



## Product Change Notification / MFOL-18PVHH137

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### Date:

27-Mar-2024

### Product Category:

8-Bit Microcontrollers

### PCN Type:

Manufacturing Change

### Notification Subject:

CCB 6694 Final Notice: Qualification of MTAI as a new final test site for selected ATMEGA128, ATMEGA16xx, ATMEGA32, ATMEGA48, ATMEGA64, ATMEGA8xx, ATTINY13, ATTINY24, ATTINY25, ATTINY44, ATTINY45, ATTINY84 and ATTINY85 device families available in various packages.

### Affected CPNs:

[MFOL-18PVHH137\\_Affected\\_CPN\\_03272024.pdf](#)

[MFOL-18PVHH137\\_Affected\\_CPN\\_03272024.csv](#)

### Notification Text:

**PCN Status:**Final Notification

**PCN Type:**Manufacturing Change

**Microchip Parts Affected:**Please open one of the files found in the Affected CPNs section.

Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

**Description of Change:**Qualification of MTAI as a new final test site for selected ATMEGA128, ATMEGA16xx, ATMEGA32, ATMEGA48, ATMEGA64, ATMEGA8xx, ATTINY13, ATTINY24, ATTINY25, ATTINY44, ATTINY45, ATTINY84 and ATTINY85 device families available in various packages

### Pre and Post Change Summary:

**For 8L PDIP:**

	<b>Pre Change</b>	<b>Post Change</b>
Final Test Site	Lingsen Precision Industries, LTD.  (LPI)	Microchip Technology Thailand (HQ)  (MTAI)
Base Quantity Multiple (BQM)	50	50
Pin 1 Orientation	Pin# 1 Toward Green stopper or pin	Pin# 1 Toward White stopper or pin (Opposite Side: Black)
Tube	With minimal dimensional change. See Pre and Post Change Summary for comparison	
Packing Method	See Pre and Post Change Summary for comparison	

**For 14L PDIP:**

	<b>Pre Change</b>	<b>Post Change</b>
Final Test Site	Lingsen Precision Industries, LTD.  (LPI)	Microchip Technology Thailand (HQ)  (MTAI)
Base Quantity Multiple (BQM)	25	30
Pin 1 Orientation	Pin# 1 Toward Green stopper or pin	Pin# 1 Toward White stopper or pin (Opposite Side: Black)
Tube	With dimensional change. See Pre and Post Change Summary for comparison	
Packing Method	See Pre and Post Change Summary for comparison	

**For 28L SPDIP:**

	<b>Pre Change</b>	<b>Post Change</b>
Final Test Site	Lingsen Precision Industries, LTD.  (LPI)	Microchip Technology Thailand (HQ)  (MTAI)
Base Quantity Multiple (BQM)	14	14
Pin 1 Orientation	Pin# 1 Toward Green stopper or pin	Pin# 1 Toward White stopper or pin (Opposite Side: Black)
Tube	No dimensional change. See Pre and Post Change Summary for comparison	
Packing Method	See Pre and Post Change Summary for comparison	

**For 40L PDIP:**

	<b>Pre Change</b>	<b>Post Change</b>
Final Test Site	Lingsen Precision Industries, LTD.  (LPI)	Microchip Technology Thailand (HQ)  (MTAI)
Base Quantity Multiple (BQM)	10	10
Pin 1 Orientation	Pin# 1 Toward Green stopper or pin	Pin# 1 Toward White stopper or pin (Opposite Side: Black)
Tube	With minimal dimensional change. See Pre and Post Change Summary for comparison	
Packing Method	See Pre and Post Change Summary for comparison	

**Impacts to Data Sheet:**None

**Change Impact:**None

**Reason for Change:**To improve manufacturability by qualifying MTAI as the new final test site.

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**April 29, 2024 (date code: 2418)

Note: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

**Time Table Summary:**

	December 2023					>	March 2024					April 2024				
Workweek	48	49	50	51	52		09	10	11	12	13	14	15	16	17	18
Initial PCN Issue Date				X												
Qual Report Availability										X						
Final PCN Issue Date										X						
Estimated Implementation Date																X

**Method to Identify Change:**Traceability code

**Qualification Report:**Please open the attachments included with this PCN labeled as PCN\_#\_Qual\_Report.

**Revision History:**December 18, 2023: Issued initial notification.

March 20, 2024: Issued final notification. Updated the affected CPN list. Attached Qual Report and provided the estimated first ship date on April 29, 2024.

March 27, 2024: Re-Issued final notification to update affected CPN list due to updated CCB scope.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

**Attachments:**

[PCN\\_MFOL-18PVHH137\\_Qual Report.pdf](#)

[PCN\\_MFOL-18PVHH137\\_Pre and Post Change Summary.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

**Terms and Conditions:**

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

If you wish to change your PCN profile, including opt out, please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

ATMEGA644A-PU  
ATMEGA644PA-PU  
ATMEGA16A-PU  
ATMEGA32A-PU  
ATMEGA1284P-PU  
ATMEGA1284-PU  
ATTINY13A-PU  
ATTINY25-20PU  
ATTINY25V-10PU  
ATTINY45-20PU  
ATTINY13-20PU  
ATTINY13V-10PU  
ATTINY45V-10PU  
ATTINY85-20PU  
ATTINY85V-10PU  
ATTINY84A-PU  
ATTINY24A-PU  
ATTINY44A-PU  
ATMEGA328P-PU  
ATMEGA328-PU  
ATMEGA328-PU  
ATMEGA328P-PN



**MICROCHIP**

**QUALIFICATION REPROT SUMMARY  
RELIABILITY LABORATORY**

**PCN #: MFOL-18PVHH137**

**Date:  
March 07, 2024**

**Qualification of MTAI as a new final test site for selected  
ATMEGA128, ATMEGA16xx, ATMEGA32, ATMEGA48,  
ATMEGA64, ATMEGA8xx, ATTINY13, ATTINY24, ATTINY25,  
ATTINY44, ATTINY45, ATTINY84 and ATTINY85 device  
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## MICROCHIP PACKAGE QUALIFICATION REPORT

**Purpose** Qualification of MTAI as a new final test site for selected ATMEGA128, ATMEGA16xx, ATMEGA32, ATMEGA48, ATMEGA64, ATMEGA8xx, ATTINY13, ATTINY24, ATTINY25, ATTINY44, ATTINY45, ATTINY84 and ATTINY85 device families available in various packages.

**CCB No.** 6694

Test / Evaluation	Test Condition / Parameters	Result
Datalog/Bin Comparison	<ul style="list-style-type: none"><li>• Compare test numbers, test names, test sequence bin assignments &amp; pass/fail results.</li><li>• Accept if all match or justify the differences</li></ul>	Passed
Site By Site Verification	<ul style="list-style-type: none"><li>• Verifies the channel map has the correct site assignments and tester/handler communications work correctly</li></ul>	Passed
Correlation Lot Report	<ul style="list-style-type: none"><li>• Yield comparison between systems and test sites.</li><li>• Accept on yield match within 0.1%</li></ul>	Passed
Test Stability	<ul style="list-style-type: none"><li>• 50 loop tests performed with no data log delays.</li><li>• Accept on 0 fails</li></ul>	Passed

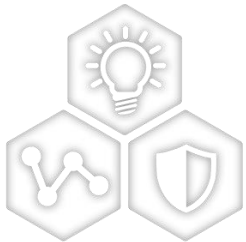


**CCB 6694**  
**PCN ID#: MFOL-18PVHH137**



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SMART | CONNECTED | SECURE

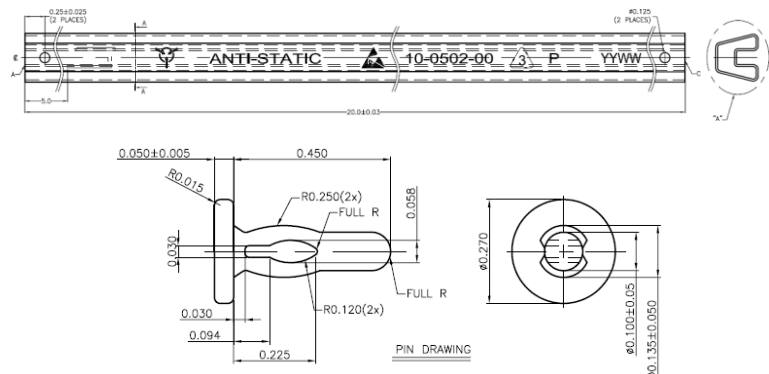
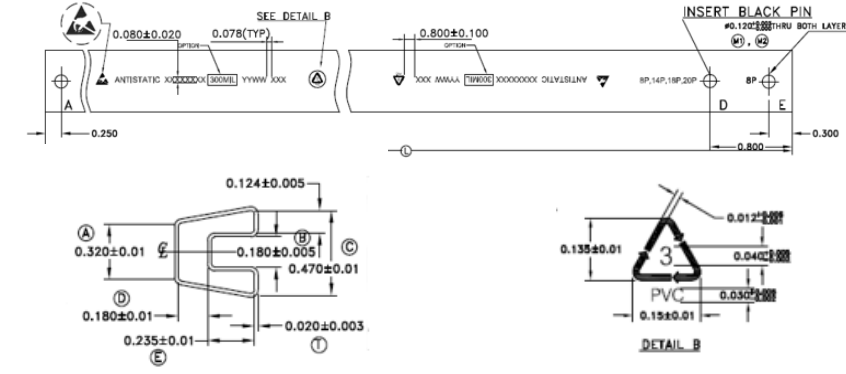
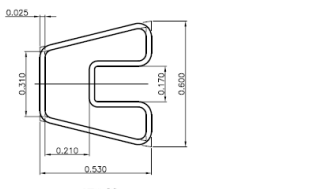
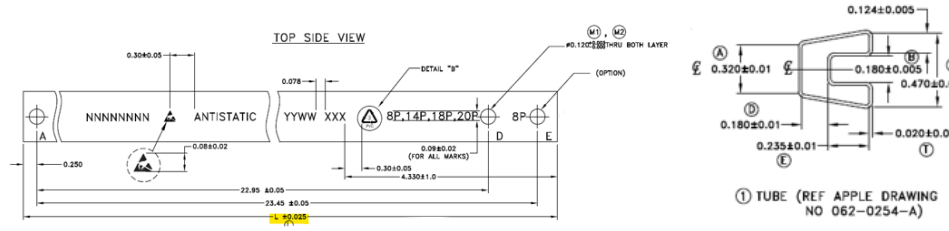
## Pre and Post Summary – Base Quantity Multiple (BQM)

		LPI	MTAI
Tube	8L PDIP	50	50
	14L PDIP	25	30
	28L SPDIP	14	14
	40L PDIP	10	10

# Pre and Post Summary – Pin 1 Orientation

		LPI	MTAI
Tube	8L PDIP	Pin# 1 Toward Green stopper or pin	Pin# 1 Toward White stopper or pin (Opposite Side: Black)
	14L PDIP		
	28L SPDIP		
	40L PDIP		

# Pre and Post Summary – Tube

		LPI	MTAI																														
Tube	8L PDIP	 <p>Technical drawing of LPI 8L PDIP tube. Side view shows a tube with a diameter of 0.125 inches and a length of 20.040 inches. Markings include "ANTI-STATIC", "10-0502-00", "P", and "YYWW". End view shows a pin with a diameter of 0.100 inches and a length of 0.135 inches. A "PIN DRAWING" detail shows a pin with a diameter of 0.058 inches and a length of 0.225 inches.</p>	 <p>Technical drawing of MTAI 8L PDIP tube. Side view shows a tube with a diameter of 0.125 inches and a length of 0.800 inches. Markings include "ANTI-STATIC", "10-0502-00", "P", and "YYWW". End view shows a pin with a diameter of 0.125 inches and a length of 0.135 inches. A "PIN DRAWING" detail shows a pin with a diameter of 0.058 inches and a length of 0.225 inches.</p>																														
	14L PDIP	<p>NOTES:-</p> <ol style="list-style-type: none"> <li>MATERIAL: CLEAR, TRANSPARENT PVC.</li> <li>THIS TUBE IS TO BE TESTED PER PACKAGE MATERIAL STANDARD SPEC MIL-PRF-38555 AND EIA-STD-3.</li> <li>FINISH: TO BE TREATED WITH ANTI-STATIC COATING: STATIC CHARGE ON TUBE TO BE 50 VOLTS AT A DISTANCE OF 2.0 INCHES FROM A SENSING PROBE.</li> <li>NO CHIPS OR CRACKS ALLOWED.</li> <li>0.010" MAX. BURR ON INNER TUBE EDGE.</li> <li>THE FLATNESS OF TUBE SADDLE SHOULD BE 0.002" MAX.</li> <li>NO OIL, GREASE, OR OTHER FOREIGN CONTAMINATION TO BE ON OR IN TUBE.</li> <li>MAX. SURFACE RESISTIVITY OF TUBE &amp; PIN : 10<sup>10</sup> ohm/sq MAX.</li> <li>REFER TO SPEC MA-5016 FOR TUBE MARKING.</li> <li>REFER TO SPEC MA-5016 FOR ASSEMBLY LOCATION CODE.</li> <li>UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES.</li> <li>UNLESS OTHERWISE SPECIFIED TOLERANCES MUST BE ±.010.</li> <li>"10-0502-00" DENOTES ATHEL PART NUMBER.</li> <li>"YYWW" DENOTES DATE/CODE OF TUBE MANUFACTURER. (OPTIONAL)</li> <li>"P" DENOTES ASSEMBLY CODE.</li> <li>MARKING COLOR MUST BE BLUE.</li> <li>MARKING TEXT TYPE IS "ARIAL BOLD"</li> <li>FOR SIDEBRAZE TUBE, PRINT "SIDEBRAZE" AFTER OPTIONAL DATE/CODE.</li> <li>ATHEL LOGO MUST BE OUTLINED, DO NOT FILL IN.</li> <li>RECYCLE SYMBOLS MUST BE .0061 LONG THICK.</li> <li>CHARACTERS &amp; ALL OTHER SYMBOLS MUST BE .017,001 THICK.</li> <li>PIN : MATERIAL OF PIN : PFR 48 PIN COATED WITH ANTI-STATIC LIQUID COLOR OF PIN : WHITE/GREEN(PAYTONS 2278C) (THE TUBER SHOULD PUT THE "WHITE PIN" ON SIDE C OF THE TUBE AND ATTACH THE "GREEN PIN" BEFORE SHIPPING)</li> </ol>  <p>Technical drawing of LPI 14L PDIP tube. Side view shows a tube with a diameter of 0.125 inches and a length of 0.530 inches. Markings include "ANTISTATIC" and "10-0502-00". End view shows a pin with a diameter of 0.125 inches and a length of 0.135 inches.</p>	 <p>Technical drawing of MTAI 14L PDIP tube. Side view shows a tube with a diameter of 0.125 inches and a length of 0.800 inches. Markings include "ANTISTATIC", "10-0502-00", "P", and "YYWW". End view shows a pin with a diameter of 0.125 inches and a length of 0.135 inches. A "PIN DRAWING" detail shows a pin with a diameter of 0.058 inches and a length of 0.225 inches.</p>																														
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# Pre and Post Summary – Tube

		LPI	MTAI																																								
Tube	28L SPDIP	<p>INSERT WHITE PIN</p> <p>SEC. DETAIL B</p> <p>ANTISTATIC XXXXXXXX(SOURCE) YYYY XXX</p> <p>28L SPDIP MCHP P/N 20102016</p>	<p>INSERT WHITE PIN</p> <p>SEC. DETAIL B</p> <p>ANTISTATIC XXXXXXXX(SOURCE) YYYY XXX</p> <p>28L SPDIP MCHP P/N 20102016</p>																																								
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	40L PDIP	<p>ANTI-STATIC</p> <p>10-0503-00 P-YYYY</p> <p>40L PDIP MCHP P/N 20102016</p>	<p>NOTE:</p> <ol style="list-style-type: none"> <li>CLARITY: PARTS IN TUBE TO BE CLEARLY VISIBLE IN DAYLIGHT TO THE NAKED EYE.</li> <li>TUBE TO BE COATED(INSIDE AND OUT) WITH ANTI-STATIC AGENT(SGS-1500A) AND THE SURFACE RESISTIVITY <math>\geq 1 \times 10^{10}</math> TO <math>&lt; 1 \times 10^{10}</math> OHMS/IN AND THE SURFACE RESISTANCE <math>\geq 1 \times 10^{10}</math> TO <math>&lt; 1 \times 10^{10}</math> OHMS.</li> <li>MAT'L: MODIFIED ACRYLIC OR RIGID PVC.</li> <li>FLATNESS: TUBE TO BE FLAT WITHIN 1/32 INCH.</li> <li>ALL MARKS SHALL BE PUT ON TOP SURFACE OF TUBE WITH RED OR BLUE COLOR AND SHALL PASS COTTON SWAB TEST (5 CYCLES).</li> <li>TUBES WITH RIPPLE SURFACE THAT AFFECT PACKAGE VISIBILITY SHALL BE REJECTABLE.</li> <li>NO BURRS ON THE EDGE OF THE TUBE.</li> <li>PACKING QTY:</li> </ol> <p>TOP SIDE VIEW</p> <p>SEE DETAIL A (OVER)</p> <table border="1"> <thead> <tr> <th>DASH</th> <th>LEAD COUNT</th> <th>HOLE USAGE</th> <th>TOTAL PACKING</th> <th>REMARK</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>24L PDIP</td> <td>B - C OR D</td> <td>15 EA</td> <td>FOR MICROCHIP OR THE PDS</td> </tr> <tr> <td>2</td> <td>32L PDIP</td> <td>A - F</td> <td>13 EA</td> <td></td> </tr> <tr> <td>3</td> <td>40L PDIP</td> <td>B - E</td> <td>15 EA</td> <td></td> </tr> <tr> <td>4</td> <td>24L PDIP</td> <td>L - R</td> <td>18 EA</td> <td></td> </tr> <tr> <td>5</td> <td>28L PDIP</td> <td>L - R</td> <td>15 EA</td> <td></td> </tr> <tr> <td>6</td> <td>40L PDIP</td> <td>L - R</td> <td>11 EA</td> <td></td> </tr> <tr> <td>7</td> <td>28L PDIP</td> <td>B - E</td> <td>14 EA</td> <td>FOR JESD PRODUCT</td> </tr> </tbody> </table> <p>9. YYYY IS CALENDAR YEAR AND WORKWEEK SUPPLIER</p> <p>10. <math>\Delta</math> (RECYCLE SYMBOL) REFERS TO MS-18220.</p> <p>11. XXX IS SUPPLIER NAME.</p> <p>12. NNNNNNNN IS MICROCHIP PART NUMBER.</p> <p>13. <math>\Delta</math> IS ESD SYMBOL.</p>	DASH	LEAD COUNT	HOLE USAGE	TOTAL PACKING	REMARK	1	24L PDIP	B - C OR D	15 EA	FOR MICROCHIP OR THE PDS	2	32L PDIP	A - F	13 EA		3	40L PDIP	B - E	15 EA		4	24L PDIP	L - R	18 EA		5	28L PDIP	L - R	15 EA		6	40L PDIP	L - R	11 EA		7	28L PDIP	B - E	14 EA	FOR JESD PRODUCT
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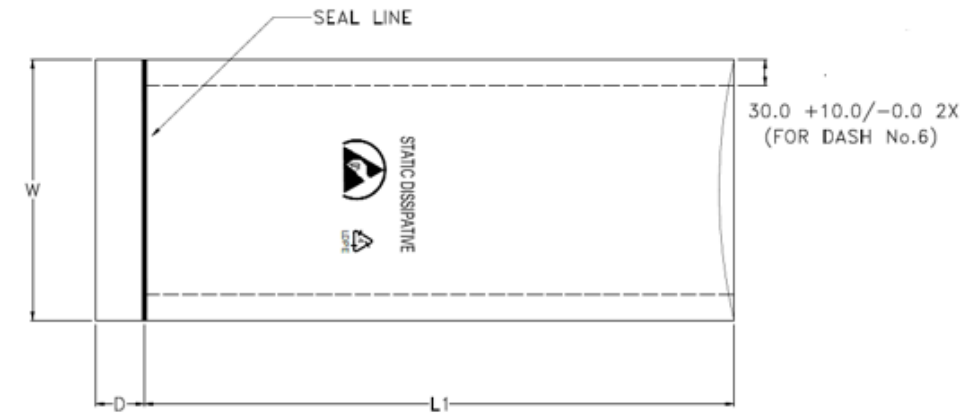
# Pre and Post Summary – Antistatic Shielding Bag / Moisture Barrier Bag

LPI



0.08mm\*21cm\*77cm

MTAI



DASH NO.	W	L1	D(Min.)	BAG COLOR
- 1	305 ±6.0	752 ±13.0	8	PINK
- 2	152 ±4.0	752 ±13.0	8	PINK
- 3	318 ±6.0	473 ±8.0	8	PINK
- 4	711 ±12.0	777 ±13.0	8	PINK
- 5	356 ±6.0	375 ±6.0	5	TRANSPARENT
- 6	140 +10.0 -0	760 +10.0 -5	12	PINK (GUSSET TYPE)
- 7	80 ±5.0	120 ±5.0	12	PINK
- 8	228.6 ±6.35	304.8 ±9.525	12	PINK
- 9	260 ±5.0	370 ±6.0	7	PINK
- 10	914 ±15.0	787 ±13.0	10±2	PINK

Note:

1. PLASTIC THICKNESS: 0.100±0.01  
(0.120±0.01 FOR DASH No. 6)/SIDE.

2. SURFACE RESISTIVITY  
 $1 \times 10^4 \leq SR < 1 \times 10^{11}$  OHMS  
 $1 \times 10^5 \leq SR < 1 \times 10^{12}$  OHMS/SQ.

3. PREPRINT WITH BLACK COLOR ONLY FOR DASH NUMBER 6

# Pre and Post Summary – Carton Box

## LPI



28.0x60.0x11.0 cm (2 inner box per 1 outer box)

43.0x60.0x19.0 cm (6 inner box per 1 outer box)

## MTAI

15.0x71.5x5.0 cm (1 bag per 1 outer box)

17.0x65.0x8.0 cm (1 bag per 1 outer box)

15.5x62.0x14.0 cm (2 bag per 1 outer box)

22.5x63.0x16.5 cm (3 bag per 1 outer box)

32.0x63.0x15.5 cm (4 bag per 1 outer box)

36.0x63.0x16.5 cm (5 bag per 1 outer box)

No Inner box