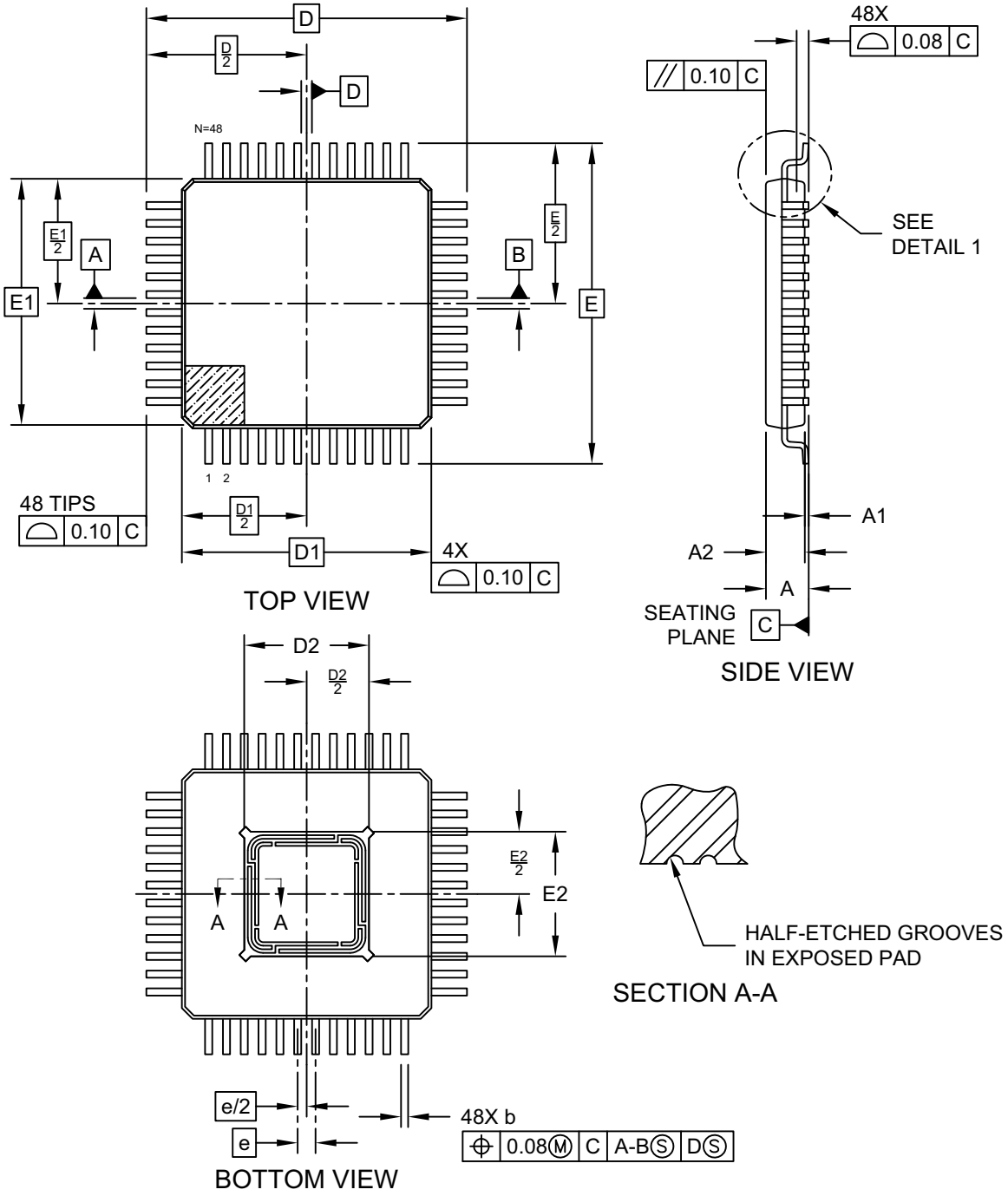
48-Lead Thermally Enhanced Thin Quad Flat Pack (PT) 7x7x1.0 mm Body [TQFP] With Grooved Exposed Pad

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



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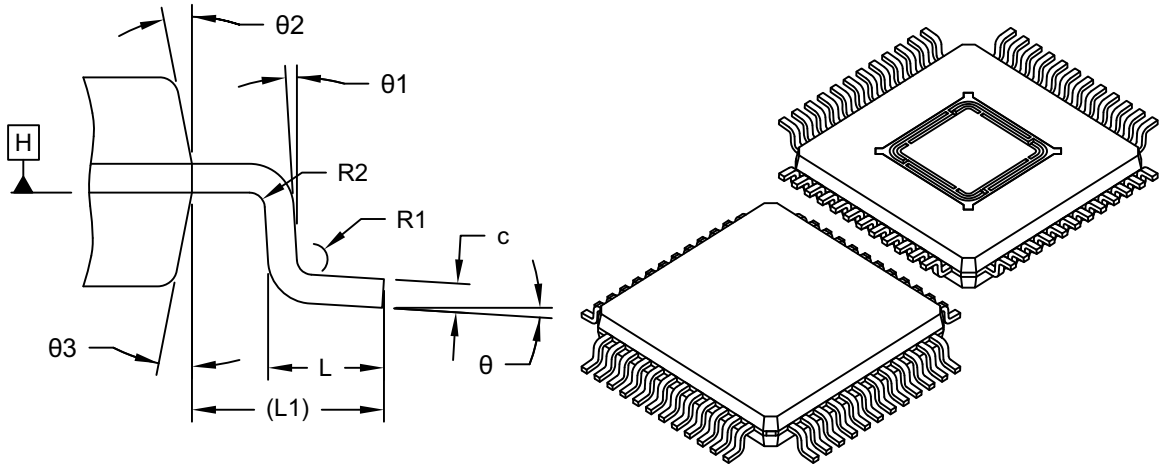

DETAIL 1

Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Number of Leads	N		48	
Lead Pitch	e		0.50 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		9.00 BSC	
Molded Package Length	D1		7.00 BSC	
Molded Package Length	D2	3.40	3.50	3.60
Overall Width	E		9.00 BSC	
Molded Package Width	E1		7.00 BSC	
Molded Package Length	E2	3.40	3.50	3.60
Foot Length	L	0.45	0.60	0.75
Footprint	L1		1.00 REF	
Lead Width	b	0.17	0.20	0.27
Lead Thickness	c	0.09	-	0.20
Lead Width	R1	0.08	-	-
Lead Width	R2	0.08	-	0.20
Terminal 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.

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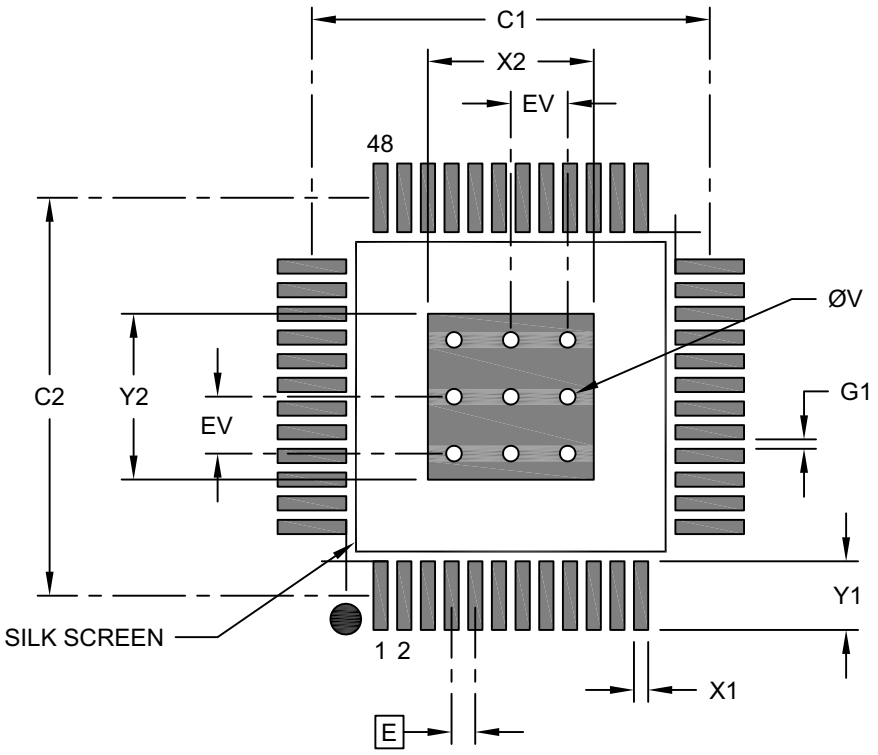

RECOMMENDED LAND PATTERN

Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Contact Pitch	E		0.50 BSC	
Center Pad Width	X2			3.50
Center Pad Length	Y2			3.50
Contact Pad Spacing	C1		8.40	
Contact Pad Spacing	C2		8.40	
Contact Pad Width (X48)	X1			0.30
Contact Pad Length (X48)	Y1			1.45
Contact Pad to Center Pad (X44)	G1	0.20		
Thermal Via Diameter	ØV		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 C04-2183 Rev B