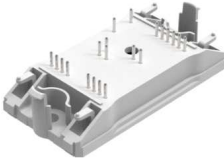

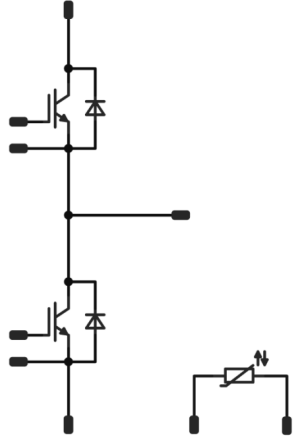




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<i>flow</i> PHASE 0	1200 V / 40 A
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;">Features</div> <ul style="list-style-type: none"> High efficiency fast Fairchild IGBT Full current fast FWD Thermistor 	<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;">flow 0 12mm housing</div> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Solder pins Press-fit pins </div>
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;">Target applications</div> <ul style="list-style-type: none"> Industrial Drives Power Supply Solar UPS Welding 	<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;">Schematic</div> 
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;">Types</div> <ul style="list-style-type: none"> 10-FZ122PB040FV01-M817F98 10-PZ122PB040FV01-M817F98Y 	

Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
Half-Bridge Switch				
Collector-emitter voltage	V_{CES}		1200	V
Collector current	I_C	$T_j = T_{jmax}$ $T_s = 80^{\circ}\text{C}$	72	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}	160	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80^{\circ}\text{C}$	198	W
Gate-emitter voltage	V_{GES}		±20	V
Maximum Junction Temperature	T_{jmax}		175	°C



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Parameter	Symbol	Condition	Value	Unit
Half-Bridge Diode				
Peak Repetitive Reverse Voltage	V_{RRM}		1200	V
Continuous (direct) forward current	I_F	$T_j = T_{jmax}$ $T_s = 80^\circ\text{C}$	55	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80^\circ\text{C}$	158	W
Maximum Junction Temperature	T_{jmax}		175	$^\circ\text{C}$

Parameter	Symbol	Condition	Value	Unit
Module Properties				
Thermal Properties				
Storage temperature	T_{stg}		-40...+125	$^\circ\text{C}$
Operation temperature under switching condition	T_{jop}		-40...+($T_{jmax} - 25$)	$^\circ\text{C}$

Isolation Properties				
Isolation voltage	V_{isol}	DC voltage $t_p=2s$	4000	V
Creepage distance			min 12,7	mm
Clearance		Solder pins / Press-fit pins	9,12 / 9,54	mm
Comparative Tracking Index	CTI		>200	



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Characteristic Values

Half-Bridge Switch

Parameter	Symbol	Conditions					Value			Unit
		V_{GE} [V]	V_{CE} [V]	I_C [A]	T_j [°C]	Min	Typ	Max		
Gate-emitter threshold voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}$		0,04	25 125	5		7,3	V	
Collector-emitter saturation voltage	V_{CEsat}		15	40	25 125 150	1,5	1,80	2,5	V	
Collector-emitter cut-off current	I_{CES}		0	1200	25 125			50	μA	
Gate-emitter leakage current	I_{GES}		20	0	25 125			250	nA	
Internal gate resistance	r_g						none		Ω	
Input capacitance	C_{ies}	f=100 KHz	0	30	25		4300		pF	
Output capacitance	C_{oes}						180			
Reverse transfer capacitance	C_{res}						100			
Gate charge	Q_g		15	600	40	25		370	nC	

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	Thermal foil thickness=76μm Kunze foil KU-ALF5						0,48		K/W
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Half-Bridge Diode

Parameter	Symbol	Conditions					Value			Unit
		V_{GE} [V]	V_{CE} [V]	I_C [A]	T_j [°C]	Min	Typ	Max		
Forward voltage	V_F			35	25 150		2,30 2,29	2,62	V	
Reverse leakage current	I_r			1200	25 150			60 5500	μA	

Thermal										
Thermal resistance junction to sink	$R_{th(j-s)}$	Thermal foil thickness = 76 μm Kunze foil KU-ALF5						0,60		K/W



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Thermistor

Parameter	Symbol	Conditions	Conditions			Value			Unit	
			V_{GE} [V] V_{GS} [V]	V_{CE} [V] V_{GS} [V] V_r [V]	I_C [A] I_D [A] I_F [A]	T_i [°C]	Min	Typ		Max
Rated resistance	R					25		22		k Ω
Deviation of R100	$\Delta_{R/R}$	R100=1484 Ω				100	-5		5	%
Power dissipation	P					25		5		mW
Power dissipation constant						25		1,5		mW/K
B-value	$B_{(25/50)}$	Tol. $\pm 1\%$				25		3962		K
B-value	$B_{(25/100)}$	Tol. $\pm 1\%$				25		4000		K
Vincotech NTC Reference									I	

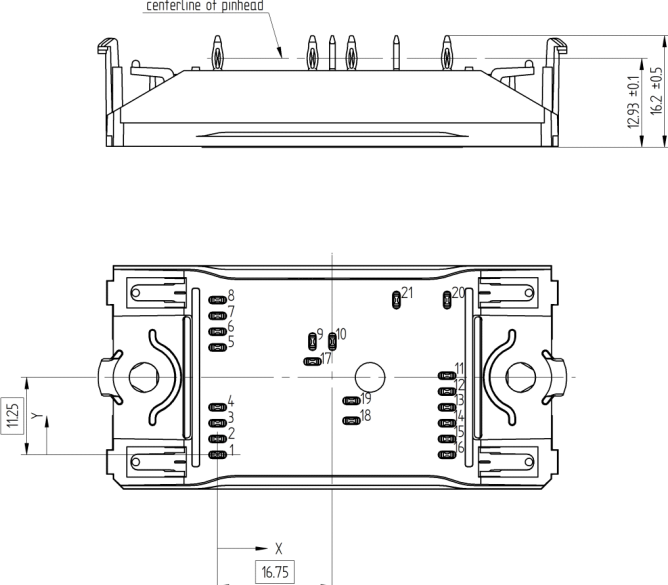


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Ordering Code & Marking							
Version			Ordering Code				
without thermal paste with Solder pins 12mm housing			10-FZ122PB040FV01-M817F98				
without thermal paste with Press-fit pins 12mm housing			10-PZ122PB040FV01-M817F98Y				
NN-NNNNNNNNNNNNNN NNNNNNNN WWYY UL Vinco LLLLL SSSS		Text	Name	Date code	UL & Vinco	Lot	Serial
			NN-NNNNNNNNNNNNNN-NNNNNNNN	WWYY	UL Vinco	LLLLL	SSSS
		Datamatrix	Type&Ver	Lot number	Serial	Date code	
			TTTTTTVV	LLLLL	SSSS	WWYY	

Pin table [mm]			
Pin	X	Y	Function
1	0	0	DC-
2	0	2,3	DC-
3	0	4,6	DC-
4	0	6,9	DC-
5	0	15,6	DC+
6	0	17,9	DC+
7	0	20,2	DC+
8	0	22,5	DC+
9	13,85	16,45	G12
10	16,75	16,45	S12
11	33,5	11,5	Ph
12	33,5	9,2	Ph
13	33,5	6,9	Ph
14	33,5	4,6	Ph
15	33,5	2,3	Ph
16	33,5	0	Ph
17	13,85	13,55	Ph
18	19,55	4,95	S11
19	19,55	7,85	G11
20	33,5	22,5	Therm1
21	26,1	22,5	Therm2



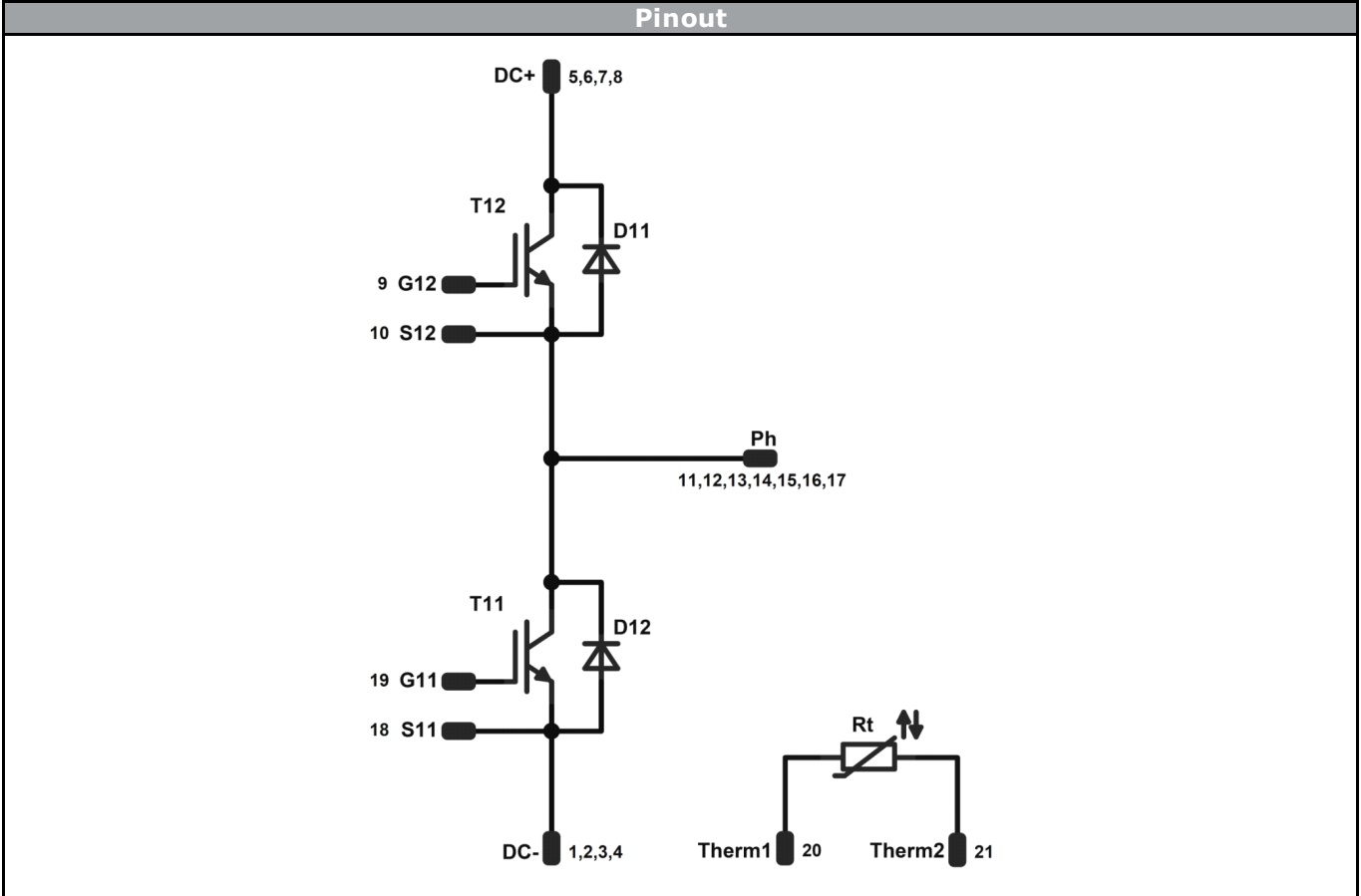
Tolerance of pinpositions: ±0,5mm at the end of pins
 Dimension of coordinate axis is only offset without tolerance



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Pinout



Identification

ID	Component	Voltage	Current	Function	Comment
T11,T12	IGBT	1200 V	40 A	Half-Bridge Switch	
D11,D12	FWD	1200 V	35 A	Half-Bridge Diode	
Rt	NTC	-	-	Thermistor	



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target datasheet

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

Document No.:	Date:	Modification:	Pages
10-xZ122PB040FV01-M817F98x-T2-14	23 Dec. 2015		

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.