



Date: Jan 14, 2022

PCN No#: 011422-1

PCN Title: Additional new wafer source for MMBTA06-TP

Dear Customer:

This is an announcement of change(s) to products that are currently being offered by Micro Commercial Components Corp(MCC) .We request that you acknowledge receipt of this notification within 30 days of the date of this PCN. Please refer to the implementation date of this change as it is stated in the attached PCN form. Please contact your local sales representative to acknowledge receipt of this PCN.

If you have any questions about PCN's products, please contact your local sales representative.

Sincerely,

MCC PCN Team

## PRODUCT CHANGE NOTICE

| Notification Date  | Implementation Date   | Change Type          | Classification | PCN No   |
|--|---|----------------------|----------------|----------|
| Jan 14, 2021   | ASAP  | Add new wafer source | Major          | 011422-1 |
| <b>TITLE</b>   |   |                      |                |          |
| Additional new wafer source for MMBTA06-TP   |   |                      |                |          |
| <b>DESCRIPTION OF CHANGE</b>   |   |                      |                |          |
| To solve our delivery issue of MMBTA06-TP, MCC has determined to add a new wafer source. Internal qualification process had been finished and the result showed that the parts with new wafer exactly met our specification. |   |                      |                |          |
| <b>IMPACT</b>  |   |                      |                |          |
| No change in datasheet electrical parameters .<br>Table A: Electrical characteristics comparison.  |   |                      |                |          |
| <b>PRODUCTS AFFECTED</b>   |   |                      |                |          |
| MMBTA06-TP   |   |                      |                |          |
| <b>WEB LINKS</b>   |   |                      |                |          |
| <b>Terms And Conditions:</b>   | <a href="https://www.mccsemi.com/Home/TermsAndConditions">https://www.mccsemi.com/Home/TermsAndConditions</a> |                      |                |          |
| <b>For More Information Contact:</b>   | <a href="https://www.mccsemi.com/Contact/Index">https://www.mccsemi.com/Contact/Index</a>                     |                      |                |          |
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| <b>DISCLAIMER</b>  |   |                      |                |          |
| Unless a MCC Sales representative is contacted in writing within 30 days of the posting of this notice, all changes described in this announcement are considered approved.  |   |                      |                |          |

**Table A - Electrical Characteristics Comparison**

| Spec                    | Conditions                 | Typical Value |              |
|-------------------------|----------------------------|---------------|--------------|
|                         |                            | Old           | New          |
| $V_{(BR)CBO} > 80V$     | $I_C = 100\mu A, I_E = 0$  | 143V          | 173V         |
| $V_{(BR)CEO} > 80V$     | $I_C = 1mA, I_B = 0$       | 104V          | 112V         |
| $V_{(BR)EBO} > 4V$      | $I_E = 100\mu A, I_C = 0$  | 9.6V          | 8.4V         |
| $I_{CBO} < 100nA$       | $V_{CB} = 80V, I_E = 0$    | 5.4nA         | 3.3nA        |
| $I_{CEO} < 1\mu A$      | $V_{CE} = 60V, I_B = 0$    | 3nA           | 6nA          |
| $I_{EBO} < 100\mu A$    | $V_{EB} = 3V, I_C = 0$     | 0.66 $\mu A$  | 0.71 $\mu A$ |
| $100 < h_{FE(1)} < 400$ | $V_{CE} = 1V, I_C = 10mA$  | 180           | 141          |
| $h_{FE(2)} > 100$       | $V_{CE} = 1V, I_C = 100mA$ | 173           | 138          |
| $V_{CE(sat)} < 0.25V$   | $I_C = 100mA, I_B = 10mA$  | 0.037V        | 0.038V       |
| $V_{BE(sat)} < 1.2V$    | $I_C = 100mA, I_B = 10mA$  | 0.797V        | 0.773V       |

# Reliability Report

**Part Number: MMBTA06-TP**

**Date: 2021-12-30**

## Test Results

| Test Item  | Conditions   | Duration                          | Quantity  | Rejects   |
|--|--|-----------------------------------|-----------|-----------|
| <b>TEST</b><br>Pre- and Post-Stress<br>Electrical Test         | T <sub>a</sub> = 25 °C   | N/A                               | all parts | see below |
| <b>PC</b><br>Preconditioning                                   | JESD22A-113<br>Bake T <sub>a</sub> = 125 °C<br>Soak T <sub>a</sub> = 85 °C, RH = 85%<br>Reflow soldering                               | 24 hours<br>168 hours<br>3 cycles | 308Pcs    | 0         |
| <b>HTRB</b><br>High Temperature Reverse<br>Bias                | JESD22-A108<br>T <sub>j</sub> = T <sub>jmax</sub> , V <sub>R</sub> > 80% V <sub>CEO</sub>  | 1000 hours                        | 77Pcs     | 0         |
| <b>TC</b><br>Temperature Cycling                               | JESD22-A104<br>-55 °C to 150 °C  | 1000 cycles                       | 77Pcs     | 0         |
| <b>AC</b><br>Autoclave   | JESD22-A102<br>T <sub>a</sub> = 121 °C, RH = 100 %<br>Pressure = 2atm  | 96 hours                          | 77Pcs     | 0         |
| <b>H3TRB</b><br>High Humidity High<br>Temperature Reverse Bias | JESD22-A101<br>T <sub>a</sub> = 85 °C, RH = 85%, V <sub>R</sub> > 80 % V <sub>CEO</sub>  | 1000 hours                        | 77Pcs     | 0         |
| <b>IOL</b><br>Intermittent Operating Life                      | MIL-STD-750 Method 1037<br>t <sub>on</sub> = t <sub>off</sub> , devices powered to insure<br>ΔT <sub>j</sub> = 100 °C for 15000 cycles | 1000 hours                        | 77Pcs     | 0         |
| <b>ESD</b><br><b>Human Body Model</b>                          | JESD22-A114<br>2 KV  | N/A                               | 30Pcs     | 0         |
| <b>RSH</b><br>Resistance to Solder Heat                        | JESD22-A111 / JESD22-B106<br>260 °C ± 5 °C   | 10 s                              | 30Pcs     | 0         |
| <b>SD</b><br>Solderability                                     | J-STD-002<br>245 °C ± 5 °C   | 3 s                               | 10Pcs     | 0         |
| <b>LTSL</b><br>Low Temperature<br>Storage Life                 | JESD22-A119<br>T <sub>a</sub> ≤ -55 °C   | 1000 hours                        | 32Pcs     | 0         |
| <b>HTSL</b><br>High Temperature<br>Storage Life                | JESD22-A103<br>T <sub>a</sub> ≥ 150 °C   | 1000 hours                        | 77Pcs     | 0         |