



**flowANPFC 0**

**650 V / 100 A**

**Features**

- Compact and low inductive design
- High power low inductive package
- High speed IGBT
- Integrated DC-capacitor
- Integrated NTC
- Three-level high efficient topology

**Target applications**

- Charging Stations
- Power Supply
- UPS

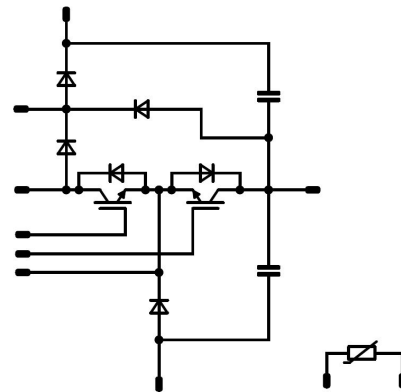
**Types**

- 10-PZ07ANA100RG02-LK39L88Y

**flow 0 12 mm housing**



**Schematic**





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## Maximum Ratings

$T_j = 25\text{ °C}$ , unless otherwise specified

| Parameter                                    | Symbol     | Conditions   | Value | Unit             |
|--|------------|--|-------|------------------|
| <b>Neutral Point Diode</b>                   |            |  |       |                  |
| Peak repetitive reverse voltage              | $V_{RRM}$  |  | 1600  | V                |
| Continuous (direct) forward current          | $I_F$      |  | 110   | A                |
| Surge (non-repetitive) forward current       | $I_{FSM}$  | Single Half Sine Wave,<br>$t_p = 10\text{ ms}$ $T_j = 150\text{ °C}$ | 1380  | A                |
| Surge current capability                     | $I^2t$     | Single Half Sine Wave,<br>$t_p = 10\text{ ms}$ $T_j = 150\text{ °C}$ | 9520  | A <sup>2</sup> s |
| Total power dissipation                      | $P_{tot}$  | $T_j = T_{jmax}$ $T_s = 80\text{ °C}$                                | 118   | W                |
| Maximum junction temperature                 | $T_{jmax}$ |  | 150   | °C               |
| <b>Positive Boost Blocking Diode</b>         |            |  |       |                  |
| Peak repetitive reverse voltage              | $V_{RRM}$  |  | 1600  | V                |
| Continuous (direct) forward current          | $I_F$      |  | 60    | A                |
| Surge (non-repetitive) forward current       | $I_{FSM}$  | Single Half Sine Wave,<br>$t_p = 10\text{ ms}$ $T_j = 150\text{ °C}$ | 890   | A                |
| Surge current capability                     | $I^2t$     | Single Half Sine Wave,<br>$t_p = 10\text{ ms}$ $T_j = 150\text{ °C}$ | 3960  | A <sup>2</sup> s |
| Total power dissipation                      | $P_{tot}$  | $T_j = T_{jmax}$ $T_s = 80\text{ °C}$                                | 95    | W                |
| Maximum junction temperature                 | $T_{jmax}$ |  | 150   | °C               |
| <b>Positive Boost Diode Protection Diode</b> |            |  |       |                  |
| Peak repetitive reverse voltage              | $V_{RRM}$  |  | 650   | V                |
| Continuous (direct) forward current          | $I_F$      |  | 20    | A                |
| Repetitive peak forward current              | $I_{FRM}$  | $t_p$ limited by $T_{jmax}$  | 40    | A                |
| Total power dissipation                      | $P_{tot}$  | $T_j = T_{jmax}$ $T_s = 80\text{ °C}$                                | 42    | W                |
| Maximum junction temperature                 | $T_{jmax}$ |  | 175   | °C               |



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## Maximum Ratings

$T_j = 25\text{ °C}$ , unless otherwise specified

| Parameter                           | Symbol     | Conditions                            | Value       | Unit |
|-------------------------------------|------------|---------------------------------------|-------------|------|
| <b>Negative Boost Diode</b>         |            |                                       |             |      |
| Peak repetitive reverse voltage     | $V_{RRM}$  |                                       | 650         | V    |
| Continuous (direct) forward current | $I_F$      |                                       | 80          | A    |
| Repetitive peak forward current     | $I_{FRM}$  | $t_p$ limited by $T_{jmax}$           | 320         | A    |
| Total power dissipation             | $P_{tot}$  | $T_j = T_{jmax}$ $T_s = 80\text{ °C}$ | 80          | W    |
| Maximum junction temperature        | $T_{jmax}$ |                                       | 175         | °C   |
| <b>Positive Boost Diode</b>         |            |                                       |             |      |
| Peak repetitive reverse voltage     | $V_{RRM}$  |                                       | 650         | V    |
| Continuous (direct) forward current | $I_F$      |                                       | 80          | A    |
| Repetitive peak forward current     | $I_{FRM}$  | $t_p$ limited by $T_{jmax}$           | 320         | A    |
| Total power dissipation             | $P_{tot}$  | $T_j = T_{jmax}$ $T_s = 80\text{ °C}$ | 80          | W    |
| Maximum junction temperature        | $T_{jmax}$ |                                       | 175         | °C   |
| <b>Neutral Point Switch</b>         |            |                                       |             |      |
| Collector-emitter voltage           | $V_{CES}$  |                                       | 650         | V    |
| Collector current                   | $I_C$      |                                       | 100         | A    |
| Repetitive peak collector current   | $I_{CRM}$  | $t_p$ limited by $T_{jmax}$           | 400         | A    |
| Total power dissipation             | $P_{tot}$  | $T_j = T_{jmax}$ $T_s = 80\text{ °C}$ | 130         | W    |
| Gate-emitter voltage                | $V_{GES}$  |                                       | ±30         | V    |
| Maximum junction temperature        | $T_{jmax}$ |                                       | 175         | °C   |
| <b>Capacitor (DC)</b>               |            |                                       |             |      |
| Maximum DC voltage                  | $V_{MAX}$  |                                       | 630         | V    |
| Operation Temperature               | $T_{op}$   |                                       | -55 ... 125 | °C   |



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**10-PZ07ANA100RG02-LK39L88Y**  
target datasheet

## Maximum Ratings

$T_j = 25\text{ °C}$ , unless otherwise specified

| Parameter | Symbol | Conditions | Value | Unit |
|-----------|--------|------------|-------|------|
|-----------|--------|------------|-------|------|

### Module Properties

#### Thermal Properties

|   |           |  |                            |    |
|---|-----------|--|----------------------------|----|
| Storage temperature                             | $T_{stg}$ |  | -40...+125                 | °C |
| Operation temperature under switching condition | $T_{jop}$ |  | -40...+( $T_{jmax} - 25$ ) | °C |

#### Isolation Properties

|                            |            |                                    |            |    |
|----------------------------|------------|------------------------------------|------------|----|
| Isolation voltage          | $V_{isol}$ | DC Test Voltage $t_p = 2\text{ s}$ | 6000       | V  |
| Isolation voltage          | $V_{isol}$ | AC Voltage $t_p = 1\text{ min}$    | 2500       | V  |
| Creepage distance          |            |                                    | >12,7      | mm |
| Clearance                  |            |                                    | 9,65       | mm |
| Comparative Tracking Index | CTI        |                                    | $\geq 200$ |    |



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target datasheet

### Characteristic Values

| Parameter | Symbol | Conditions   |              |              |           |            | Values |     |     | Unit |
|-----------|--------|--------------|--------------|--------------|-----------|------------|--------|-----|-----|------|
|           |        | $V_{GS}$ [V] | $V_{GE}$ [V] | $V_{DS}$ [V] | $I_D$ [A] | $T_j$ [°C] | Min    | Typ | Max |      |

#### Neutral Point Diode

##### Static

|                         |       |  |  |      |     |           |  |  |             |         |
|-------------------------|-------|--|--|------|-----|-----------|--|--|-------------|---------|
| Forward voltage         | $V_F$ |  |  |      | 110 | 25        |  |  | 1,5         | V       |
| Reverse leakage current | $I_R$ |  |  | 1600 |     | 25<br>150 |  |  | 100<br>2000 | $\mu$ A |

##### Thermal

|                                     |               |                                    |  |  |  |  |  |     |  |     |
|-------------------------------------|---------------|------------------------------------|--|--|--|--|--|-----|--|-----|
| Thermal resistance junction to sink | $R_{th(j-s)}$ | $\lambda_{paste} = 3,4$ W/mK (PSX) |  |  |  |  |  | 0,6 |  | K/W |
|-------------------------------------|---------------|------------------------------------|--|--|--|--|--|-----|--|-----|

#### Positive Boost Blocking Diode

##### Static

|                         |       |  |  |      |    |    |  |  |     |         |
|-------------------------|-------|--|--|------|----|----|--|--|-----|---------|
| Forward voltage         | $V_F$ |  |  |      | 60 | 25 |  |  | 1,5 | V       |
| Reverse leakage current | $I_R$ |  |  | 1600 |    | 25 |  |  | 100 | $\mu$ A |

##### Thermal

|                                     |               |                                    |  |  |  |  |  |      |  |     |
|-------------------------------------|---------------|------------------------------------|--|--|--|--|--|------|--|-----|
| Thermal resistance junction to sink | $R_{th(j-s)}$ | $\lambda_{paste} = 3,4$ W/mK (PSX) |  |  |  |  |  | 0,74 |  | K/W |
|-------------------------------------|---------------|------------------------------------|--|--|--|--|--|------|--|-----|

#### Positive Boost Diode Protection Diode

##### Static

|                         |       |  |  |     |    |    |      |      |      |         |
|-------------------------|-------|--|--|-----|----|----|------|------|------|---------|
| Forward voltage         | $V_F$ |  |  |     | 20 | 25 | 1,23 | 1,55 | 1,87 | V       |
| Reverse leakage current | $I_R$ |  |  | 650 |    | 25 |      |      | 0,24 | $\mu$ A |

##### Thermal

|                                     |               |                                    |  |  |  |  |  |      |  |     |
|-------------------------------------|---------------|------------------------------------|--|--|--|--|--|------|--|-----|
| Thermal resistance junction to sink | $R_{th(j-s)}$ | $\lambda_{paste} = 3,4$ W/mK (PSX) |  |  |  |  |  | 2,24 |  | K/W |
|-------------------------------------|---------------|------------------------------------|--|--|--|--|--|------|--|-----|



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### Characteristic Values

| Parameter | Symbol | Conditions                   |   |                                     |            |     | Values |     |  | Unit |
|-----------|--------|------------------------------|---|-------------------------------------|------------|-----|--------|-----|--|------|
|           |        | $V_{GE}$ [V]<br>$V_{GS}$ [V] | $V_{CE}$ [V]<br>$V_{DS}$ [V]<br>$V_F$ [V] | $I_C$ [A]<br>$I_D$ [A]<br>$I_F$ [A] | $T_j$ [°C] | Min | Typ    | Max |  |      |

#### Negative Boost Diode

##### Static

|                         |       |  |  |     |    |           |  |              |     |         |
|-------------------------|-------|--|--|-----|----|-----------|--|--------------|-----|---------|
| Forward voltage         | $V_F$ |  |  |     | 80 | 25<br>175 |  | 1,45<br>1,55 | 1,9 | V       |
| Reverse leakage current | $I_R$ |  |  | 650 |    | 25        |  |              | 10  | $\mu$ A |

##### Thermal

|                                     |               |                                       |  |  |  |  |  |      |  |     |
|-------------------------------------|---------------|---------------------------------------|--|--|--|--|--|------|--|-----|
| Thermal resistance junction to sink | $R_{th(j-s)}$ | $\lambda_{paste} = 3,4$ W/mK<br>(PSX) |  |  |  |  |  | 1,18 |  | K/W |
|-------------------------------------|---------------|---------------------------------------|--|--|--|--|--|------|--|-----|

#### Positive Boost Diode

##### Static

|                         |       |  |  |     |    |           |  |              |     |         |
|-------------------------|-------|--|--|-----|----|-----------|--|--------------|-----|---------|
| Forward voltage         | $V_F$ |  |  |     | 80 | 25<br>175 |  | 1,45<br>1,55 | 1,9 | V       |
| Reverse leakage current | $I_R$ |  |  | 650 |    | 25        |  |              | 10  | $\mu$ A |

##### Thermal

|                                     |               |                                       |  |  |  |  |  |      |  |     |
|-------------------------------------|---------------|---------------------------------------|--|--|--|--|--|------|--|-----|
| Thermal resistance junction to sink | $R_{th(j-s)}$ | $\lambda_{paste} = 3,4$ W/mK<br>(PSX) |  |  |  |  |  | 1,18 |  | K/W |
|-------------------------------------|---------------|---------------------------------------|--|--|--|--|--|------|--|-----|



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### Characteristic Values

| Parameter | Symbol | Conditions                   |   |                                     |            |     | Values |     |  | Unit |
|-----------|--------|------------------------------|---|-------------------------------------|------------|-----|--------|-----|--|------|
|           |        | $V_{GE}$ [V]<br>$V_{GS}$ [V] | $V_{CE}$ [V]<br>$V_{DS}$ [V]<br>$V_F$ [V] | $I_C$ [A]<br>$I_D$ [A]<br>$I_F$ [A] | $T_j$ [°C] | Min | Typ    | Max |  |      |

#### Neutral Point Switch

##### Static

|                                      |              |           |    |     |      |           |   |             |      |    |
|--------------------------------------|--------------|-----------|----|-----|------|-----------|---|-------------|------|----|
| Gate-emitter threshold voltage       | $V_{GE(th)}$ |           |    |     | 0,07 | 25        | 5 | 6           | 7    | V  |
| Collector-emitter saturation voltage | $V_{CEsat}$  |           | 15 |     | 100  | 25<br>175 |   | 1,5<br>1,85 | 1,9  | V  |
| Collector-emitter cut-off current    | $I_{CES}$    |           | 0  | 650 |      | 25        |   |             | 0,02 | mA |
| Gate-emitter leakage current         | $I_{GES}$    |           | 30 | 0   |      | 25        |   |             | 0,4  | μA |
| Input capacitance                    | $C_{ies}$    | f = 1 Mhz | 0  | 30  |      | 25        |   | 8400        |      | pF |
| Output capacitance                   | $C_{oes}$    |           |    |     |      |           |   | 208         |      | pF |
| Reverse transfer capacitance         | $C_{res}$    |           |    |     |      |           |   | 158         |      | pF |
| Gate charge                          | $Q_g$        |           | 15 | 400 | 100  | 25        |   | 282         |      | nC |

##### Thermal

|                                     |               |                                       |  |  |  |  |  |      |  |     |
|-------------------------------------|---------------|---------------------------------------|--|--|--|--|--|------|--|-----|
| Thermal resistance junction to sink | $R_{th(j-s)}$ | $\lambda_{paste} = 3,4$ W/mK<br>(PSX) |  |  |  |  |  | 0,73 |  | K/W |
|-------------------------------------|---------------|---------------------------------------|--|--|--|--|--|------|--|-----|

#### Capacitor (DC)

##### Static

|             |   |  |  |  |  |  |     |     |    |    |
|-------------|---|--|--|--|--|--|-----|-----|----|----|
| Capacitance | C |  |  |  |  |  |     | 100 |    | nF |
| Tolerance   |   |  |  |  |  |  | -10 |     | 10 | %  |



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### Characteristic Values

| Parameter | Symbol | Conditions   |              |              |              |            | Values |     |     | Unit |
|-----------|--------|--------------|--------------|--------------|--------------|------------|--------|-----|-----|------|
|           |        | $V_{GS}$ [V] | $V_{GE}$ [V] | $V_{DS}$ [V] | $V_{CE}$ [V] | $T_j$ [°C] | Min    | Typ | Max |      |

### NTC

#### Static



|                                |                |                         |  |  |  |     |    |      |   |      |
|--------------------------------|----------------|-------------------------|--|--|--|-----|----|------|---|------|
| Rated resistance               | $R$            |                         |  |  |  | 25  |    | 22   |   | kΩ   |
| Deviation of $R_{100}$         | $A_{R/R}$      | $R_{100} = 1484 \Omega$ |  |  |  | 100 | -5 |      | 5 | %    |
| Power dissipation              | $P$            |                         |  |  |  |     |    | 5    |   | mW   |
| Power dissipation constant     | $d$            |                         |  |  |  | 25  |    | 1,5  |   | mW/K |
| B-value                        | $B_{(25/50)}$  |                         |  |  |  | 25  |    | 3962 |   | K    |
| B-value                        | $B_{(25/100)}$ |                         |  |  |  | 25  |    | 4000 |   | K    |
| Vincotech Thermistor Reference |                |                         |  |  |  |     |    |      | I |      |

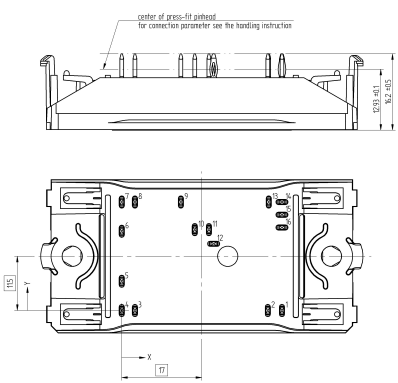




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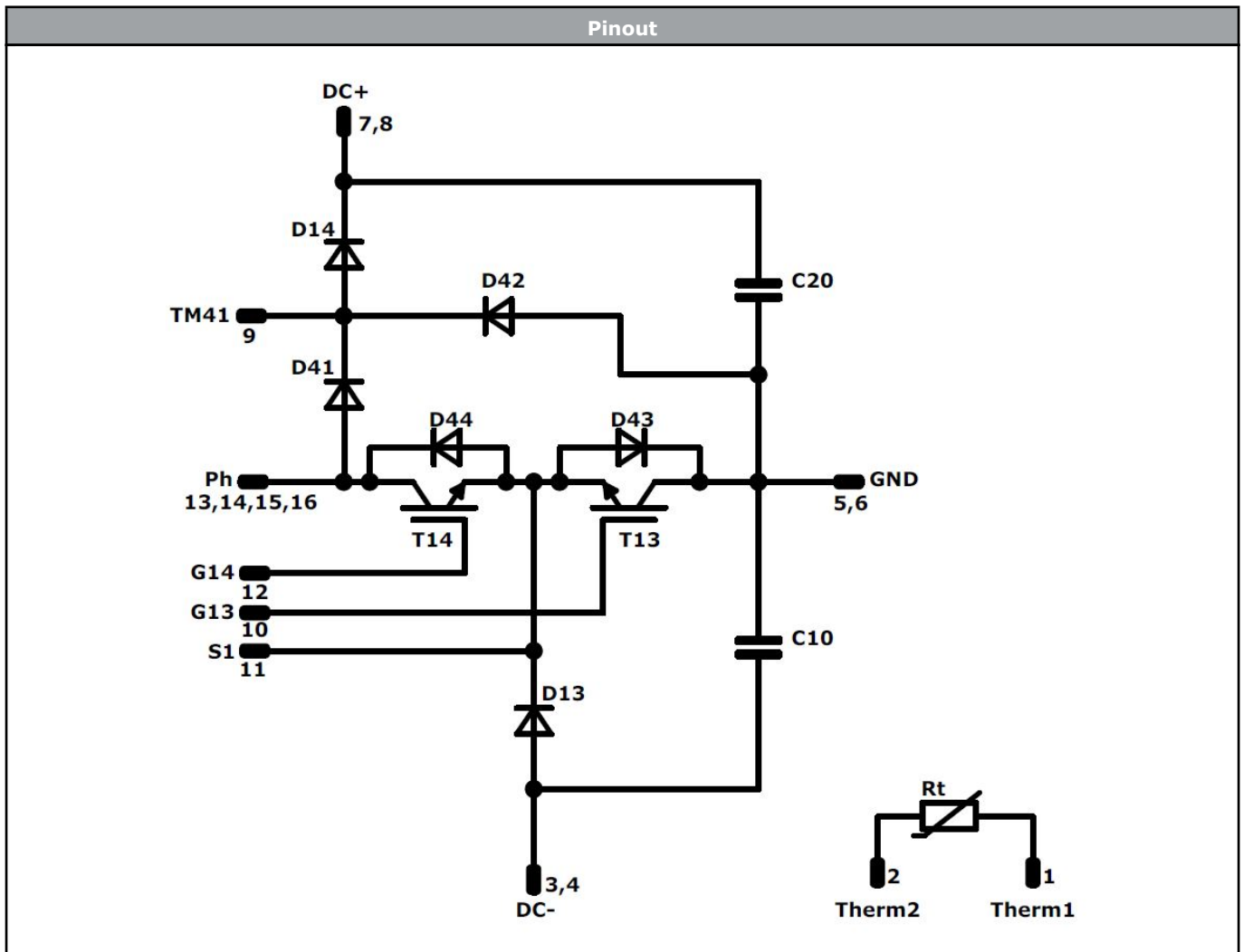
**10-PZ07ANA100RG02-LK39L88Y**  
target datasheet

| Ordering Code & Marking                                 |   |   |            |                                |            |           |           |     |        |
|---|---|---|------------|--------------------------------|------------|-----------|-----------|-----|--------|
| Version   |   |   |            | Ordering Code                  |            |           |           |     |        |
| 12 mm housing with Press-fit pins                       |   |   |            | 10-PZ07ANA100RG02-LK39L88Y     |            |           |           |     |        |
| 12 mm housing with Press-fit pins with thermal paste    |   |   |            | 10-PZ07ANA100RG02-LK39L88Y-/3/ |            |           |           |     |        |
| NN-NNNNNNNNNNNNNN<br>TTTTITTV WWYY UL<br>VIN LLLLL SSSS |  |  | Text       | Name                           |            | Date code | UL & VIN  | Lot | Serial |
|   |   |   |            | Type&Ver                       | Lot number | Serial    | Date code |     |        |
|   |   |   | Datamatrix | TTTTITTV                       | LLLLL      | SSSS      | WWYY      |     |        |

| Outline   |       |       |          |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
|---|-------|-------|----------|--|----------------|--|--|--|-----|---|---|----------|---|----|---|--------|---|----|---|--------|---|-----|---|-----|---|---|---|-----|---|---|-----|-----|---|---|------|-----|---|---|----|-----|---|-----|----|-----|---|-------|----|------|----|------|-------|-----|----|------|-------|-----|----|------|-------|-----|----|------|----|----|----|----|----|----|----|----|------|----|----|----|------|----|
| <table border="1"> <thead> <tr> <th colspan="4">Pin table [mm]</th> </tr> <tr> <th>Pin</th> <th>X</th> <th>Y</th> <th>Function</th> </tr> </thead> <tbody> <tr><td>1</td><td>34</td><td>0</td><td>Therm1</td></tr> <tr><td>2</td><td>31</td><td>0</td><td>Therm2</td></tr> <tr><td>3</td><td>2,8</td><td>0</td><td>DC-</td></tr> <tr><td>4</td><td>0</td><td>0</td><td>DC-</td></tr> <tr><td>5</td><td>0</td><td>6,2</td><td>GND</td></tr> <tr><td>6</td><td>0</td><td>16,8</td><td>GND</td></tr> <tr><td>7</td><td>0</td><td>23</td><td>DC+</td></tr> <tr><td>8</td><td>2,8</td><td>23</td><td>DC+</td></tr> <tr><td>9</td><td>12,55</td><td>23</td><td>TM41</td></tr> <tr><td>10</td><td>15,5</td><td>17,15</td><td>G13</td></tr> <tr><td>11</td><td>18,5</td><td>17,15</td><td>S13</td></tr> <tr><td>12</td><td>19,5</td><td>14,15</td><td>G13</td></tr> <tr><td>13</td><td>31,2</td><td>23</td><td>Ph</td></tr> <tr><td>14</td><td>34</td><td>23</td><td>Ph</td></tr> <tr><td>15</td><td>34</td><td>20,3</td><td>Ph</td></tr> <tr><td>16</td><td>34</td><td>17,6</td><td>Ph</td></tr> </tbody> </table> |       |       |          |  | Pin table [mm] |  |  |  | Pin | X | Y | Function | 1 | 34 | 0 | Therm1 | 2 | 31 | 0 | Therm2 | 3 | 2,8 | 0 | DC- | 4 | 0 | 0 | DC- | 5 | 0 | 6,2 | GND | 6 | 0 | 16,8 | GND | 7 | 0 | 23 | DC+ | 8 | 2,8 | 23 | DC+ | 9 | 12,55 | 23 | TM41 | 10 | 15,5 | 17,15 | G13 | 11 | 18,5 | 17,15 | S13 | 12 | 19,5 | 14,15 | G13 | 13 | 31,2 | 23 | Ph | 14 | 34 | 23 | Ph | 15 | 34 | 20,3 | Ph | 16 | 34 | 17,6 | Ph |
| Pin table [mm]  |       |       |          |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| Pin   | X     | Y     | Function |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 1   | 34    | 0     | Therm1   |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 2   | 31    | 0     | Therm2   |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 3   | 2,8   | 0     | DC-      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 4   | 0     | 0     | DC-      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 5   | 0     | 6,2   | GND      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 6   | 0     | 16,8  | GND      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 7   | 0     | 23    | DC+      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 8   | 2,8   | 23    | DC+      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 9   | 12,55 | 23    | TM41     |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 10  | 15,5  | 17,15 | G13      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 11  | 18,5  | 17,15 | S13      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 12  | 19,5  | 14,15 | G13      |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 13  | 31,2  | 23    | Ph       |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 14  | 34    | 23    | Ph       |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 15  | 34    | 20,3  | Ph       |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
| 16  | 34    | 17,6  | Ph       |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |
|  <p>number of press-fit pinholes for connection parameter see the handling instruction</p> <p>Tolerance of positions: ±0.5mm at the end of pins<br/>Dimension of coordinate axis is only effect without tolerance</p>  |       |       |          |  |                |  |  |  |     |   |   |          |   |    |   |        |   |    |   |        |   |     |   |     |   |   |   |     |   |   |     |     |   |   |      |     |   |   |    |     |   |     |    |     |   |       |    |      |    |      |       |     |    |      |       |     |    |      |       |     |    |      |    |    |    |    |    |    |    |    |      |    |    |    |      |    |



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| <b>Identification</b> |                  |                |                |                                       |                |
|-----------------------|------------------|----------------|----------------|---------------------------------------|----------------|
| <b>ID</b>             | <b>Component</b> | <b>Voltage</b> | <b>Current</b> | <b>Function</b>                       | <b>Comment</b> |
| D44, D43              | Rectifier        | 1600 V         | 110 A          | Neutral Point Diode                   |                |
| D41                   | Rectifier        | 1600 V         | 60 A           | Positive Boost Blocking Diode         |                |
| D42                   | FWD              | 650 V          | 20 A           | Positive Boost Diode Protection Diode |                |
| D13                   | FWD              | 650 V          | 80 A           | Negative Boost Diode                  |                |
| D14                   | FWD              | 650 V          | 80 A           | Positive Boost Diode                  |                |
| T13, T14              | IGBT             | 650 V          | 100 A          | Neutral Point Switch                  |                |
| C10, C20              | Capacitor        | 630 V          |                | Capacitor (DC)                        |                |
| Rt                    | Thermistor       |                |                | NTC                                   |                |




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| Packaging instruction                 |      |          |      |        |
|---------------------------------------|------|----------|------|--------|
| Standard packaging quantity (SPQ) 135 | >SPQ | Standard | <SPQ | Sample |

| Handling instruction  |
|---|
| Handling instructions for <i>flow 0</i> packages see vincotech.com website. |

| Package data   |
|--|
| Packaging data for <i>flow 0</i> packages see vincotech.com website. |

| UL recognition and file number  |
|---|
| This device is certified according to UL 1557 standard, UL file number E192116. For more information see vincotech.com website.  |

| Document No.:                    | Date:        | Modification:   | Pages |
|----------------------------------|--------------|-----------------|-------|
| 10-PZ07ANA100RG02-LK39L88Y-T1-14 | 13 Mar. 2019 | Initial Release |       |

| Product status definition |                        |  |
|---------------------------|------------------------|--|
| Datasheet Status          | Product Status         | Definition   |
| Target                    | Formative or In Design | This datasheet contains the design specifications for product development. Specifications may change in any manner without notice. The data contained is exclusively intended for technically trained staff. |

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.