



**flowDUAL E2 SiC**

**2300 V / 8 mΩ**

**Topology features**

- Temperature sensor
- Half Bridge

**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

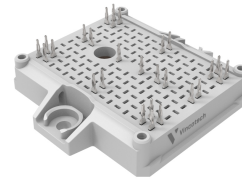
**Target applications**

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

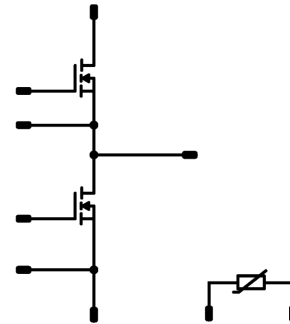
**Types**

- 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)	$I_D$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	286	A
Peak drain current	$I_{DM}$	$i_p$ 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	$V_{GSS}$		-4 / 15	V
		dynamic	-8 / 19	
Maximum Junction Temperature	$T_{jmax}$		175	°C

## Resistor

DC current	$I$	terminal temperature $T_k = 90\text{ °C}$	626	mA
Power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	0,5	W
Operation Temperature	$T_{op}$		-55 ... 155	°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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**10-EY232PB008ME01-PN97F08T**  
target datasheet

### 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	

#### 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		nA
Zero Gate Voltage Drain Current	$I_{DSS}$		0	2300		25		4		μA
Internal gate resistance	$r_g$							2,5		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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#### Resistor

##### Static

Resistance	$R$							1,27		Ω
Tolerance							-5		5	%
Temperature coefficient	tc							200		ppm/K



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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	

### 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	



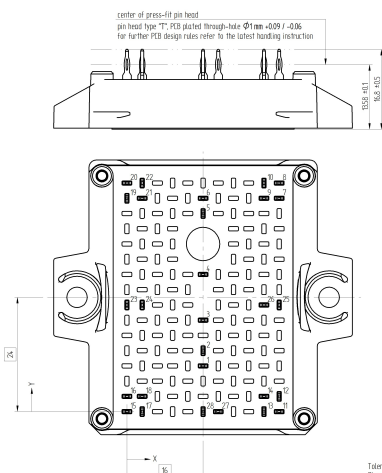
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**10-EY232PB008ME01-PN97F08T**  
target datasheet

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

Pin table [mm]				Outline
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 'TP' (Pb plated through-hole)  $\phi_{1mm} \pm 0.09 / -0.06$

for further PCB design rules refer to the latest handling instruction

8.58 ± 0.15

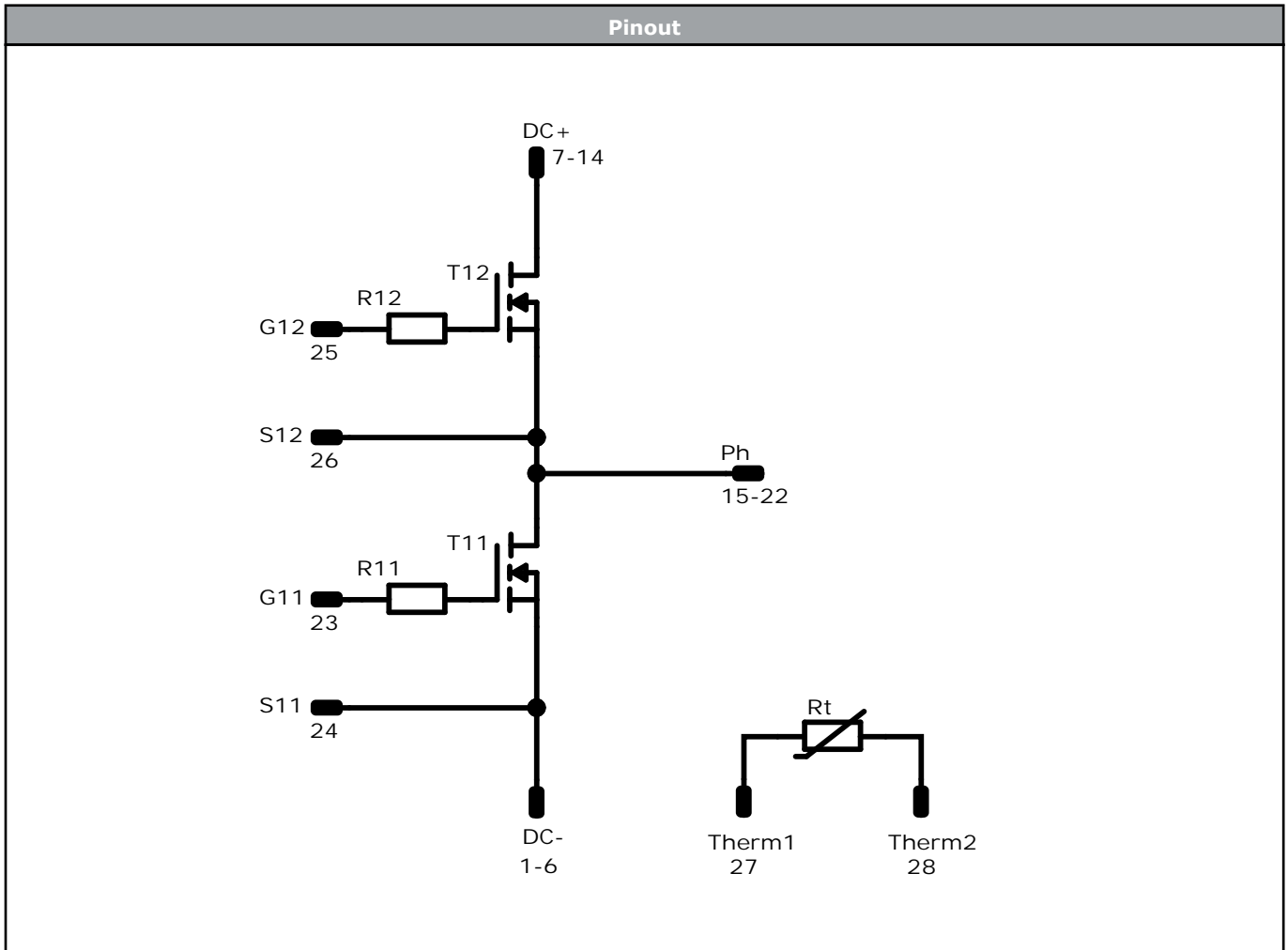
16.0 ± 0.15

Tolerance of pinpositions: ±0.14mm 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
R11, R12	Resistor			Resistor	
T11, T12	MOSFET	2300 V	7,5 mΩ	Inverter Switch	
Rt	Thermistor			Thermistor	



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-T1-14	16 Jan. 2025	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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