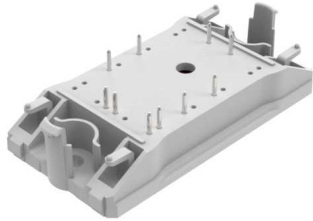
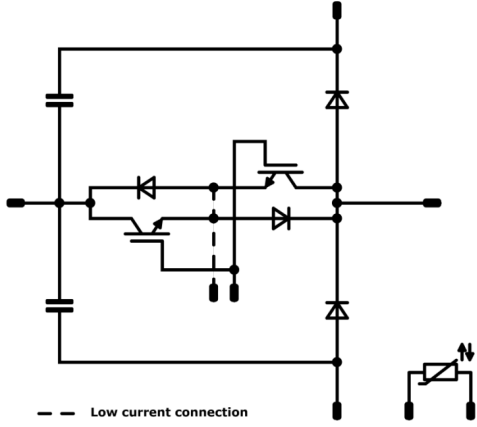




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<i>flow</i> NPFC 0	650 V / 100 A
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;">Features</div> <ul style="list-style-type: none"> 3 phase PFC Very fast boost diodes Thermistor Low inductive layout 	<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;">flow 0 12mm housing</div> 
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;">Target applications</div> <ul style="list-style-type: none"> UPS 	<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-FZ07LBA100SM03-L705L08 	

Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
Boost Switch				
Collector-emitter voltage	V_{CES}		650	V
Collector current	I_C	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	79	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}	300	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	133	W
Gate-emitter voltage	V_{GES}		± 20	V
Maximum Junction Temperature	T_{jmax}		175	°C



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Parameter	Symbol	Condition	Value	Unit
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Boost Diode

Peak Repetitive Reverse Voltage	V_{RRM}		1200	V
Continuous (direct) forward current	I_F	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	51	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	109	W
Maximum Junction Temperature	T_{jmax}		175	°C

Boost Sw. Protection Diode

Peak Repetitive Reverse Voltage	V_{RRM}		650	V
Continuous (direct) forward current	I_F	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	71	A
Repetitive peak forward current	I_{FRM}		200	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	95	W
Maximum Junction Temperature	T_{jmax}		175	°C

DC Capacitance

Maximum DC voltage	V_{MAX}		500	V
Operation Temperature	T_{op}		-55...+125	°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 Voltage $t_p = 2s$	4000	V
Creepage distance			min. 12,7	mm
Clearance			9,75	mm
Comparative Tracking Index	CTI		> 200	



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Characteristic Values

Parameter	Symbol	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_j [°C]

Boost Switch

Static

Gate-emitter threshold voltage	$V_{GE(th)}$	$V_{GE} = V_{CE}$				0,001	25		3,3	4	4,7	V
Collector-emitter saturation voltage	V_{CEsat}		15			100	25 125			1,63 1,78	2,22	V
Collector-emitter cut-off current	I_{CES}		0	650			25				80	μA
Gate-emitter leakage current	I_{GES}		20	0			25				240	nA
Internal gate resistance	r_g									none		Ω
Input capacitance	C_{ies}									6000		pF
Output capacitance	C_{oes}	f = 1 MHz	0	25			25			100		
Reverse transfer capacitance	C_{res}									22		
Gate charge	Q_g		15	520	100		25			240		nC

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda = 3,4$ W/mK								0,72		K/W
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Boost Diode

Static

Forward voltage	V_F					75	25 150			2,65	3,6	V
Reverse leakage current	I_r			1200			25 150				100	μA

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda = 3,4$ W/mK								0,87		K/W
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Parameter	Symbol	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_j [°C]	Min	Typ	Max		

Boost Sw. Protection Diode

Static

Forward voltage	V_F			100	25 150		1,77 1,57	1,82	V
Reverse leakage current	I_r		650		25 150			1,2	μ A

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda = 3,4$ W/mK					1,00		K/W
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DC Capacitance




Capacitance	C						150		nF
Tolerance							-10	+10	%

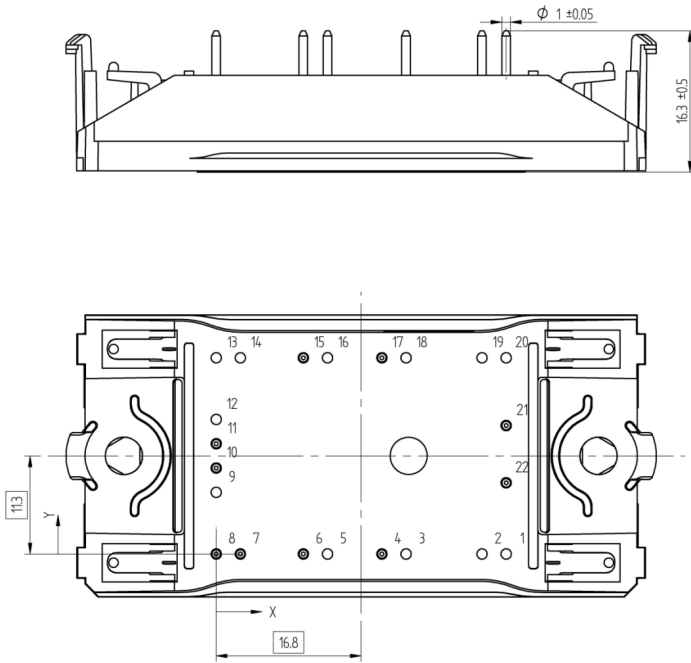
Thermistor

Rated resistance	R				25		22		k Ω
Deviation of R100	$\Delta_{R/R}$	R100=1486 Ω			100	-12		+14	%
Power dissipation	P				25		200		mW
Power dissipation constant					25		2		mW/K
B-value	$B_{(25/50)}$	Tol. $\pm 3\%$			25		3950		K
B-value	$B_{(25/100)}$	Tol. $\pm 3\%$			25		3998		K
Vincotech NTC Reference								B	



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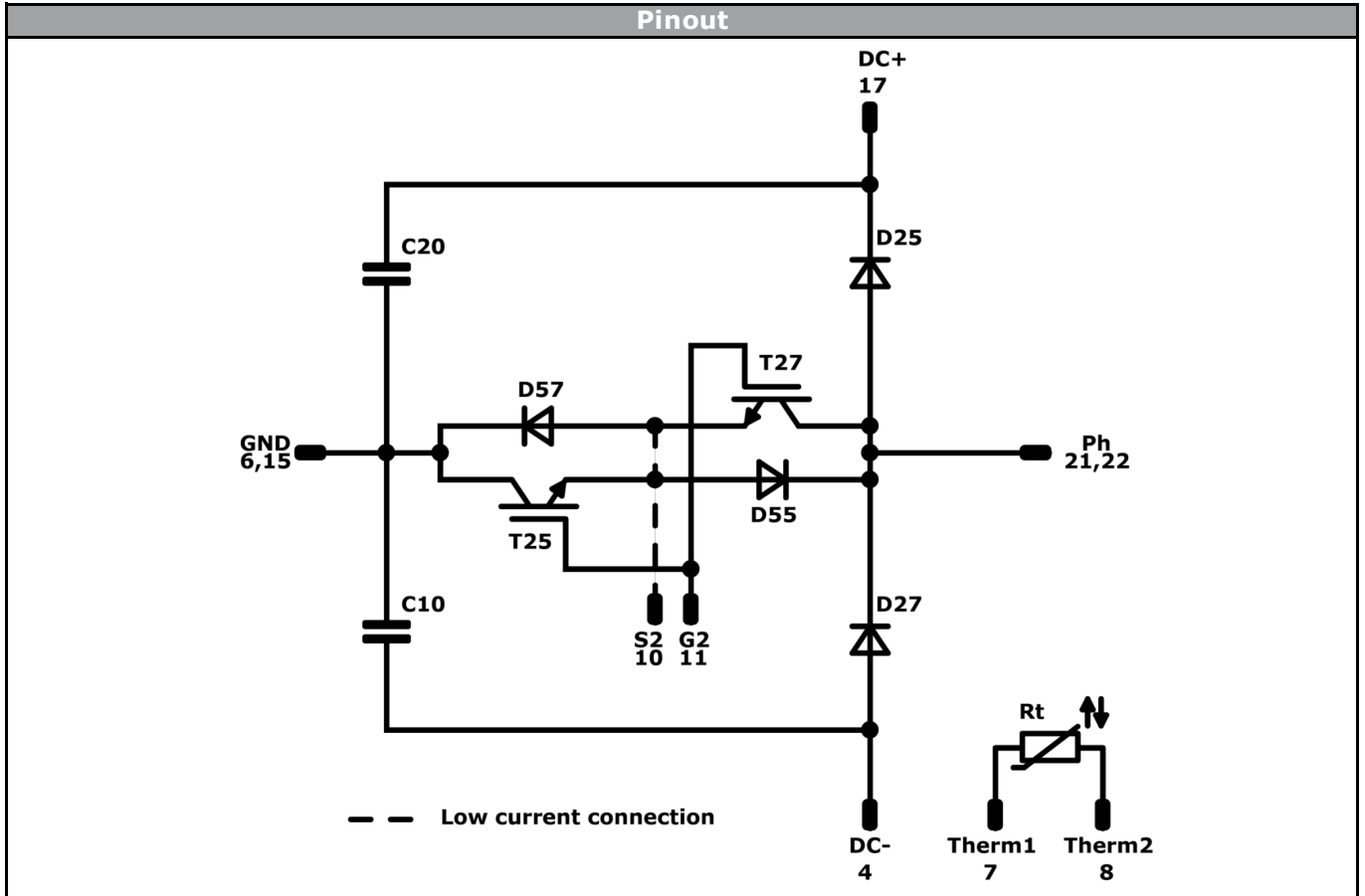
Ordering Code & Marking																																								
Version				Ordering Code																																				
without thermal paste with Solder pins 12mm housing				10-FZ07LBA100SM03-L705L08																																				
<table border="1"> <tr> <td rowspan="2"> NN-NNNNNNNNNNNNNN TTTTIVV WWYY UL Vinco LLLL SSSS </td> <td rowspan="2">  </td> <th colspan="2">Text</th> <th>Name</th> <th>Date code</th> <th>UL & Vinco</th> <th>Lot</th> <th>Serial</th> </tr> <tr> <td colspan="2"></td> <td>NN-NNNNNNNNNNNNNN-TTTTIVV</td> <td>WWYY</td> <td>UL Vinco</td> <td>LLLLL</td> <td>SSSS</td> </tr> <tr> <th colspan="2">Datamatrix</th> <th>Type&Ver</th> <th>Lot number</th> <th>Serial</th> <th>Date code</th> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2"></td> <td>TTTTTIVV</td> <td>LLLLL</td> <td>SSSS</td> <td>WWYY</td> <td colspan="2"></td> <td></td> </tr> </table>							NN-NNNNNNNNNNNNNN TTTTIVV WWYY UL Vinco LLLL SSSS		Text		Name	Date code	UL & Vinco	Lot	Serial			NN-NNNNNNNNNNNNNN-TTTTIVV	WWYY	UL Vinco	LLLLL	SSSS	Datamatrix		Type&Ver	Lot number	Serial	Date code						TTTTTIVV	LLLLL	SSSS	WWYY			
NN-NNNNNNNNNNNNNN TTTTIVV WWYY UL Vinco LLLL SSSS		Text		Name	Date code	UL & Vinco			Lot	Serial																														
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Datamatrix		Type&Ver	Lot number	Serial	Date code																																			
		TTTTTIVV	LLLLL	SSSS	WWYY																																			

Pin table [mm]				Outline	
Pin	X	Y	Function		
1					
2	Not assembled				
3	Not assembled				
4	19,2	0	-DC		
5	Not assembled				
6	10,1	0	GND		
7	2,8	0	Therm1		
8	0	0	Therm2		
9	Not assembled				
10	0	9,9	S2		
11	0	12,7	G2		
12	Not assembled				
13	Not assembled				
14	Not assembled				
15	10,1	22,6	GND		
16	Not assembled				
17	19,2	22,6	+DC		
18	Not assembled				
19	Not assembled				
20	Not assembled				
21	33,6	14,8	Ph		
22	33,6	8,2	Ph		

Tolerance of pinpositions ±0,5mm 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
T25, T27	IGBT	650 V	100 A	Boost Switch	
D25, D27	FWD	1200 V	75 A	Boost Diode	
D55, D57	FWD	650 V	100 A	Boost Sw. Protection Diode	
C10, C20	Capacitor	500 V		DC Capacitance	
Rt	NTC			Thermistor	



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

Document No.:	Date:	Modification:	Pages
10-FZ07LBA100SM03-L705L08-T2-14	01 Jul. 2016		

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.