



Vincotech

# 10-EZ122PA021ME-LJ66F48T

target datasheet

flowDUAL E1 SiC

1200 V / 21 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: Al<sub>2</sub>O<sub>3</sub>
- 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
- Servo Drives
- Solar Inverters
- UPS

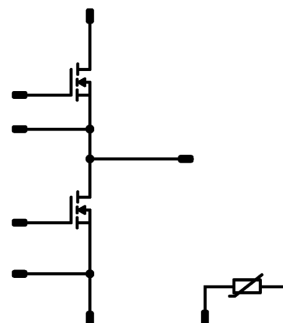
## Types

- 10-EZ122PA021ME-LJ66F48T

## flow E1 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	$V_{DS}$		1200	V
Drain current (DC current)	$I_D$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	80	A
Peak drain current	$I_{DM}$	$t_p$ limited by $T_{jmax}$	208	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	106	W
Gate-source voltage	$V_{GSS}$		-4 / 15	V
		dynamic	-8 / 19	
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 $t_p = 2\text{ s}$	6000	V
Creepage distance			>12,7	mm
Clearance			8,62	mm
Comparative Tracking Index	CTI		≥ 600	



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## Characteristic Values

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

### Inverter Switch

#### Static

Drain-source on-state resistance	$r_{DS(on)}$		15		51,6	25	14,7	21	27,3	mΩ
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$			0,01422	25	1,8	2,7	3,6	V
Gate to Source Leakage Current	$I_{GSS}$		15	0		25		20	500	nA
Zero Gate Voltage Drain Current	$I_{DSS}$		0	1200		25		2	100	μA
Internal gate resistance	$r_g$							2,95		Ω
Gate charge	$Q_g$		-4/15	800	51,6	25		186		nC
Short-circuit input capacitance	$C_{iss}$	$f = 100$ kHz	0	1000	0	25		4740		pF
Short-circuit output capacitance	$C_{oss}$							170		
Reverse transfer capacitance	$C_{rss}$							16		
Diode forward voltage	$V_{SD}$		0		25,8	25		4,8		V

#### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						0,9		K/W
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### Thermistor


#### Static

Rated resistance	$R$					25		5		kΩ
Deviation of R100	$\Delta_{R/R}$	$R_{100} = 499$ Ω				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	



target datasheet

Ordering Code	
Version	Ordering Code
Without thermal paste	10-EZ122PA021ME-LJ66F48T
With thermal paste (5,2 W/mK, PTM6000HV)	10-EZ122PA021ME-LJ66F48T-/7/

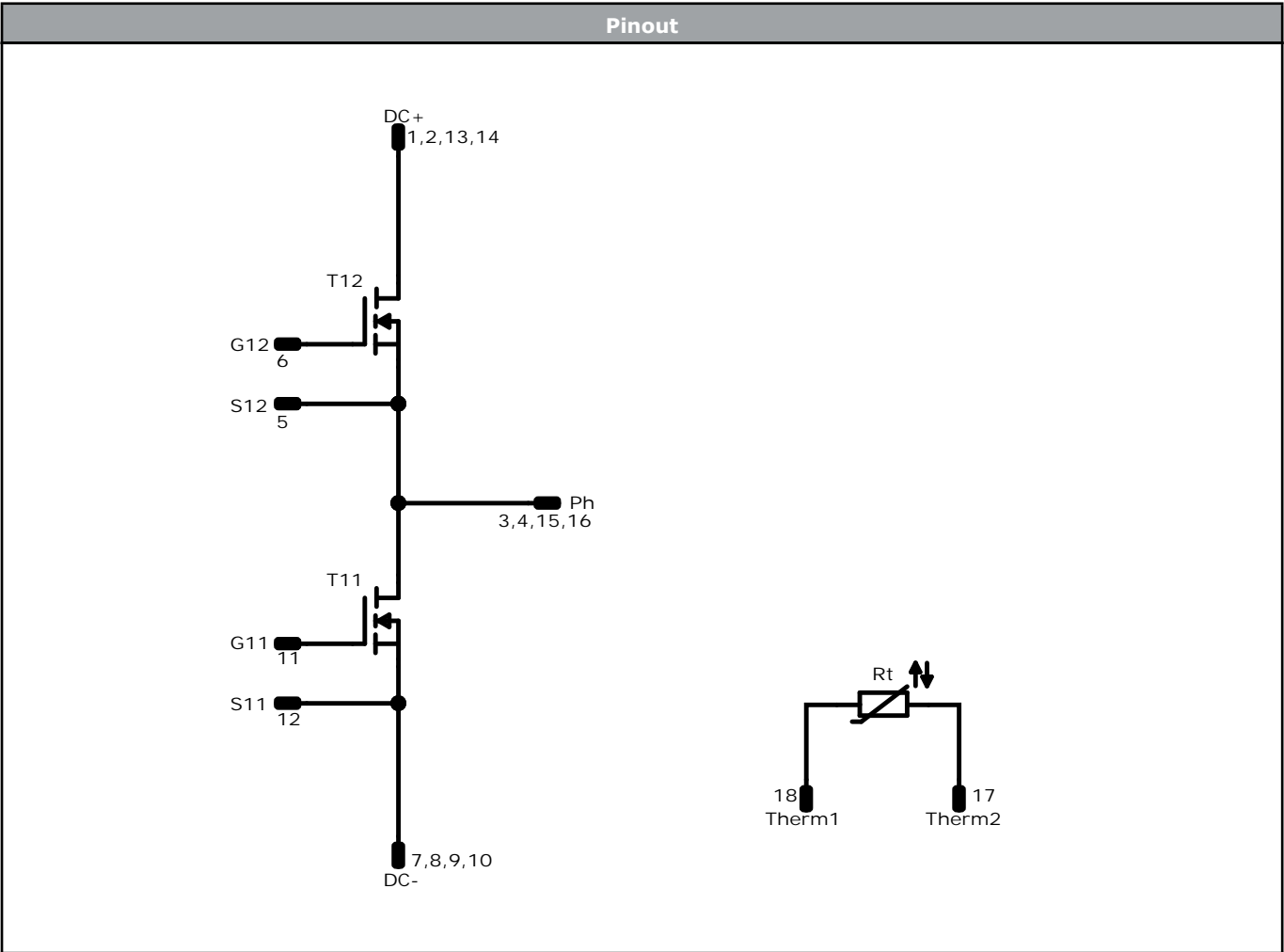
Marking							
	Text	Name		Date code	UL & VIN	Lot	Serial
		NN-NNNNNNNNNNNNN- TTTTTIVV		WWYY	UL VIN	LLLLL	SSSS
	Datamatrix	Type&Ver	Lot number	Serial	Date code		
	TTTTTIVV	LLLLL	SSSS	WWYY			

### Outline

Pin table [mm]			
Pin	X	Y	Function
1	32	3,2	DC+
2	32	6,4	DC+
3	32	22,4	Ph
4	32	25,6	Ph
5	19,2	0	S12
6	19,2	3,2	G12
7	25,6	12,8	DC-
8	22,4	12,8	DC-
9	19,2	12,8	DC-
10	12,8	12,8	DC-
11	19,2	22,4	G11
12	19,2	25,6	S11
13	6,4	3,2	DC+
14	6,4	6,4	DC+
15	6,4	22,4	Ph
16	6,4	25,6	Ph
17	0	12,8	Therm2
18	0	16	Therm1

The technical drawing shows the sensor module from two perspectives. The top view is a side elevation showing the profile of the module with a height of 130,8 ± 0,1 mm and a base width of 86 ± 0,5 mm. It features six pins of varying heights. A note indicates: 'center of press-fit pinhead for connection parameter see the handling instruction'. The bottom view is a top-down perspective showing the rectangular footprint of the module. It includes mounting holes at the corners, a central circular feature, and a grid of small rectangular features. Dimension lines indicate a width of 123 mm and a height of 16 mm. Coordinate axes X and Y are shown at the bottom right.

Tolerance of pinpositions: ±0,4mm at the end of pins  
Dimension of coordinate axis is only offset without tolerance



Identification					
ID	Component	Voltage	Current	Function	Comment
T11, T12	MOSFET	1200 V	21 mΩ	Inverter Switch	
Rt	Thermistor			Thermistor	



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

Handling instruction
Handling instructions for <i>flow</i> E1 packages see vincotech.com website.

Package data
Package data for <i>flow</i> E1 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 $T_{j,op}=175^{\circ}\text{C}$ and up to 3500VAC/1min isolation voltage. For more information see vincotech.com website.



Document No.:	Date:	Modification:	Pages
10-EZ122PA021ME-LJ66F48T-T1-14	25 Mar. 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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