

# CBI Modules

## CBI = Converter Brake Inverter

three phase rectifier, IGBT brake chopper, three phase IGBT inverter, temperature sensor

**CBI 1**  
IGBT Modules

Fig. 49

**New**

| Type                      | Rectifier 3~ |  |                    | $V_{CES}$ | Inverter 3~                       |                                   |                       |                    | Brake chopper |                                   |                    |
|---------------------------|--------------|--|--------------------|-----------|-----------------------------------|-----------------------------------|-----------------------|--------------------|---------------|-----------------------------------|--------------------|
|                           | $V_{RRM}$    | $I_{FAVM}$<br>$T_H = 70^\circ\text{C}$ | $R_{thJC}$<br>typ. |           | $I_C$<br>$T_C = 25^\circ\text{C}$ | $I_C$<br>$T_C = 90^\circ\text{C}$ | $V_{CE(sat)}$<br>typ. | $R_{thJC}$<br>typ. | $V_{CES}$     | $I_C$<br>$T_C = 90^\circ\text{C}$ | $R_{thJC}$<br>typ. |
|                           | V            | A                                      | K/W                | V         | A                                 | A                                 | V                     | K/W                | V             | A                                 | K/W                |
| <b>600 V CBI modules</b>  |              |  |                    |           |                                   |                                   |                       |                    |               |                                   |                    |
| MUBW 6-06A6               | 1200         | 11                                     | 1.4                | 600       | 7.0                               | 4.5                               | 2.0                   | 2.7                | 600           | 7                                 | 2.7                |
| MUBW 10-06A6              |              | 11                                     | 1.4                |           | 11.0                              | 8.0                               | 2.0                   | 2.4                |               | 11                                | 2.4                |
| MUBW 15-06A6              |              | 11                                     | 1.4                |           | 18.0                              | 10.0                              | 2.1                   | 1.7                |               | 11                                | 2.4                |
| MUBW 20-06A6              |              | 11                                     | 1.4                |           | 23.0                              | 13.0                              | 2.1                   | 1.5                |               | 11                                | 2.4                |
| MUBW 25-06A6              |              | 11                                     | 1.4                |           | 27.5                              | 16.0                              | 2.1                   | 1.35               |               | 18                                | 1.7                |
| MUBW 35-06A6              |              | 25                                     | 1.05               |           | 38.0                              | 25.0                              | 2.1                   | 1.0                |               | 23                                | 1.5                |
| <b>1200 V CBI modules</b> |              |  |                    |           |                                   |                                   |                       |                    |               |                                   |                    |
| MUBW 10-12A6              | 1000         | 11                                     | 1.4                | 1200      | 13.0                              | 8.0                               | 2.8                   | 1.55               | 1200          | 2.5                               | 2.3                |
| MUBW 15-12A6              |              | 25                                     | 1.05               |           | 18.0                              | 11.5                              | 2.6                   | 1.5                |               | 8                                 | 1.55               |
| MUBW 30-12A6              |              | 25                                     | 1.05               |           | 31.0                              | 17.0                              | 2.2                   | 1.0                |               | 9                                 | 1.5                |

**CBI 2**  
IGBT - Modules

Fig. 81

**New**

| Type  | Rectifier 3~ |  |                    | $V_{CES}$ | Inverter 3~                       |                                   |                       |                    | Brake chopper |                                   |                    |
|---|--------------|--|--------------------|-----------|-----------------------------------|-----------------------------------|-----------------------|--------------------|---------------|-----------------------------------|--------------------|
|   | $V_{RRM}$    | $I_{FAV}$<br>$T_C = 80^\circ\text{C}$<br>$d = 1/3$ | $R_{thJC}$<br>max. |           | $I_C$<br>$T_C = 25^\circ\text{C}$ | $I_C$<br>$T_C = 80^\circ\text{C}$ | $V_{CE(sat)}$<br>typ. | $R_{thJC}$<br>max. | $V_{CES}$     | $I_C$<br>$T_C = 80^\circ\text{C}$ | $R_{thJC}$<br>max. |
|   | V            | A  | K/W                | V         | A                                 | A                                 | V                     | K/W                | V             | A                                 | K/W                |
| <b>600 V CBI modules</b>                            |              |  |                    |           |                                   |                                   |                       |                    |               |                                   |                    |
| MUBW 10-06A7  | 1600         | 18   | 1.5                | 600       | 20                                | 15                                | 1.9                   | 1.5                | 600           | 15                                | 1.5                |
| MUBW 15-06A7  |              | 18   | 1.5                |           | 25                                | 18                                | 1.9                   | 1.3                |               | 15                                | 1.5                |
| MUBW 20-06A7  |              | 24   | 1.3                |           | 35                                | 25                                | 1.9                   | 1.0                |               | 18                                | 1.4                |
| MUBW 30-06A7  |              | 24   | 1.3                |           | 50                                | 35                                | 1.9                   | 0.7                |               | 18                                | 1.3                |
| MUBW 50-06A7  |              | 29   | 1.1                |           | 75                                | 50                                | 1.9                   | 0.5                |               | 25                                | 1.0                |
| <b>1200 V CBI modules</b>                           |              |  |                    |           |                                   |                                   |                       |                    |               |                                   |                    |
| MUBW 10-12A7  | 1600         | 18   | 1.5                | 1200      | 20                                | 15                                | 2.3                   | 1.2                | 1200          | 15                                | 1.2                |
| MUBW 15-12A7  |              | 24   | 1.3                |           | 35                                | 25                                | 2.0                   | 0.7                |               | 15                                | 1.2                |
| MUBW 25-12A7  |              | 24   | 1.3                |           | 50                                | 35                                | 2.2                   | 0.55               |               | 15                                | 1.2                |
| MUBW 35-12A7  |              | 29   | 1.1                |           | 50                                | 35                                | 2.5                   | 0.55               |               | 25                                | 0.7                |
| <b>1200 V CBI modules with NPT<sup>3</sup> IGBT</b> |              |  |                    |           |                                   |                                   |                       |                    |               |                                   |                    |
| MUBW 35-12E7  | 1200         | 29   | 1.1                | 1200      | 52                                | 35                                | 7.0                   | 0.55               | 1200          | 25                                | 0.7                |

Preliminary data