
A <sub>1</sub>	0.10	0.30	0.004	0.012
b	0.35	0.45	0.014	0.018
c	0.23	0.28	0.009	0.011
D-16	9.95	10.75	0.392	0.423
D-20	12.50	13.30	0.492	0.524
D-24	15.05	15.85	0.593	0.624
D-28	17.60	18.40	0.693	0.724
E	7.25	8.00	0.285	0.315
E <sub>1</sub>	9.80	10.60	0.386	0.417
e	127 BSC		0.050 BSC	
L	0.60	0.80	0.024	0.031
Θ	0°	8°	0°	8°

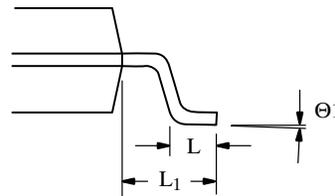
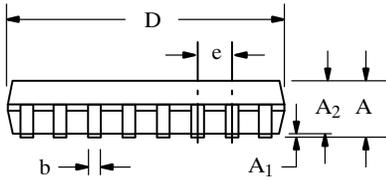
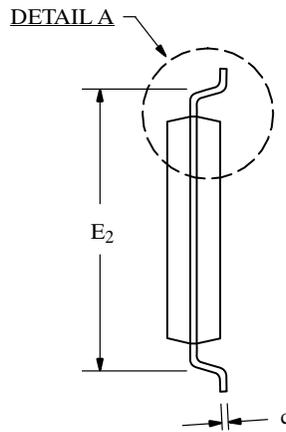
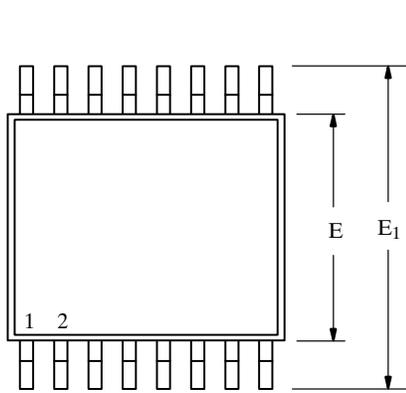
## SQFP, 48 Leads



Dim	Millimeters		Inches*	
	Min	Max	Min	Max
A	1.35	1.60	0.053	0.063
A <sub>1</sub>	0.04	0.16	0.002	0.006
b	0.14	0.26	0.006	0.010
C	0.117	0.177	0.005	0.007
D	6.90	7.10	0.272	0.280
D <sub>1</sub>	8.70	9.30	0.343	0.366
e	0.40	0.60	0.016	0.024
L	–	7.80	–	0.307
L <sub>1</sub>	7.80	8.20	0.307	0.323
L <sub>2</sub>	0.30	0.70	0.012	0.028
Θ	0°	7°	0°	7°

\*For Reference Only

## TSSOP, 16 Leads



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	1.05	1.20	0.041	0.047
A <sub>1</sub>	0.05	0.15	0.002	0.006
A <sub>2</sub>	–	1.05	–	0.041
b	0.25	0.30	0.010	0.012
c	0.127		0.005	
D	4.90	5.10	0.193	0.201
E	4.30	4.50	0.170	0.177
E <sub>1</sub>	6.20	6.60	0.244	0.260
E <sub>2</sub>	5.14	5.24	0.202	0.206
e	0.65 BSC		0.025 BSC	
L	0.50	0.70	0.020	0.028
L <sub>1</sub>	1.0		0.039	
$\Theta 1$	0°	8°	0°	8°

DETAIL A