



AT89C51RB2/RC2

Silicon Errata and Data Sheet Clarifications

Introduction

The AT89C51RB2/RC2 devices you have received conform functionally to the current device data sheet (ww1.microchip.com/downloads/en/DeviceDoc/doc4180.pdf), except for the anomalies described in this document. The errata described in this document will likely be addressed in future revisions of the AT89C51RB2/RC2 devices.

Note:

- This document summarizes all the silicon errata issues from all revisions of silicon, previous and current.

1. Silicon Issue Summary

Refer to the errata summary in ww1.microchip.com/downloads/en/DeviceDoc/doc4181.pdf.

2. Silicon Errata Issues

2.1 Errata Details

Refer to the errata in ww1.microchip.com/downloads/en/DeviceDoc/doc4181.pdf.

3. Data Sheet Clarifications

The following typographic corrections and clarifications are to be noted for the latest version of the device data sheet (ww1.microchip.com/downloads/en/DeviceDoc/doc4180.pdf).

Note: Corrections are shown in **bold**. Where possible, the original bold text formatting has been removed for clarity.

3.1 Pin Configuration

A clarification has been made to replace 44-lead VQFP with 44-lead TQFP. The pin configuration for the TQFP is identical to the VQFN in the data sheet.

3.2 Ordering Information

Refer to Product Change Notification [ALAN-04ZEJC771](#) with an End of Life (EOL) notification published November 17th, 2021, for affected CPNs.

The EOL is related to AT89C51RB2/RC2 products in the 44-lead VQFN package referred to in the data sheet (ww1.microchip.com/downloads/en/DeviceDoc/doc4180.pdf). The reason for EOL is that there is no manufacturing support for this package.

Note that the T in the replacement CPNs AT89C51RB2/RC2 vs. the EOL CPNs AT89C51RB2/RC2 do not have any other significance than distinguishing replacement CPNs from EOL CPNs.

Refer to the AT89C51RB2/RC2 product pages at www.microchip.com/en-us/product/AT89C51RB2 and www.microchip.com/en-us/product/AT89C51RC2 for a complete list of part numbers.

3.3 Package Drawings

A clarification has been made to replace the VQFP package with a TQFP package.

A drop-in replaceable 44-lead TQFP with the same pinout, footprint, and based on the same die revision replaces the 44-lead VQFP package. There are no functional changes, hence all data sheet specifications are still valid for the replacement CPNs.

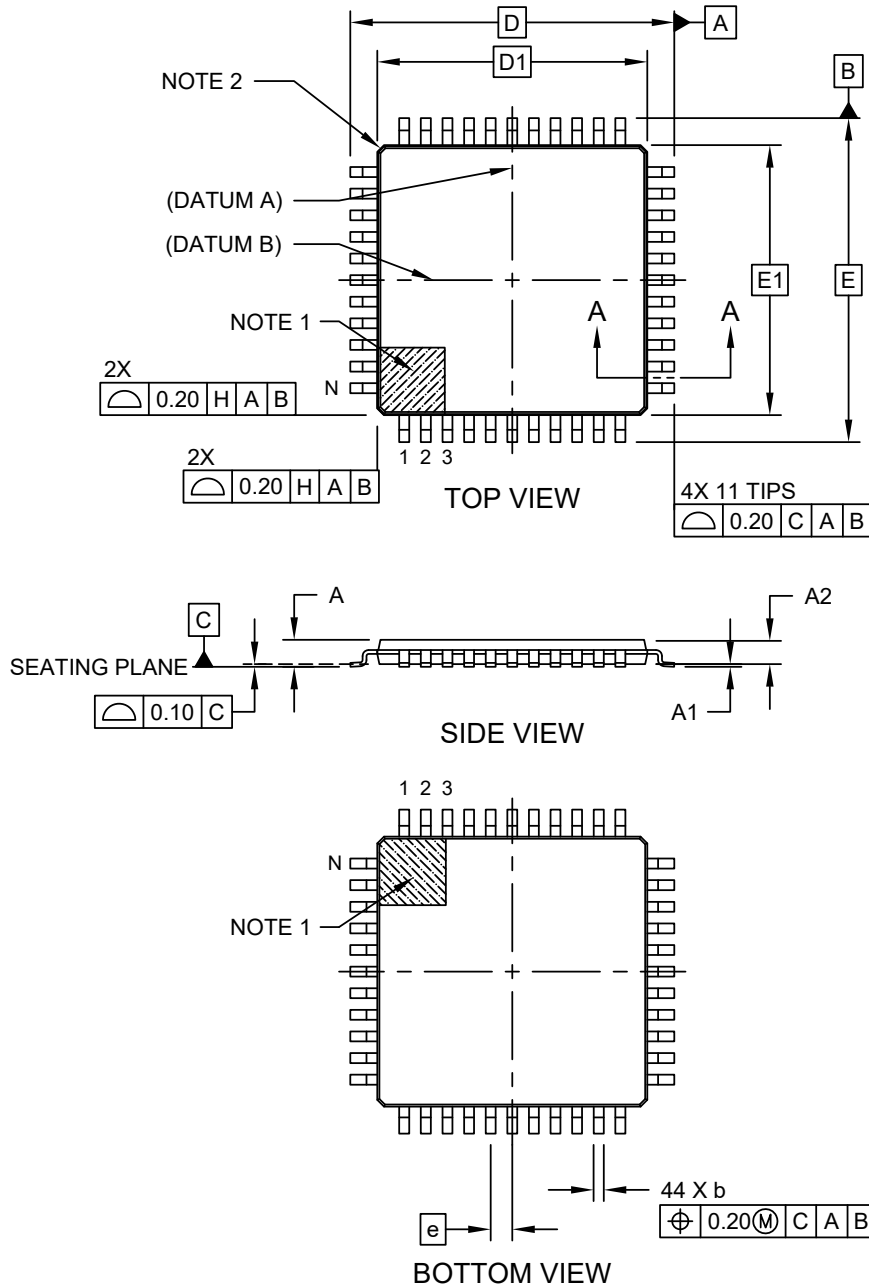
	EOL	Replacement
Package type	44-lead VQFP (LQFP)	44-lead TQFP
Package style	2FB (Atmel GPC: AYP)	PT
Package Outline Drawing (POD) number	C04-21003	C04-0076

The TQFP package outline drawing is shown below.

3.3.1 44-Lead TQFP (PT)

44-Lead Plastic Thin Quad Flatpack (PT) - 10x10x1.0 mm Body [TQFP]

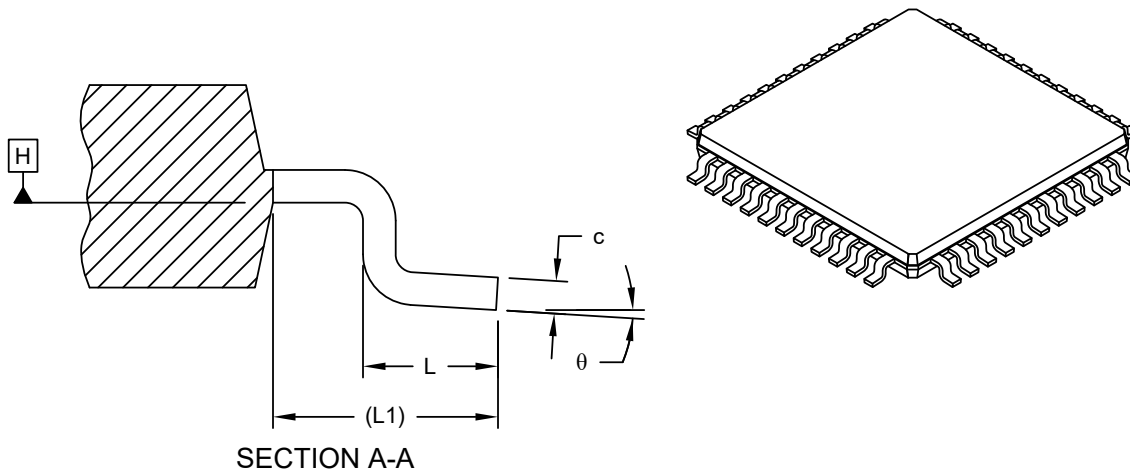
Note: For the most current package drawings, please see the Microchip Packaging Specification located at <http://www.microchip.com/packaging>



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44-Lead Plastic Thin Quad Flatpack (PT) - 10x10x1.0 mm Body [TQFP]

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	44		
Lead Pitch	e	0.80 BSC		
Overall Height	A	-	-	1.20
Standoff	A1	0.05	-	0.15
Molded Package Thickness	A2	0.95	1.00	1.05
Overall Width	E	12.00 BSC		
Molded Package Width	E1	10.00 BSC		
Overall Length	D	12.00 BSC		
Molded Package Length	D1	10.00 BSC		
Lead Width	b	0.30	0.37	0.45
Lead Thickness	c	0.09	-	0.20
Lead Length	L	0.45	0.60	0.75
Footprint	L1	1.00 REF		
Foot Angle	θ	0°	3.5°	7°

Notes:

- Pin 1 visual index feature may vary, but must be located within the hatched area.
- Exact shape of each corner is optional.
- 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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4. Document Revision History

Note: The document revision is independent of the silicon revision.

4.1 Revision History

Doc. Rev.	Date	Comments
A	12/2021	Initial document release

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