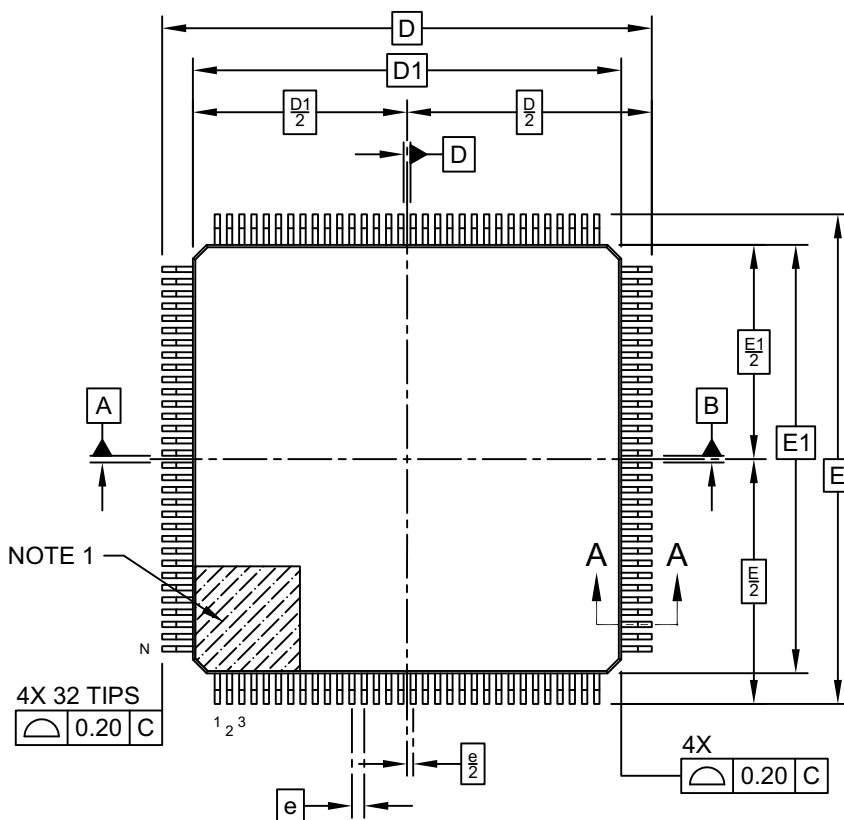
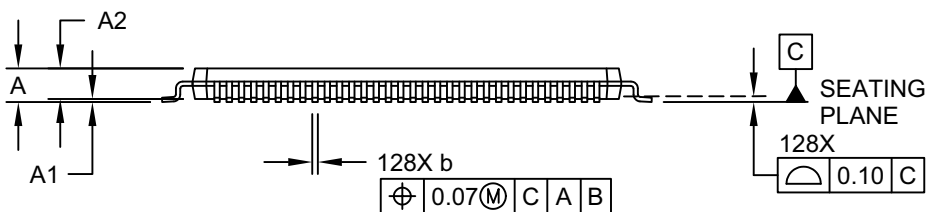


**128-Lead Thin Plastic Quad Flatpack (ZA) - 14x14 mm Body [TQFP]  
SMSC Legacy VTQE3; Atmel Legacy Global Package Code APL**

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



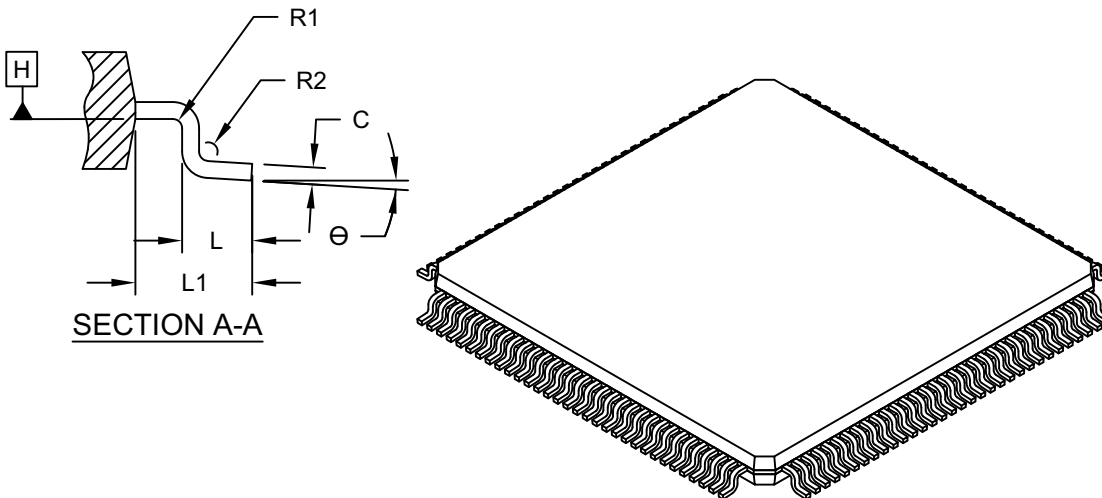
TOP VIEW



SIDE VIEW

**128-Lead Thin Plastic Quad Flatpack (ZA) - 14x14 mm Body [TQFP]  
SMSC Legacy VTQE3; Atmel Legacy Global Package Code APL**

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



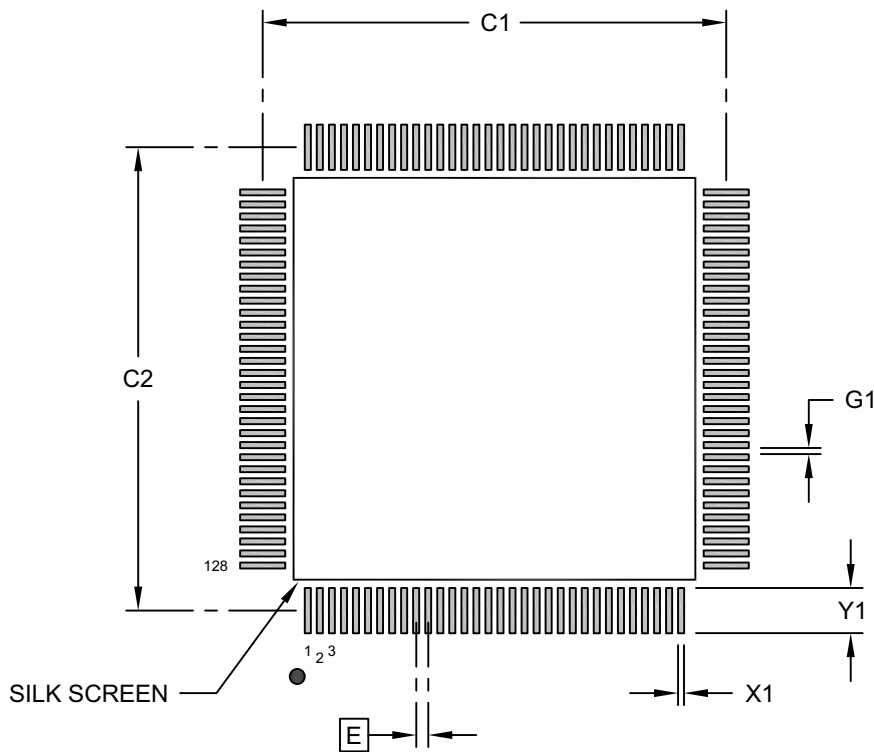
Dimension Limits	Units	MILLIMETERS		
		MIN	NOM	MAX
Number of Leads	N	128		
Lead Pitch	e	0.40 BSC		
Overall Height	A	-	-	1.20
Standoff	A1	0.05	0.10	0.15
Molded Package Thickness	A2	0.95	1.00	1.05
Foot Length	L	0.45	0.60	0.75
Footprint	L1	1.00 REF		
Foot Angle	$\theta$	0°	-	7°
Overall Width	E	16.00 BSC		
Overall Length	D	16.00 BSC		
Molded Package Width	E1	14.00 BSC		
Molded Package Length	D1	14.00 BSC		
Lead Width	b	0.13	0.16	0.23
Mold Draft Angle Top	C	0.09	-	0.20
Lead Bend Radius	R1	0.08	-	-
Lead Bend Radius	R2	0.08	-	0.20

**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 Thin Plastic Quad Flatpack (ZA) - 14x14 mm Body [TQFP]  
SMSC Legacy VTQE3; Atmel Legacy Global Package Code APL**

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



**RECOMMENDED LAND PATTERN**

Dimension Limits	Units	MILLIMETERS		
		MIN	NOM	MAX
Contact Pitch	E	0.40 BSC		
Contact Pad Spacing	C1		15.40	
Contact Pad Spacing	C2		15.40	
Contact Pad Width (X20)	X1			0.20
Contact Pad Length (X20)	Y1			1.50
Contact Pad to Contact Pad (X124)	G1	0.20		

**Notes:**

1. Dimensioning and tolerancing per ASME Y14.5M  
BSC: Basic Dimension. Theoretically exact value shown without tolerances.