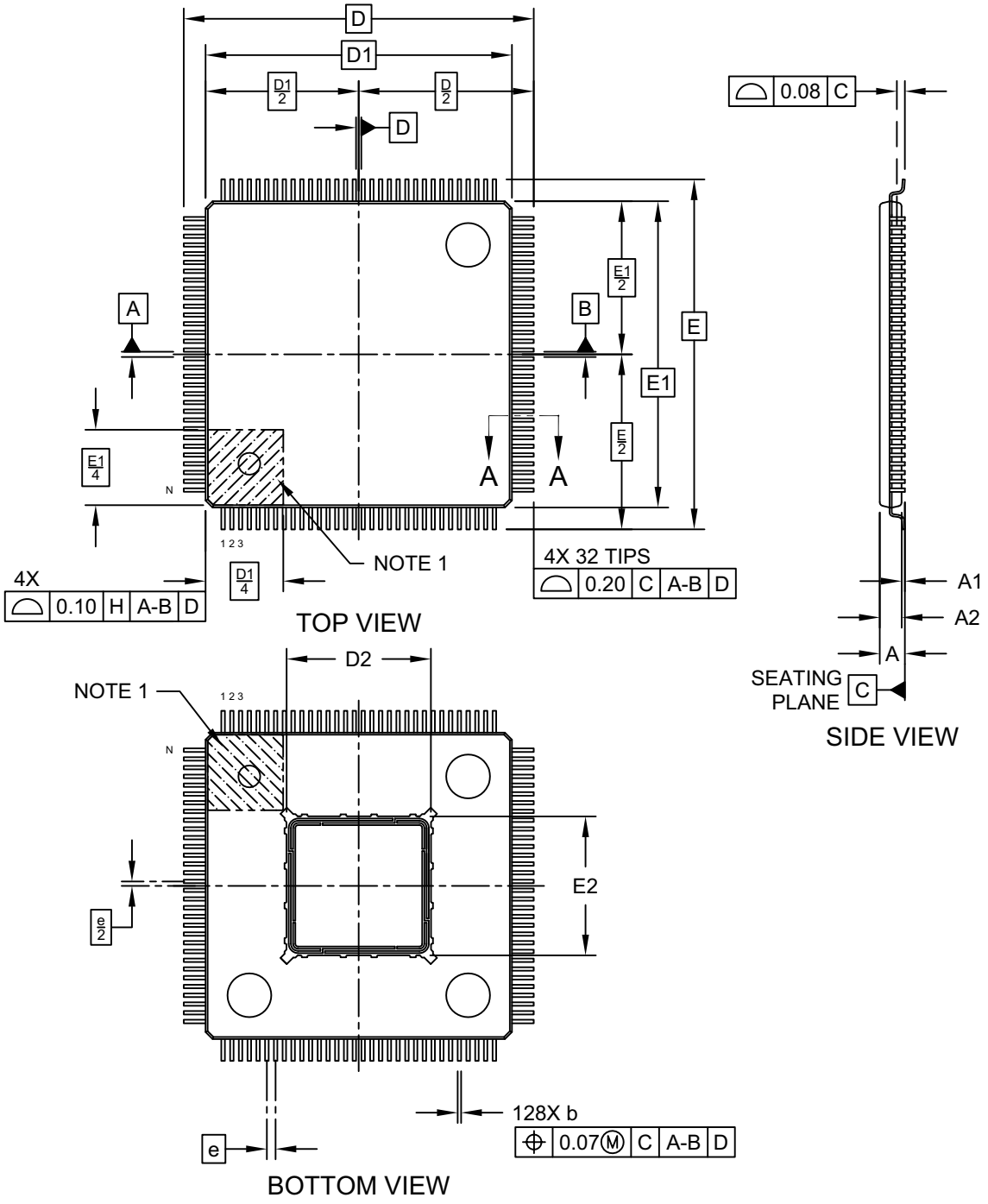
128-Lead This Quad Flat, Plastic (X9B) - 14x14 mm Body [TQFP]
With 6.60x6.35 mm Exposed Pad

Note: For the most current package drawings, please see the Microchip Packaging Specification located at http://www.microchip.com/packaging



128-Lead This Quad Flat, Plastic (X9B) - 14x14 mm Body [TQFP]
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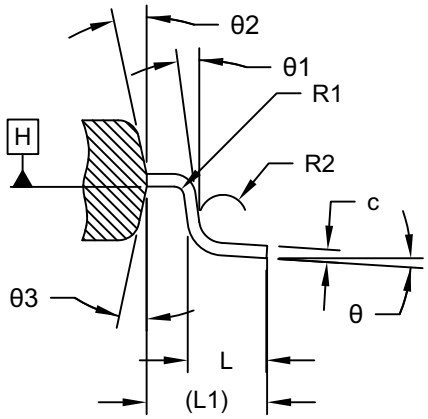
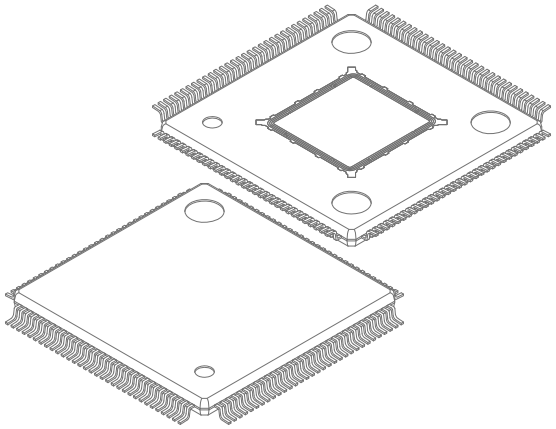


SECTION A-A



Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Number of Leads	N		128	
Lead Pitch	e		0.40 BSC	
Overall Height	A	-	-	1.20
Standoff	A1	0.05	0.10	0.15
Molded Package Thickness	A2	0.95	1.00	1.05
Overall Length	D		16.00 BSC	
Molded Package Length	D1		14.00 BSC	
Exposed Pad Length	D2	6.50	6.60	6.70
Overall Width	E		16.00 BSC	
Molded Package Width	E1		14.00 BSC	
Exposed Pad Width	E2	6.25	6.35	6.45
Foot Length	L	0.45	0.60	0.75
Footprint	L1		1.00 REF	
Lead Width	b	0.13	0.16	0.23
Lead Thickness	c	0.09	-	0.20
Lead Bend Radius	R1	0.08	-	-
Lead Bend Radius	R2	0.08	-	0.20
Lead Foot Angle	θ	0°	3.5°	7°
Lead Angle	θ1	0°	-	-
Mold Draft Angle Top	θ2	11°	12°	13°
Mold Draft Angle Bottom	θ3	11°	12°	13°

Notes:

1. Pin 1 visual index feature may vary, but must be located within the hatched area.
2. Dimensioning and tolerancing per ASME Y14.5M
   BSC: Basic Dimension. Theoretically exact value shown without tolerances.
   REF: Reference Dimension, usually without tolerance, for information purposes only.

128-Lead This Quad Flat, Plastic (X9B) - 14x14 mm Body [TQFP]
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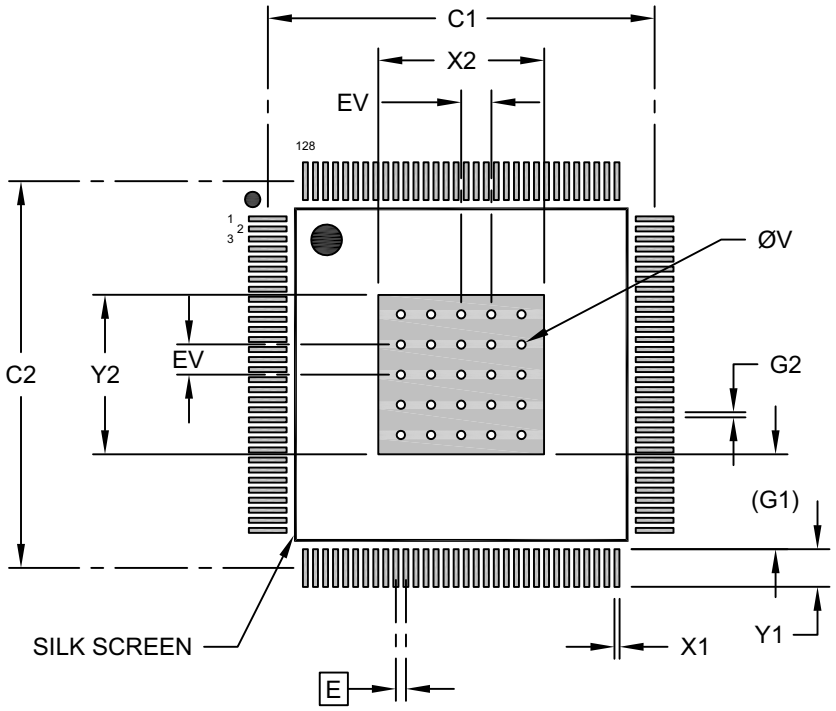
Note: For the most current package drawings, please see the Microchip Packaging Specification located at http://www.microchip.com/packaging



RECOMMENDED LAND PATTERN

Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Contact Pitch	E		0.40 BSC	
Optional Center Pad Width	X2			6.60
Optional Center Pad Length	Y2			6.35
Contact Pad Spacing	C1		15.40	
Contact Pad Spacing	C2		15.40	
Contact Pad Width (X128)	X1			0.20
Contact Pad Length (X128)	Y1			1.50
Contact Pad to Center Pad (X128)	G1		3.73 REF	
Contact Pad to Contact Pad (X124)	G2	0.20		
Thermal Via Diameter	V		0.33	
Thermal Via Pitch	EV		1.20	

Notes:

1. Dimensioning and tolerancing per ASME Y14.5M
   BSC: Basic Dimension. Theoretically exact value shown without tolerances.
2. For best soldering results, thermal vias, if used, should be filled or tented to avoid solder loss during reflow process

Microchip Technology Drawing C04-23321 Rev A