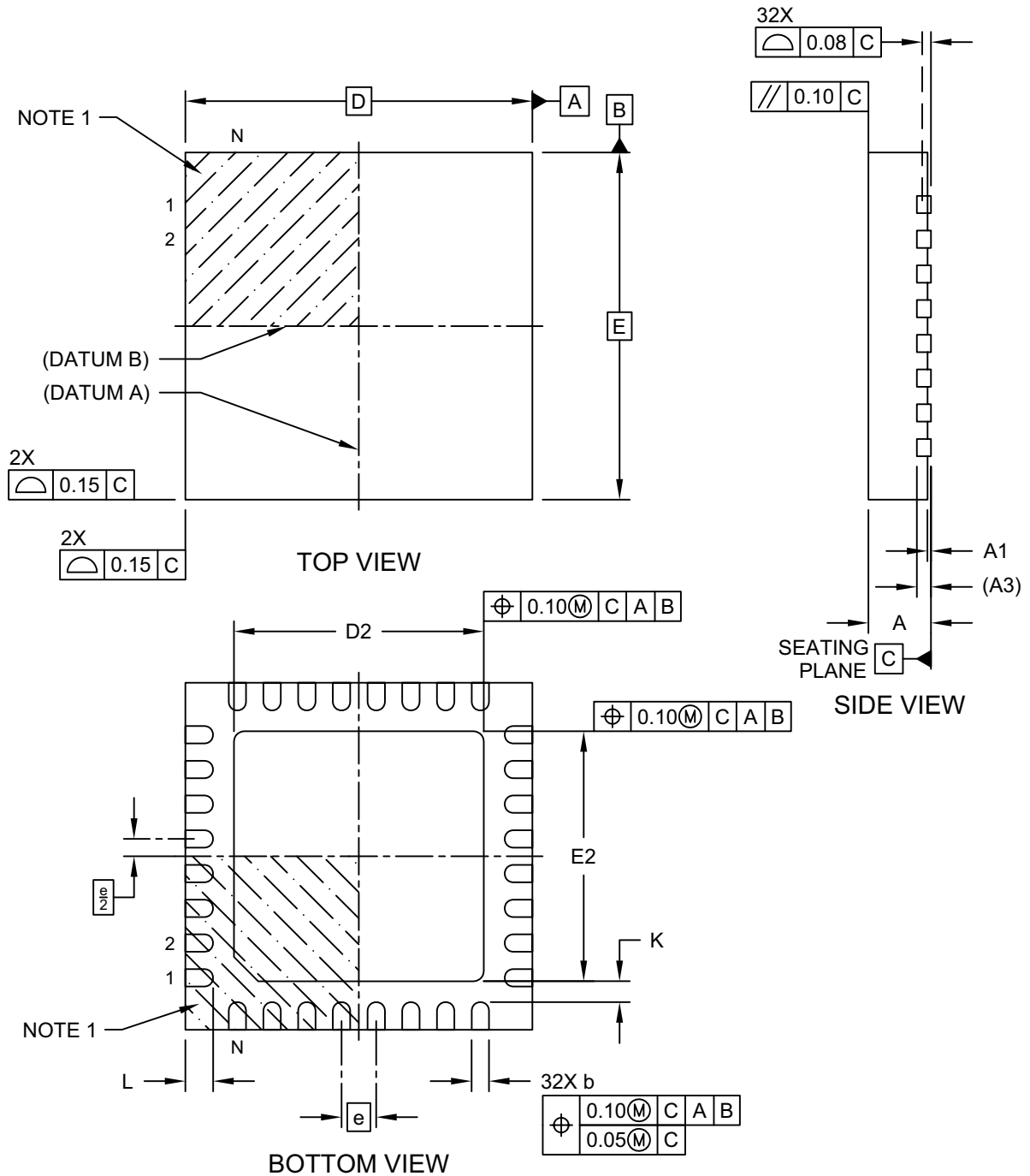


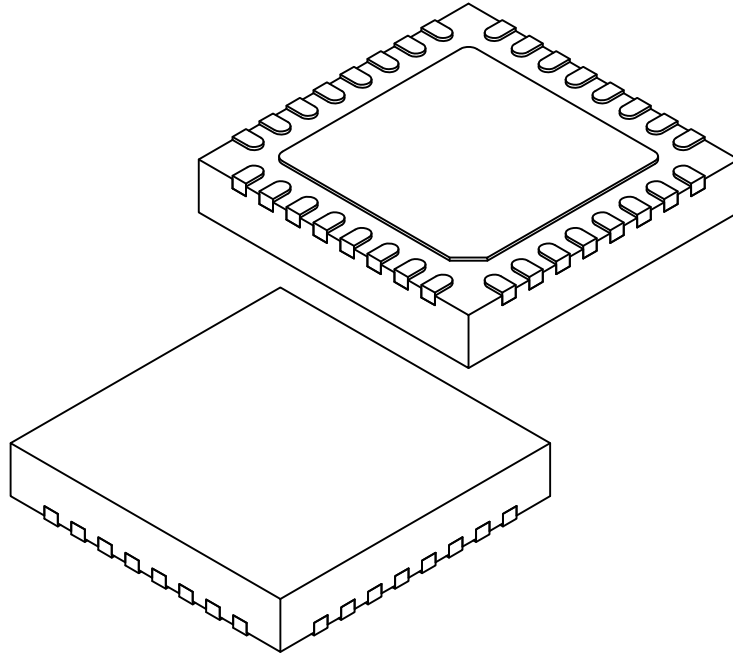
**32-Lead Very Thin Plastic Quad Flat, No Lead Package (S8B) - 5x5 mm Body [VQFN]  
With 3.60 mm Exposed Pad; Atmel Legacy Global Package Code ZKV**

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



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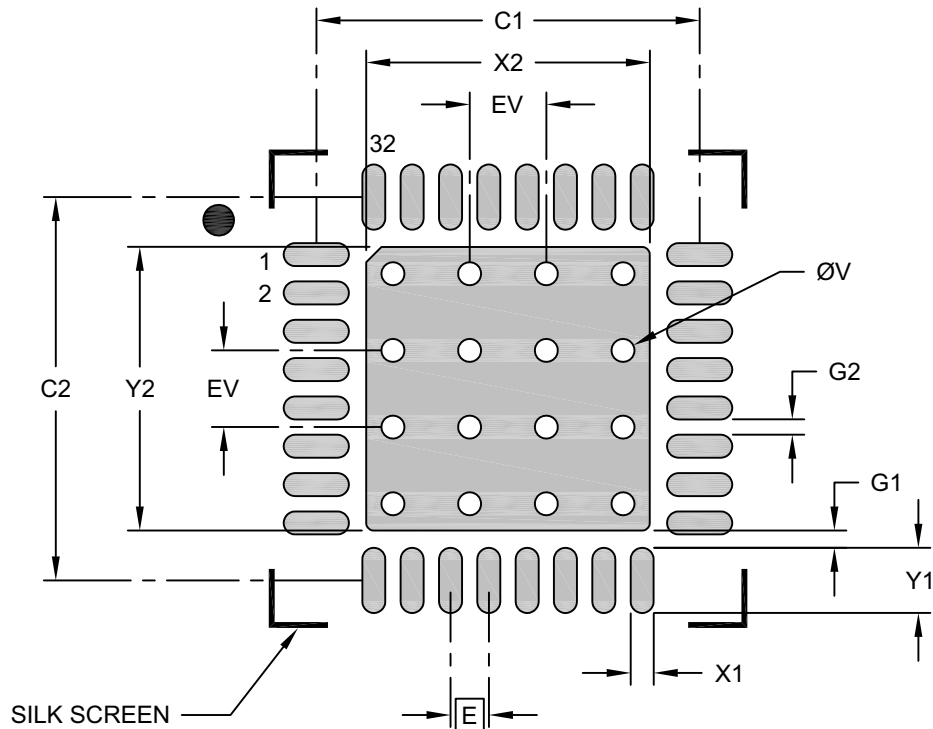
Dimension Limits	Units	MILLIMETERS		
		MIN	NOM	MAX
Number of Terminals	N	32		
Pitch	e	0.50 BSC		
Overall Height	A	0.80	0.90	1.00
Standoff	A1	0.00	0.02	0.05
Terminal Thickness	A3	0.20 REF		
Overall Length	D	5.00 BSC		
Exposed Pad Length	D2	3.50	3.60	3.70
Overall Width	E	5.00 BSC		
Exposed Pad Width	E2	3.50	3.60	3.70
Terminal Width	b	0.18	0.25	0.30
Terminal Length	L	0.30	0.40	0.50
Terminal-to-Exposed-Pad	K	0.20	-	-

**Notes:**

1. Pin 1 visual index feature may vary, but must be located within the hatched area.
2. Package is saw singulated
3. 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.

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**RECOMMENDED LAND PATTERN**

Dimension Limits	Units	MILLIMETERS		
		MIN	NOM	MAX
Contact Pitch	E	0.50 BSC		
Optional Center Pad Width	X2			3.70
Optional Center Pad Length	Y2			3.70
Contact Pad Spacing	C1		5.00	
Contact Pad Spacing	C2		5.00	
Contact Pad Width (X32)	X1			0.30
Contact Pad Length (X32)	Y1			0.85
Contact Pad to Center Pad (X32)	G1	0.23		
Contact Pad to Contact Pad (X28)	G2	0.20		
Thermal Via Diameter	V		0.30	
Thermal Via Pitch	EV		1.00	

**Notes:**

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