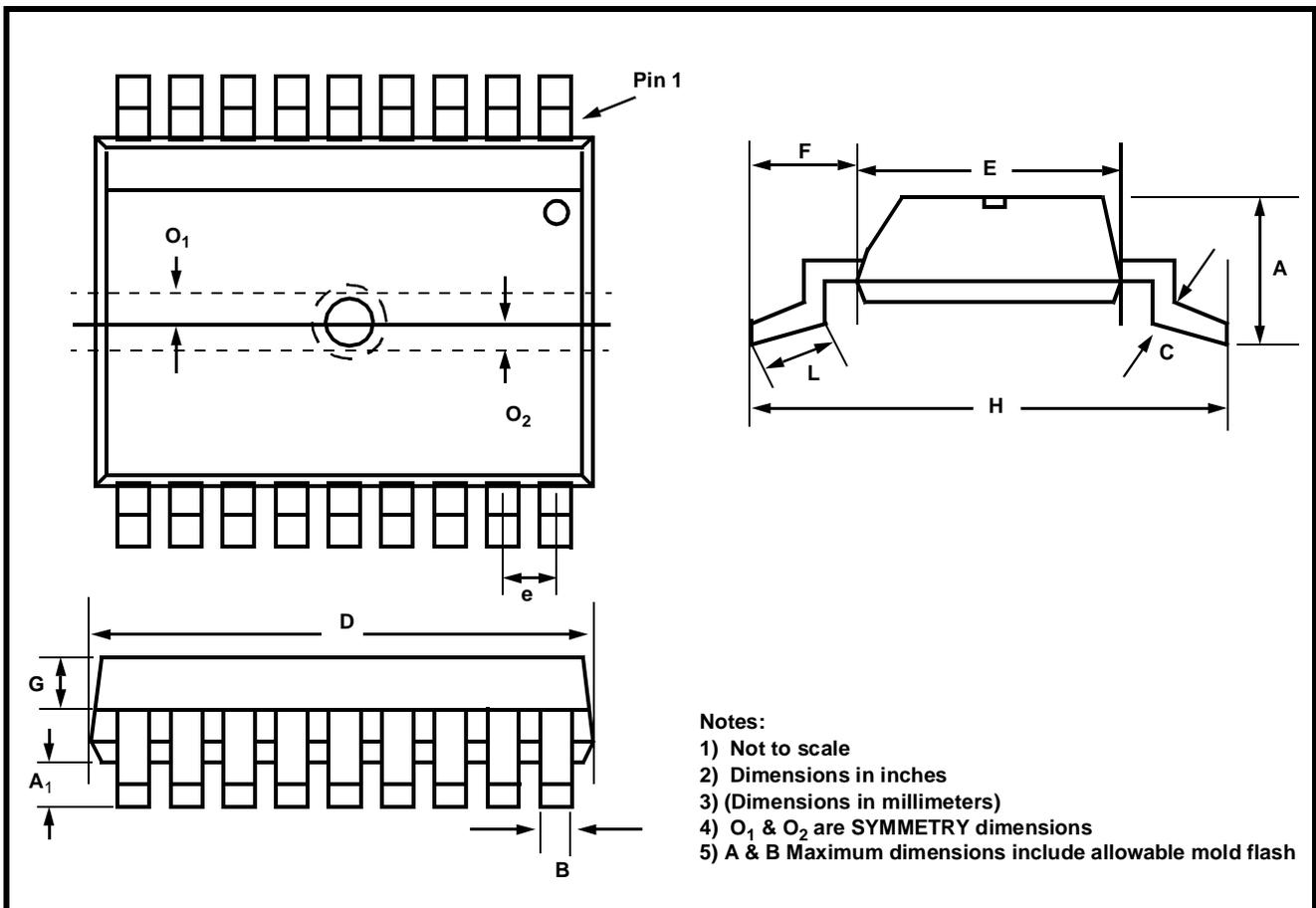
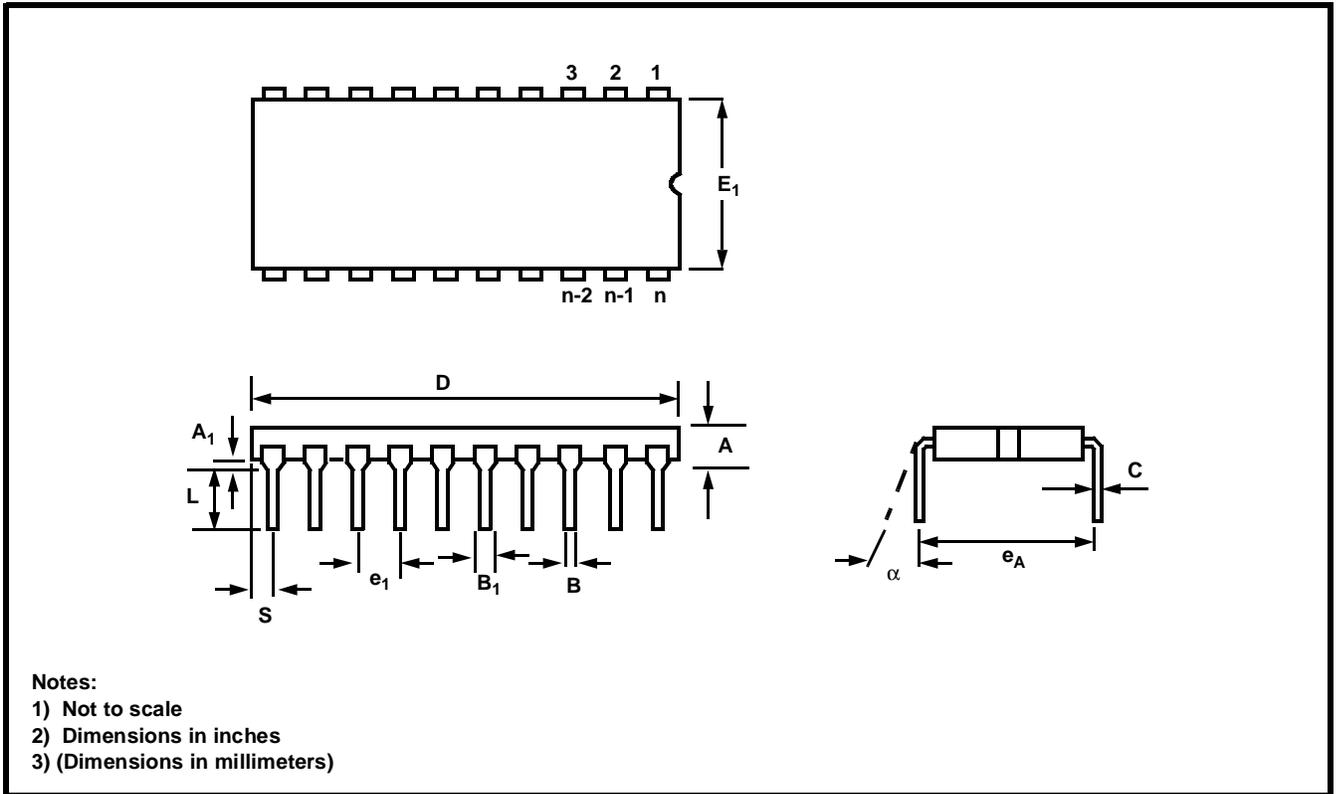


Package Outlines

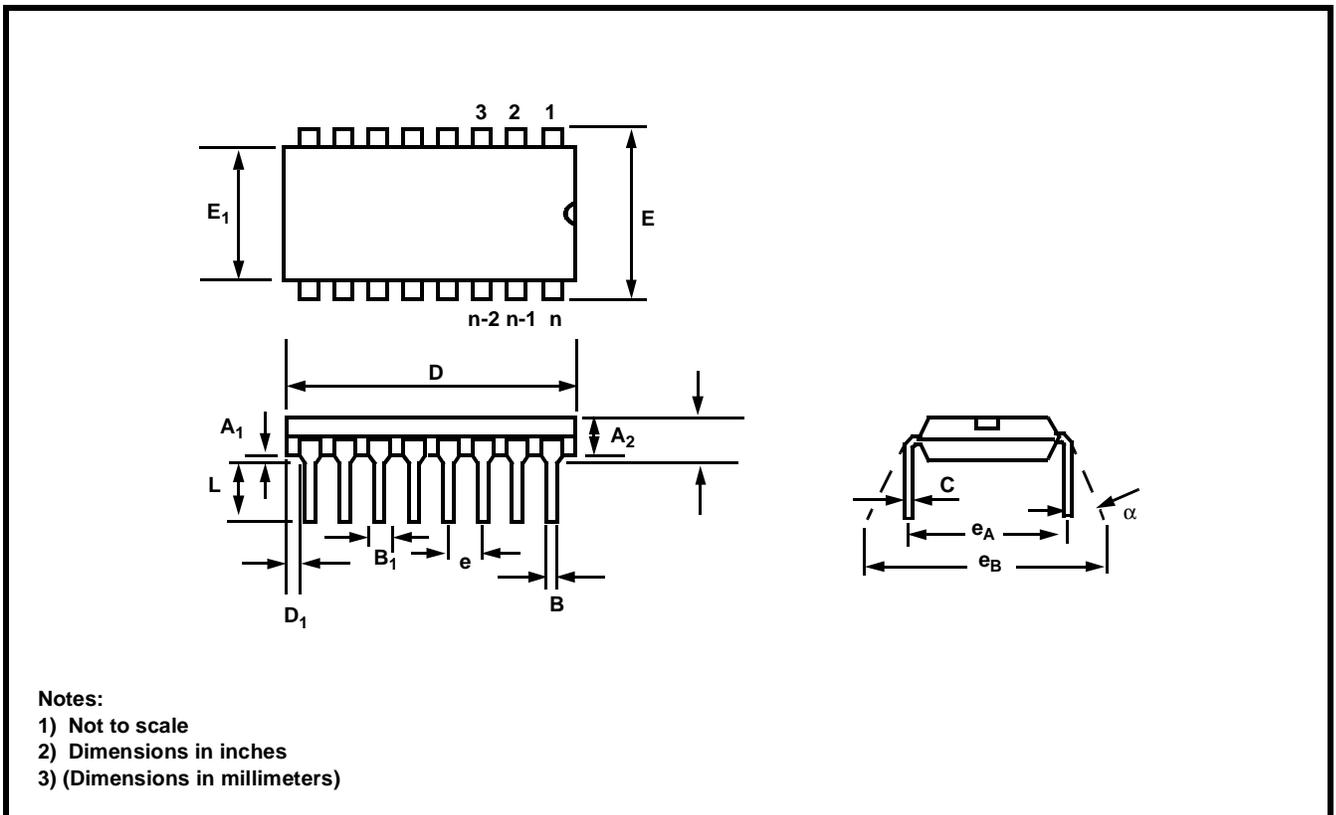


DIM	16-Pin		18-Pin		20-Pin		24-Pin		28-Pin	
	Min	Max								
A	0.093 (2.35)	0.104 (2.65)								
A ₁	0.004 (0.10)	0.012 (0.30)								
B	0.014 (0.351)	0.019 (0.488)								
C	0.009 (0.231)	0.013 (0.318)								
D	0.398 (10.1)	0.413 (10.5)	0.447 (11.35)	0.469 (11.90)	0.496 (12.60)	0.518 (13.00)	0.598 (15.2)	0.614 (15.6)	0.697 (17.7)	0.712 (18.1)
E	0.291 (7.40)	0.305 (7.75)								
e	0.050 BSC (1.27 BSC)									
F	0.044 (1.125)	0.064 (1.625)								
G	0.040 (1.016)	0.050 (1.270)								
H	0.394 (10.00)	0.419 (10.65)								
L	0.016 (0.40)	0.050 (1.27)								
O ₁	-	0.005 (0.13)								

Lead SOIC Package - S Suffix



Ceramic Dual-In-Line Packages (CDIP) - C Suffix



Plastic Dual-In-Line Packages (PDIP) - E Suffix

Package Outlines

DIM	8-Pin				16-Pin				18-Pin				20-Pin			
	Plastic		Ceramic		Plastic		Ceramic		Plastic		Ceramic		Plastic		Ceramic	
	Min	Max														
A		0.210 (5.33)	0.105 (2.67)	0.200 (5.08)												
A₁			0.025 (0.64)	0.055 (1.39)												
A₂	0.115 (2.93)	0.195 (4.95)														
B	0.014 (0.356)	0.022 (0.558)	0.015 (0.381)	0.021 (0.533)												
B₁	0.045 (1.15)	0.070 (1.77)	0.035 (0.89)	0.060 (1.52)												
C	0.008 (0.204)	0.015 (0.381)	0.008 (0.204)	0.012 (0.304)												
D	0.348 (8.84)	0.430 (10.92)	0.380 (9.7)	0.550 (13.9)	0.745 (18.93)	0.840 (21.33)		0.784 (19.9)	0.845 (21.47)	0.925 (23.49)	0.880 (22.36)	0.930 (23.62)	0.925 (23.49)	1.060 (26.9)		0.996 (25.3)
D₁	0.005 (0.13)															
E	0.290 (7.37)	0.330 (8.38)														
E₁	0.240 (6.10)	0.280 (7.11)	0.280 (7.12)	0.310 (7.87)												
e	0.100 BSC (2.54)															
e₁			0.100 BSC (2.54)													
e_A	0.300 BSC (7.62)															
e_B		0.430 (10.92)														
L	0.115 (2.93)	0.160 (4.06)	0.125 (3.18)	0.175 (4.44)												
S				0.120 (3.04)												
α			0°	15°			0°	15°			0°	15°			0°	15°

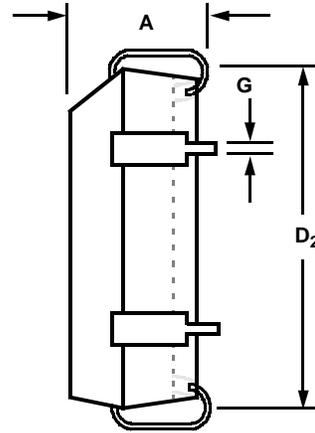
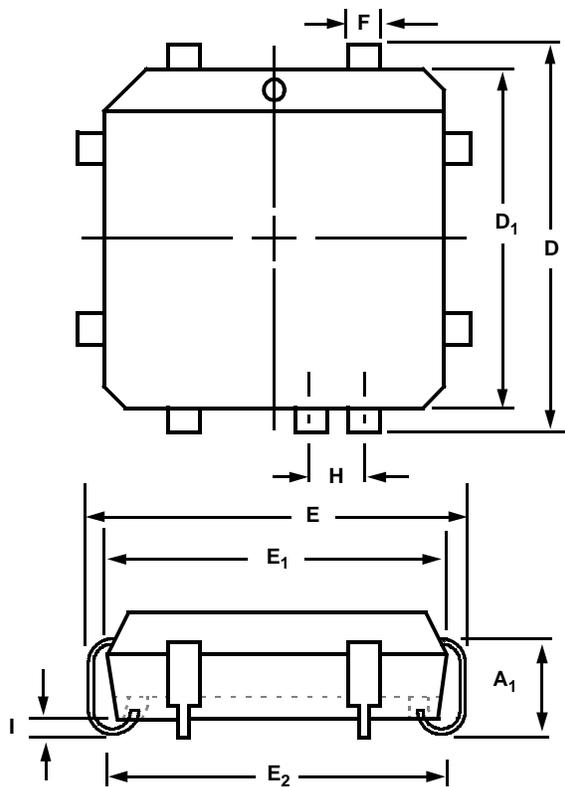
NOTE: () Millimeters

Package Outlines

DIM	22-Pin				24-Pin				28-Pin				40-Pin			
	Plastic		Ceramic		Plastic		Ceramic		Plastic		Ceramic		Plastic		Ceramic	
	Min	Max														
A		0.210 (5.33)	0.090 (2.29)	0.225 (5.71)		0.250 (6.35)	0.085 (2.2)	0.190 (4.8)		0.250 (6.35)	0.085 (2.2)	0.190 (4.8)		0.250 (6.35)	0.085 (2.2)	0.190 (4.8)
A₁			0.025 (0.64)	0.055 (1.39)			0.020 (0.51)	0.070 (1.77)			0.020 (0.51)	0.070 (1.77)			0.020 (0.51)	0.070 (1.77)
A₂	0.125 (3.18)	0.195 (4.95)														
B	0.014 (0.356)	0.022 (0.558)	0.015 (0.381)	0.023 (0.584)												
B₁	0.045 (1.15)	0.070 (1.77)	0.028 (0.71)	0.060 (1.52)	0.030 (0.77)	0.070 (1.77)	0.028 (0.71)	0.060 (1.52)	0.030 (0.77)	0.070 (1.77)	0.028 (0.71)	0.060 (1.52)	0.030 (0.77)	0.070 (1.77)	0.028 (0.71)	0.060 (1.52)
C	0.008 (0.204)	0.015 (0.381)	0.008 (0.204)	0.012 (0.304)												
D	1.050 (26.67)	1.120 (28.44)	1.040 (26.42)	1.260 (32.0)	1.150 (29.3)	1.290 (32.7)	1.180 (29.88)	1.291 (32.80)	1.380 (35.1)	1.565 (39.7)	1.380 (35.06)	1.520 (38.61)	1.980 (50.3)	2.095 (53.2)	1.980 (50.30)	2.110 (53.60)
D₁	0.005 (0.13)															
E	0.390 (9.91)	0.430 (10.92)			0.600 (15.24)	0.670 (17.02)			0.600 (15.24)	0.670 (17.02)			0.600 (15.24)	0.670 (17.02)		
E					0.290 (7.37)	.330 (8.38)										
E₁	0.330 (8.39)	0.380 (9.65)	0.350 (8.89)	0.410 (10.41)	0.485 (12.32)	0.580 (14.73)	0.516 (13.11)	0.610 (15.49)	0.485 (12.32)	0.580 (14.73)	0.480 (12.19)	0.610 (15.49)	0.485 (12.32)	0.580 (14.73)	0.480 (12.19)	0.618 (15.70)
E₁					0.246 (6.25)	0.254 (6.45)										
e	0.100 BSC (2.54)															
e₁			0.100 BSC (2.54)													
e_A	0.400 BSC (10.16)															
e_A					0.300 BSC (7.62)											
e_B		0.500 (12.70)				0.700 (17.78)				0.700 (17.78)				0.700 (17.78)		
e_B						0.430 (10.92)										
L	0.115 (2.93)	0.160 (4.06)	0.125 (3.18)	0.175 (4.44)	0.115 (2.93)	0.200 (5.08)	0.125 (3.18)	0.175 (4.44)	0.115 (2.93)	0.200 (5.08)	0.125 (3.18)	0.175 (4.44)	0.115 (2.93)	0.200 (5.08)	0.125 (3.18)	0.175 (4.44)
S				0.120 (3.04)				0.100 (2.54)				0.800 (2.05)				0.800 (2.05)
α			0°	15°			0°	15°			0°	15°			0°	15°

 Shaded areas for 300 Mil Body Width 24 PDIP only

Package Outlines

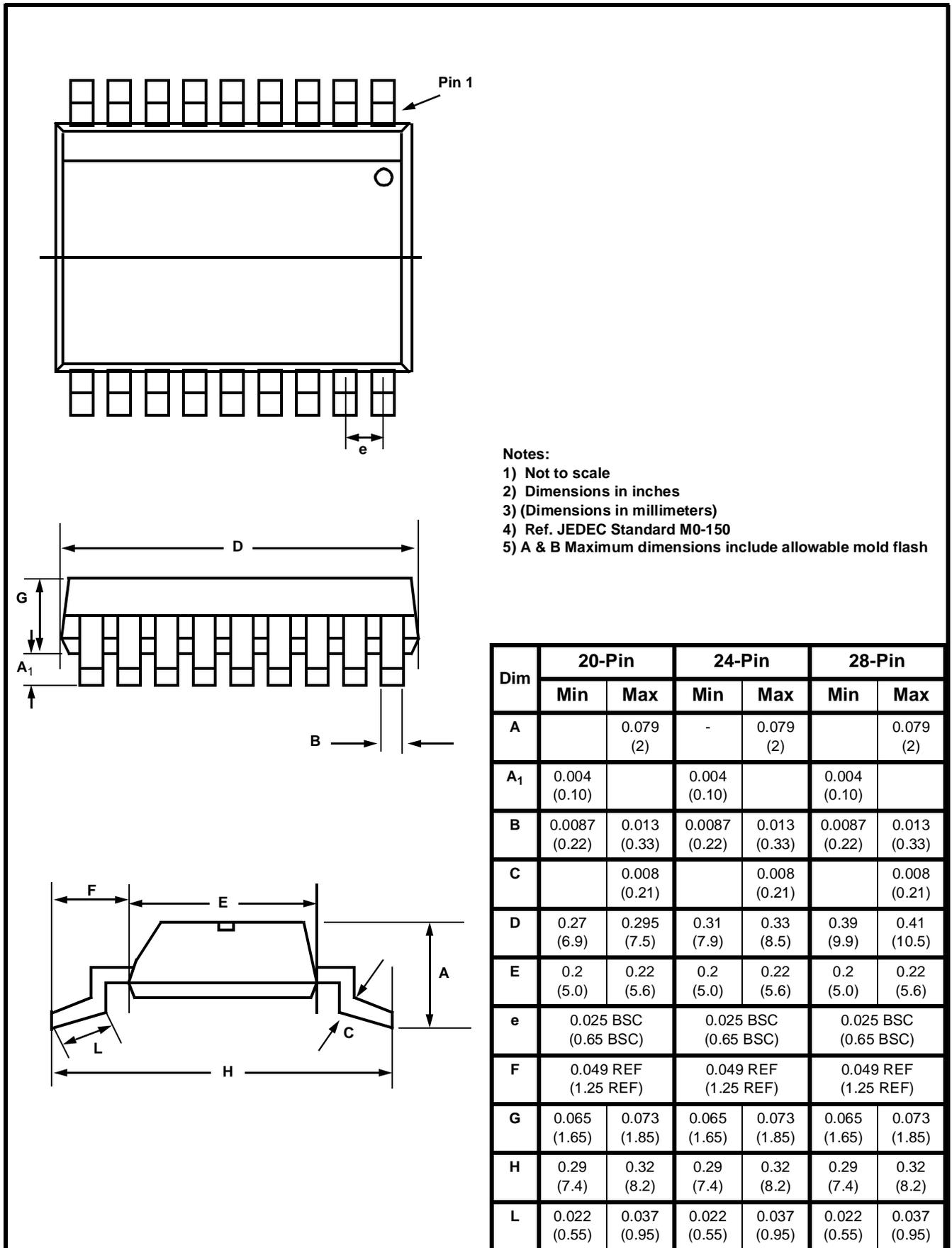


Notes:

- 1) Not to scale
- 2) Dimensions in inches
- 3) (Dimensions in millimeters)
- 4) For D & E add for allowable Mold Protrusion 0.010"

Dim	20-Pin		28-Pin		44-Pin		68-Pin		84-Pin	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
A	0.165 (4.20)	0.180 (4.57)	0.165 (4.20)	0.180 (4.57)	0.165 (4.20)	0.180 (4.57)	0.165 (4.20)	0.200 (5.08)	0.165 (4.20)	0.200 (5.08)
A ₁	0.090 (2.29)	0.120 (3.04)	0.090 (2.29)	0.120 (3.04)	0.090 (2.29)	0.120 (3.04)	0.090 (2.29)	0.130 (3.30)	0.090 (2.29)	0.130 (3.30)
B			0.020 TP (0.511 TP)							
D/E	0.385 (9.78)	0.395 (10.03)	0.485 (12.32)	0.495 (12.57)	0.685 (17.40)	0.695 (17.65)	0.985 (25.02)	0.995 (25.27)	0.185 (30.10)	1.195 (30.35)
D ₁ /E ₁	0.350 (8.890)	0.356 (9.042)	0.450 (11.430)	0.456 (11.582)	0.650 (16.510)	0.656 (16.662)	0.950 (24.130)	0.958 (24.333)	1.150 (29.210)	1.158 (29.413)
D ₂ /E ₂	0.290 (7.37)	0.330 (8.38)	0.390 (9.91)	0.430 (10.92)	0.590 (14.99)	0.630 (16.00)	0.890 (22.61)	0.930 (23.62)	1.090 (27.69)	1.130 (28.70)
e			0.050 BSC (1.27 BSC)							
F	0.026 (0.661)	0.032 (0.812)	0.026 (0.661)	0.032 (0.812)	0.026 (0.661)	0.032 (0.812)	0.026 (0.661)	0.032 (0.812)	0.026 (0.661)	0.032 (0.812)
G	0.013 (0.331)	0.021 (0.533)	0.013 (0.331)	0.021 (0.533)	0.013 (0.331)	0.021 (0.533)	0.013 (0.331)	0.021 (0.533)	0.013 (0.331)	0.021 (0.533)
H	0.050 BSC (1.27 BSC)				0.050 BSC (1.27 BSC)		0.050 BSC (1.27 BSC)		0.050 BSC (1.27 BSC)	
I	0.020 (0.51)		0.020 (0.51)		0.020 (0.51)		0.020 (0.51)		0.020 (0.51)	

Plastic J-Lead Chip Carrier - P-Suffix

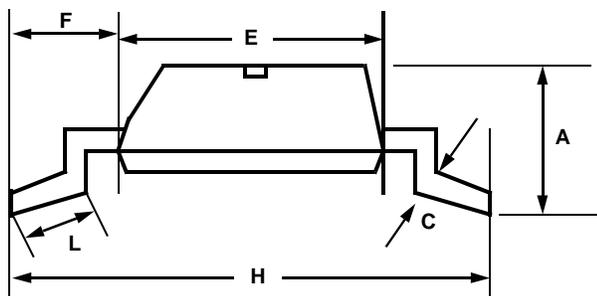
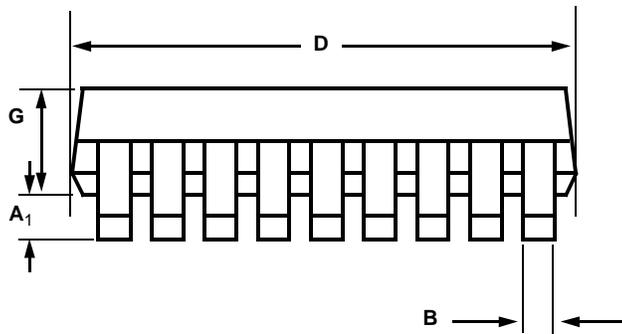
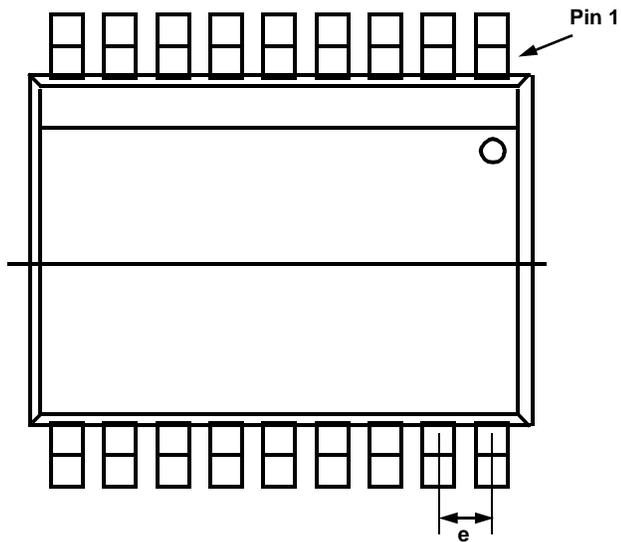


- Notes:**
- 1) Not to scale
 - 2) Dimensions in inches
 - 3) (Dimensions in millimeters)
 - 4) Ref. JEDEC Standard M0-150
 - 5) A & B Maximum dimensions include allowable mold flash

Dim	20-Pin		24-Pin		28-Pin	
	Min	Max	Min	Max	Min	Max
A		0.079 (2)	-	0.079 (2)		0.079 (2)
A ₁	0.004 (0.10)		0.004 (0.10)		0.004 (0.10)	
B	0.0087 (0.22)	0.013 (0.33)	0.0087 (0.22)	0.013 (0.33)	0.0087 (0.22)	0.013 (0.33)
C		0.008 (0.21)		0.008 (0.21)		0.008 (0.21)
D	0.27 (6.9)	0.295 (7.5)	0.31 (7.9)	0.33 (8.5)	0.39 (9.9)	0.41 (10.5)
E	0.2 (5.0)	0.22 (5.6)	0.2 (5.0)	0.22 (5.6)	0.2 (5.0)	0.22 (5.6)
e	0.025 BSC (0.65 BSC)		0.025 BSC (0.65 BSC)		0.025 BSC (0.65 BSC)	
F	0.049 REF (1.25 REF)		0.049 REF (1.25 REF)		0.049 REF (1.25 REF)	
G	0.065 (1.65)	0.073 (1.85)	0.065 (1.65)	0.073 (1.85)	0.065 (1.65)	0.073 (1.85)
H	0.29 (7.4)	0.32 (8.2)	0.29 (7.4)	0.32 (8.2)	0.29 (7.4)	0.32 (8.2)
L	0.022 (0.55)	0.037 (0.95)	0.022 (0.55)	0.037 (0.95)	0.022 (0.55)	0.037 (0.95)

Small Shrink Outline Package (SSOP) - N Suffix

Package Outlines

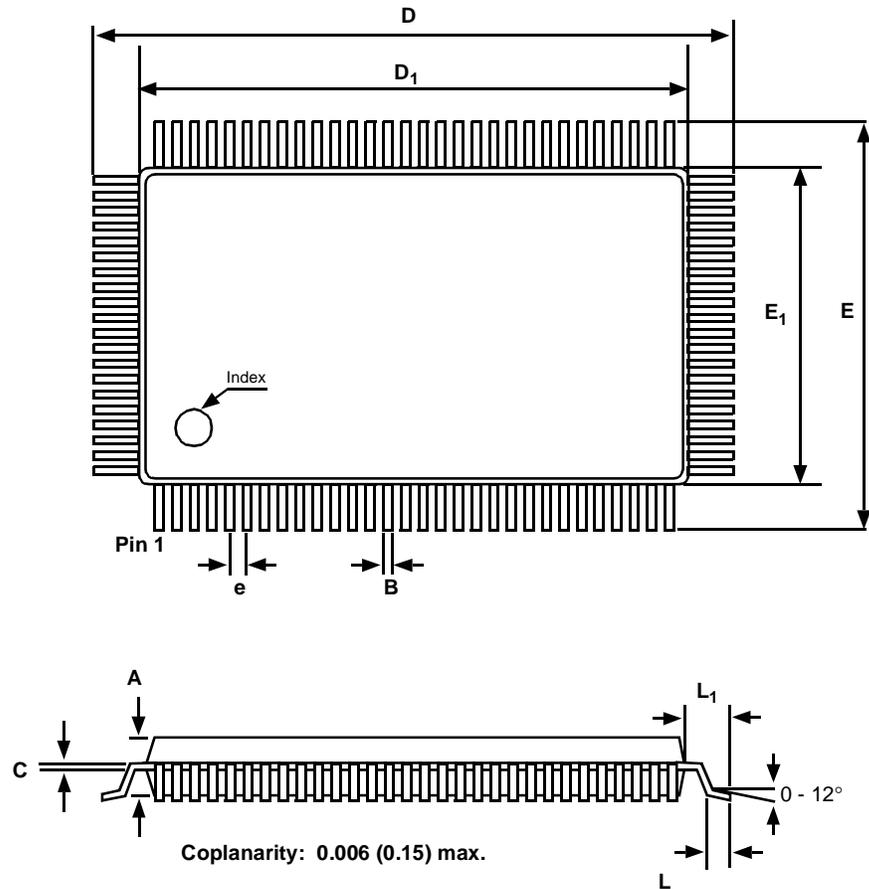


Notes:

- 1) Not to scale
- 2) Dimensions in inches
- 3) (Dimensions in millimeters)
- 4) Ref. JEDEC Standard M0-153
- 5) A & B Maximum dimensions include allowable mold flash

Dim	20-Pin		24-Pin		28-Pin	
	Min	Max	Min	Max	Min	Max
A		0.047 (1.2)	-	0.047 (1.2)		0.047 (1.2)
A ₁		0.0039 (0.1)		0.0039 (0.1)		0.0039 (0.1)
B	0.0075 (0.19)	0.012 (0.3)	0.0075 (0.19)	0.012 (0.3)		0.012 (0.3)
C	0.0035 (0.09)	0.0079 (0.2)	0.0035 (0.09)	0.0079 (0.2)		0.0079 (0.2)
D	0.252 (6.4)	0.26 (6.6)	0.30 (7.7)	0.311 (7.9)	0.377 (9.6)	0.386 (9.8)
E	0.17 (4.3)	0.177 (4.5)	0.17 (4.3)	0.177 (4.5)	0.17 (4.3)	0.177 (4.5)
e	0.025 BSC (0.65 BSC)		0.025 BSC (0.65 BSC)		0.025 BSC (0.65 BSC)	
F	0.039 REF (1.0 REF)		0.039 REF (1.0 REF)		0.039 REF (1.0 REF)	
G	0.03 (0.8)	0.041 (1.05)	0.03 (0.8)	0.041 (1.05)	0.03 (0.8)	0.041 (1.05)
H	0.252 BSC (6.4 BSC)		0.252 BSC (6.4 BSC)		0.252 BSC (6.4 BSC)	
L	0.02 (0.5)	0.029 (0.75)	0.02 (0.5)	0.029 (0.75)	0.02 (0.5)	0.029 (0.75)

Thin Small Shrink Outline Package (TSSOP) - N Suffix



Notes:

- 1) Not to scale
- 2) Dimensions in inches
- 3) (Dimensions in millimeters)
- 4) JEDEC Standard 3.9mm Footprint: M0-112

WARNING:
 This package diagram does not apply to the MT90810AK 100 Pin Package.
 Please refer to the data sheet for exact dimensions.

Dim	44-Pin		100-Pin	
	Min	Max	Min	Max
A	0.077 (1.95)	0.083 (2.10)	-	0.134 (3.40)
B	0.012 (0.30)	0.018 (0.45)	0.0087 (0.22)	0.015 (0.38)
C	0.009 (0.23)	0.023 (0.58)	0.009 (0.23)	0.023 (0.58)
D	0.537 (13.65)	0.557 (14.15)	0.931 (23.65)	0.951 (24.15)
D ₁	0.390 (9.90)	0.398 (10.10)	0.783 (19.90)	0.791 (20.10)
E	0.537 (13.65)	0.557 (14.15)	0.695 (17.65)	0.715 (18.15)
E ₁	0.390 (9.90)	0.398 (10.10)	0.547 (13.90)	0.555 (14.10)
L	0.026 (0.65)	0.037 (0.95)	0.026 (0.65)	0.037 (0.95)
L ₁	0.077 REF (1.95 REF)		0.077 REF (1.95 REF)	
e	0.032 BSC (0.80 BSC)		0.025 BSC (0.65 BSC)	

Plastic Quad Flat Pack - L Suffix

Package Outlines

NOTES: