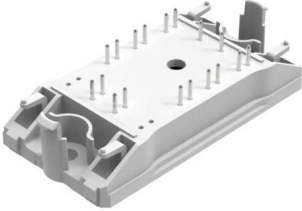
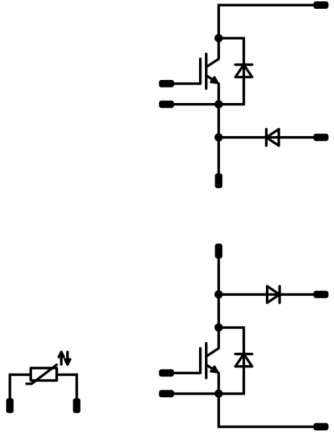
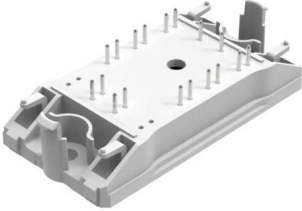
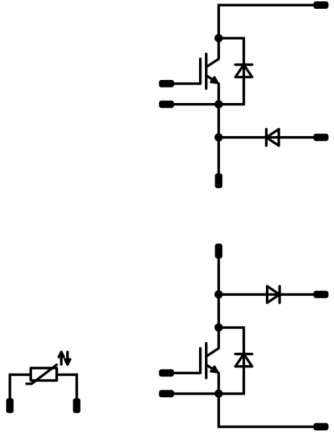
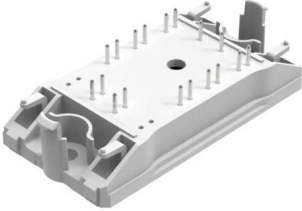
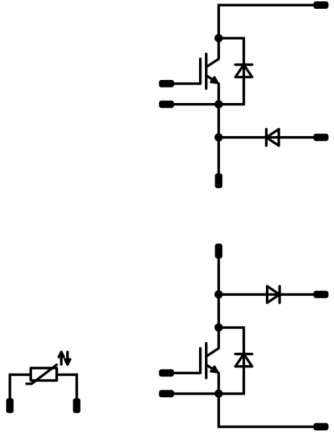




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<b>flowBOOST 0 symmetric</b>	<b>650 V / 30 A</b>										
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## Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
<b>Boost Switch</b>				
Collector-emitter voltage	$V_{CES}$		650	V
Collector current	$I_C$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	28	A
Repetitive peak collector current	$I_{CRM}$	$t_p$ limited by $T_{jmax}$	90	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	57	W
Gate-emitter voltage	$V_{GES}$		$\pm 20$	V
Maximum Junction Temperature	$T_{jmax}$		175	°C



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Parameter	Symbol	Condition	Value	Unit
<b>Boost Diode</b>				
Peak Repetitive Reverse Voltage	$V_{RRM}$		650	V
Continuous (direct) forward current	$I_F$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	33	A
Repetitive peak forward current	$I_{FRM}$		90	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	61	W
Maximum Junction Temperature	$T_{jmax}$		175	°C

### Boost Sw. Protection Diode

Peak Repetitive Reverse Voltage	$V_{RRM}$		650	V
Continuous (direct) forward current	$I_F$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	20	A
Repetitive peak forward current	$I_{FRM}$		30	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	36	W
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 Voltage $t_p = 2s$	4000	V
Creepage distance			min. 12,7	mm
Clearance			9,53	mm
Comparative Tracking Index	CTI		> 200	



## 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	$V_{GE(th)}$	$V_{GE} = V_{CE}$				0,0003	25		3,3	4	4,7	V
Collector-emitter saturation voltage	$V_{CEsat}$		15			30	25 125			1,69 1,92	2,22	V
Collector-emitter cut-off current	$I_{CES}$		0	650			25				40	µA
Gate-emitter leakage current	$I_{GES}$		20	0			25				120	nA
Internal gate resistance	$r_g$									none		Ω
Input capacitance	$C_{ies}$	f = 1MHz	0	25			25			2100		pF
Reverse transfer capacitance	$C_{res}$									7,7		
Gate charge	$Q_g$		15	520	30	25				70		nC

#### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda = 3,4$ W/mK								1,67		K/W
-------------------------------------	---------------	---	--	--	--	--	--	--	--	------	--	-----

### Boost Diode

#### Static

Forward voltage	$V_F$				30	25 125			2,46 2,03	2,6		V
Reverse leakage current	$I_r$			665		25				10		µA

#### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda = 3,4$ W/mK								1,55		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]	$T_i$ [°C]	Min	Typ	Max		

### Boost Inverse Diode

#### Static

Forward voltage	$V_F$				15	25 125		1,79 1,67	1,87	V
Reverse leakage current	$I_r$			650		25			0,18	$\mu$ A

#### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda = 3,4$ W/mK						2,65		K/W
-------------------------------------	---------------	---	--	--	--	--	--	------	--	-----

### Thermistor

Rated resistance	$R$					25		22		k $\Omega$
Deviation of R100	$\Delta_{R/R}$	R100=1486 $\Omega$				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-FZ07NBA030SM01-P914L53																																					
<table border="1"> <tr> <td rowspan="2">           NN-NNNNNNNNNNNNNN            TTTTIVV WWYY UL            Vinco LLLLL SSSS         </td> <td rowspan="2"> </td> <th colspan="2">Text</th> <th>Name</th> <th>Date code</th> <th>UL &amp; 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&amp;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 LLLLL 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			
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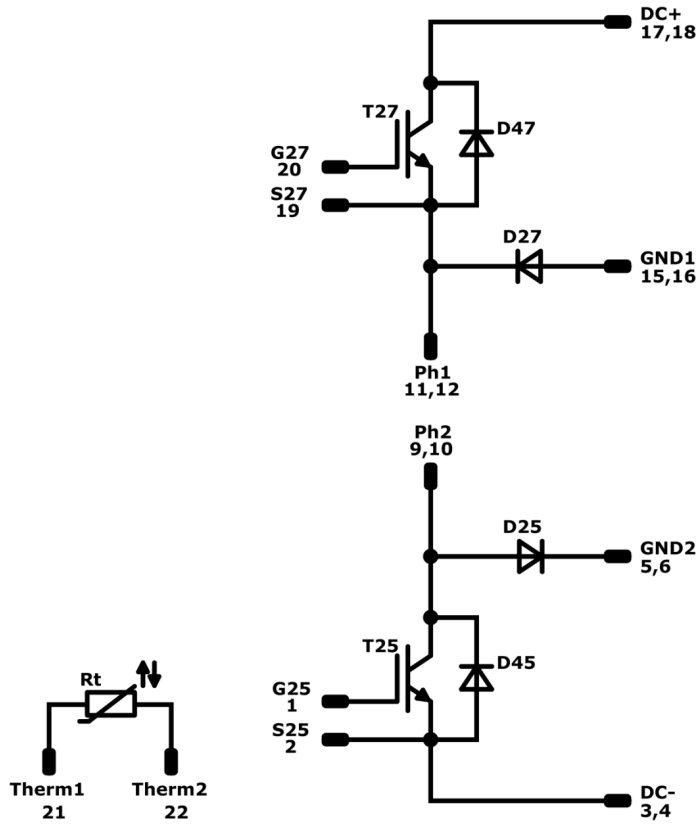
Pin table [mm]				Outline	
Pin	X	Y	Function		
1	33,6	0	G25		
2	30,6	0	S25		
3	23,65	0	DC-		
4	20,65	0	DC-		
5	14,9	0	GND2		
6	11,9	0	GND2		
7	Not assembled				
8	Not assembled				
9	0	7,8	Ph2		
10	3	7,8	Ph2		
11	0	14,8	Ph1		
12	3	14,8	Ph1		
13	Not assembled				
14	Not assembled				
15	11,9	22,6	GND1		
16	14,9	22,6	GND1		
17	20,65	22,6	DC+		
18	23,65	22,6	DC+		
19	30,6	22,6	S27		
20	33,6	22,6	G27		
21	33,6	14,55	Therm1		
22	33,6	8,05	Therm2		

Tolerance of pinpositions:  $\pm 0.5\text{mm}$  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
T25, T27	IGBT	650 V	30 A	Boost Switch	
D25, D27	FWD	650 V	30 A	Boost Diode	
D45, D47	FWD	650 V	15 A	Boost Sw. Protection Diode	
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-FZ07NBA030SM01-P914L53-T1-14	29 Jan. 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.