



**flowDUAL E2 SiC**

**2300 V / 8 mΩ**

**Topology features**

- Half Bridge
- Temperature sensor

**Component features**

- Fast intrinsic diode with low reverse recovery
- High blocking voltage with low on-resistance
- High speed switching with low capacitance

**Housing features**

- Base isolation: AlN
- Convex shaped substrate for superior thermal contact
- Compact housing
- CTI600 housing material
- Thermo-mechanical push-and-pull force relief
- Press-fit pin
- Reliable cold welding connection

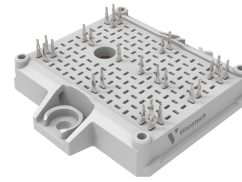
**Target applications**

- Charging Stations
- Energy Storage Systems
- General
- Industrial Drives
- Power Supply
- UPS
- Welding & Cutting

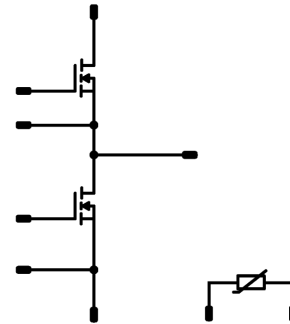
**Types**

- 10-EY232PB008ME01-PN97F08T

**flow E2 12 mm housing**



**Schematic**





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## Maximum Ratings

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

| Parameter                    | Symbol     | Conditions                            | Value   | Unit |
|------------------------------|------------|---------------------------------------|---------|------|
| <b>Inverter Switch</b>       |            |                                       |         |      |
| Drain-source voltage         | $V_{DSS}$  |                                       | 2300    | V    |
| Drain current (DC current)   | $I_D$      | $T_j = T_{jmax}$ $T_s = 80\text{ °C}$ | 312     | A    |
| Peak drain current           | $I_{DM}$   | $t_p$ limited by $T_{jmax}$           | 664     | A    |
| Total power dissipation      | $P_{tot}$  | $T_j = T_{jmax}$ $T_s = 80\text{ °C}$ | 444     | W    |
| Gate-source voltage          | $V_{GSS}$  | static                                | -4 / 15 | V    |
|                              |            | dynamic                               | -8 / 19 | V    |
| Maximum Junction Temperature | $T_{jmax}$ |                                       | 175     | °C   |

## 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 $t_p = 2\text{ s}$ | 6800  | V  |
| Creepage distance          |            |                                    | >12,7 | mm |
| Clearance                  |            |                                    | 9,05  | mm |
| Comparative Tracking Index | CTI        |                                    | ≥ 600 |    |



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### Characteristic Values

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

#### Inverter Switch

##### Static

|                                  |              |                   |       |      |       |    |     |       |      |    |
|----------------------------------|--------------|-------------------|-------|------|-------|----|-----|-------|------|----|
| Drain-source on-state resistance | $r_{DS(on)}$ |                   | 15    |      | 276   | 25 |     | 7,5   | 9,75 | mΩ |
| Gate-source threshold voltage    | $V_{GS(th)}$ | $V_{DS} = V_{GS}$ |       |      | 0,076 | 25 | 1,8 | 2,5   | 3,6  | V  |
| Gate to Source Leakage Current   | $I_{GSS}$    |                   | 15    | 0    |       | 25 |     | 40    | 400  | nA |
| Zero Gate Voltage Drain Current  | $I_{DSS}$    |                   | 0     | 2300 |       | 25 |     | 4     | 40   | μA |
| Internal gate resistance         | $r_g$        |                   |       |      |       |    |     | 1,5   |      | Ω  |
| Gate charge                      | $Q_g$        |                   | -4/15 | 1500 | 276   | 25 |     | 588   |      | nC |
| Short-circuit input capacitance  | $C_{iss}$    | $f = 100$ kHz     | 0     | 1500 | 0     | 25 |     | 24000 |      | pF |
| Short-circuit output capacitance | $C_{oss}$    |                   |       |      |       |    |     | 408   |      |    |
| Reverse transfer capacitance     | $C_{rss}$    |                   |       |      |       |    |     | 40    |      |    |
| Diode forward voltage            | $V_{SD}$     |                   | 0     |      | 140   | 25 |     | 5,5   |      | V  |

##### Thermal

|                                     |               |                                    |  |  |  |  |  |      |  |     |
|-------------------------------------|---------------|------------------------------------|--|--|--|--|--|------|--|-----|
| Thermal resistance junction to sink | $R_{th(j-s)}$ | $\lambda_{paste} = 5,2$ W/mK (PTM) |  |  |  |  |  | 0,21 |  | K/W |
|-------------------------------------|---------------|------------------------------------|--|--|--|--|--|------|--|-----|



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### Characteristic Values

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

### Thermistor

#### Static


|                                |               |                        |  |  |  |     |     |      |     |      |
|--------------------------------|---------------|------------------------|--|--|--|-----|-----|------|-----|------|
| Rated resistance               | $R$           |                        |  |  |  | 25  |     | 5    |     | kΩ   |
| Deviation of R100              | $A_{R/R}$     | $R_{100} = 499 \Omega$ |  |  |  | 100 | 3,2 |      | 3,3 | %    |
| Power dissipation              | $P$           |                        |  |  |  | 25  |     | 130  |     | mW   |
| Power dissipation constant     | $d$           |                        |  |  |  | 25  |     | 1,3  |     | mW/K |
| B-value                        | $B_{(25/50)}$ | Tol. $\pm 1 \%$        |  |  |  |     |     | 3380 |     | K    |
| Vincotech Thermistor Reference |               |                        |  |  |  |     |     |      | V   |      |



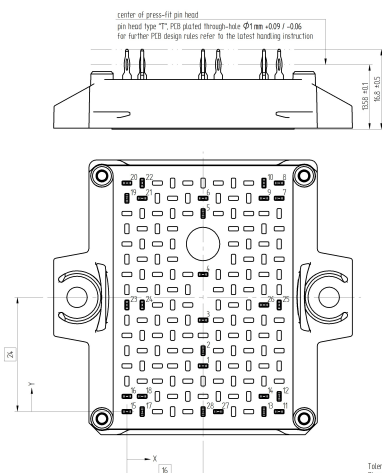
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**10-EY232PB008ME01-PN97F08T**  
target datasheet

| Ordering Code                            |                                |
|--|--------------------------------|
| <b>Version</b>                           | <b>Ordering Code</b>           |
| Without thermal paste                    | 10-EY232PB008ME01-PN97F08T     |
| With thermal paste (5,2 W/mK, PTM6000HV) | 10-EY232PB008ME01-PN97F08T-/7/ |

| Marking   |                   |  |                            |                               |                          |                       |
|---|-------------------|--|----------------------------|-------------------------------|--------------------------|-----------------------|
|  | <b>Text</b>       | <b>Name</b><br>NN-NNNNNNNNNNNNNN-<br>TTTTTVV | <b>Date code</b><br>WWYY   | <b>UL &amp; VIN</b><br>UL VIN | <b>Lot</b><br>LLLLL      | <b>Serial</b><br>SSSS |
|   | <b>Datamatrix</b> | <b>Type&amp;Ver</b><br>TTTTTTTV              | <b>Lot number</b><br>LLLLL | <b>Serial</b><br>SSSS         | <b>Date code</b><br>WWYY |                       |

| Outline        |      |      |          |  |
|----------------|------|------|----------|--|
| Pin table [mm] |      |      |          |  |
| Pin            | X    | Y    | Function |  |
| 1              | 16   | 9,6  | DC-      |  |
| 2              | 16   | 12,8 | DC-      |  |
| 3              | 16   | 19,2 | DC-      |  |
| 4              | 16   | 28,8 | DC-      |  |
| 5              | 16   | 41,6 | DC-      |  |
| 6              | 16   | 44,8 | DC-      |  |
| 7              | 32   | 44,8 | DC+      |  |
| 8              | 32   | 48   | DC+      |  |
| 9              | 28,8 | 44,8 | DC+      |  |
| 10             | 28,8 | 48   | DC+      |  |
| 11             | 32   | 0    | DC+      |  |
| 12             | 32   | 3,2  | DC+      |  |
| 13             | 28,8 | 0    | DC+      |  |
| 14             | 28,8 | 3,2  | DC+      |  |
| 15             | 0    | 0    | Ph       |  |
| 16             | 0    | 3,2  | Ph       |  |
| 17             | 3,2  | 0    | Ph       |  |
| 18             | 3,2  | 3,2  | Ph       |  |
| 19             | 0    | 44,8 | Ph       |  |
| 20             | 0    | 48   | Ph       |  |
| 21             | 3,2  | 44,8 | Ph       |  |
| 22             | 3,2  | 48   | Ph       |  |
| 23             | 0    | 22,4 | G11      |  |
| 24             | 3,2  | 22,4 | S11      |  |
| 25             | 32   | 22,4 | G12      |  |
| 26             | 28,8 | 22,4 | S12      |  |
| 27             | 19,2 | 0    | Therm1   |  |
| 28             | 16   | 0    | Therm2   |  |



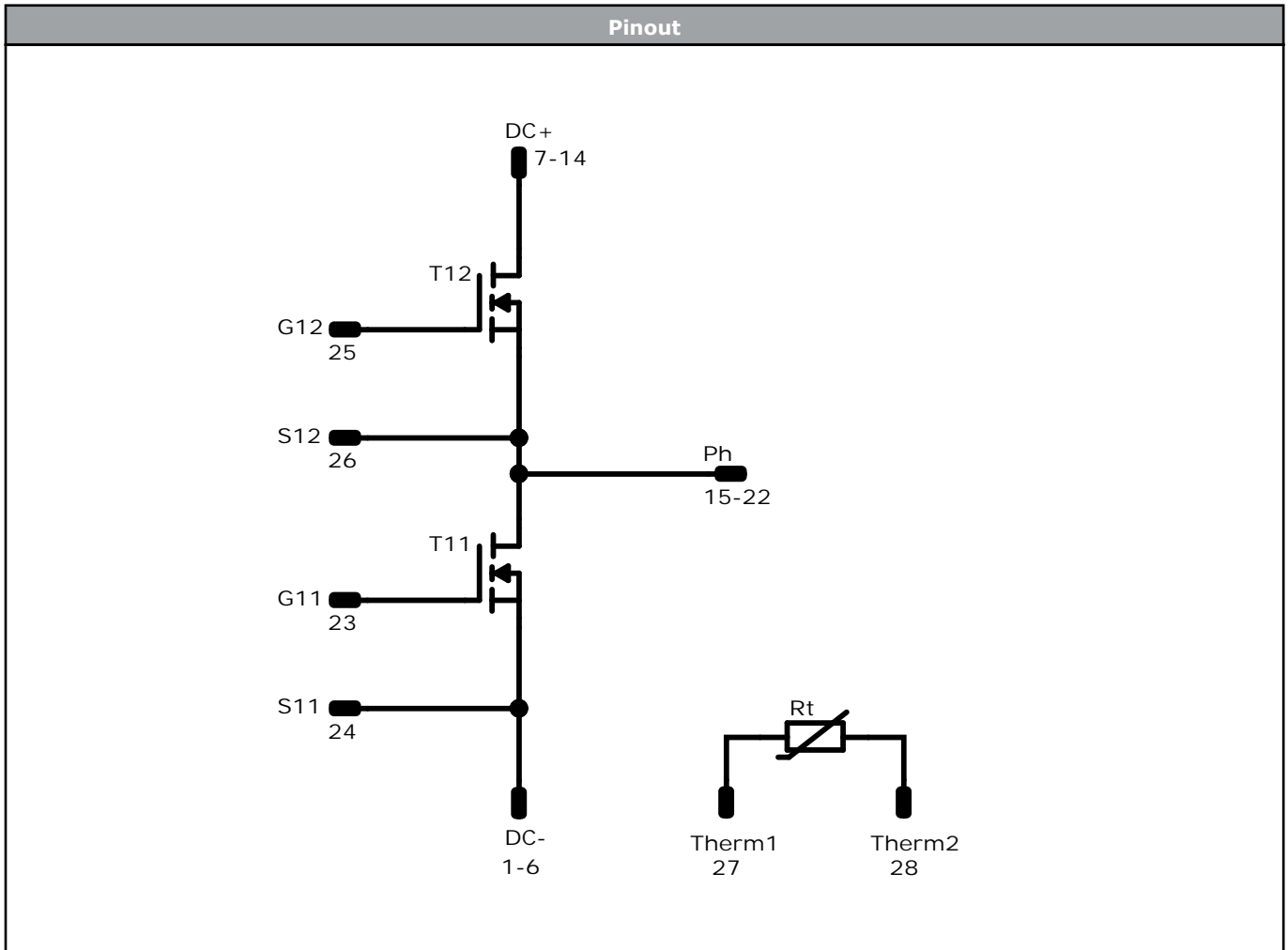
center of press-fit pin head  
pin head type "T" PHS plated through-hole  $\phi 1\text{mm}$   $\pm 0,09$  /  $-0,06$   
for further PCD design rules refer to the latest handling instruction

SSS: 0,15  
0,64: 0,05

Tolerance of pin positions:  $\pm 0,1\text{mm}$  at the end of pins  
Dimension of coordinate axis is only offset without tolerance



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| Identification |            |         |         |                 |         |
|----------------|------------|---------|---------|-----------------|---------|
| ID             | Component  | Voltage | Current | Function        | Comment |
| T11, T12       | MOSFET     | 2300 V  | 7,5 mΩ  | Inverter Switch |         |
| Rt             | Thermistor |         |         | Thermistor      |         |



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10-EY232PB008ME01-PN97F08T  
target datasheet

| Packaging instruction                 |      |          |      |        |
|---------------------------------------|------|----------|------|--------|
| Standard packaging quantity (SPQ) 100 | >SPQ | Standard | <SPQ | Sample |

| Handling instruction   |
|--|
| Handling instructions for <i>flow</i> E2 packages see vincotech.com website. |

| Package data  |
|---|
| Package data for <i>flow</i> E2 packages see vincotech.com website. |

| Vincotech thermistor reference                                     |
|--|
| See Vincotech thermistor reference table at vincotech.com website. |

| UL recognition and file number   |
|--|
| This device is UL 1557 recognized under E192116 up to a junction temperature under switching condition $T_{j,op}=175^{\circ}C$ and up to 4000VAC/1min isolation voltage. For more information see vincotech.com website. |



| Document No.:                    | Date:        | Modification:          | Pages |
|----------------------------------|--------------|------------------------|-------|
| 10-EY232PB008ME01-PN97F08T-T2-14 | 16 Apr. 2026 | Change Inverter Switch |       |

| 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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