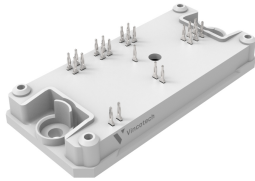
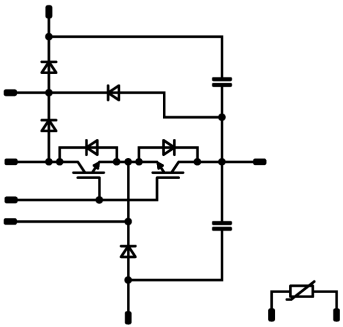




<b>flowANPFC 1</b>		<b>650 V / 150 A</b>	
<b>Features</b>		<b>flow 1 12 mm housing</b>	
<ul style="list-style-type: none"><li>• Ultra fast IGBT and SiC boost diodes</li><li>• Topology requires only one gate driver</li><li>• Integrated capacitor</li><li>• Temperature sensor</li></ul>			
<b>Target applications</b>		<b>Schematic</b>	
<ul style="list-style-type: none"><li>• Charging Stations</li></ul>			
<b>Types</b>			
<ul style="list-style-type: none"><li>• 10-PG07ANA150F401-LH24L58T</li></ul>			



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## Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
<b>Neutral Point Switch</b>				
Collector-emitter voltage	$V_{CES}$		650	V
Collector current	$I_C$	$T_s = 80\text{ °C}$	75	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	153,13	W
Gate-emitter voltage	$V_{GES}$		$\pm 20$	V
Maximum junction temperature	$T_{jmax}$		175	°C

## Negative Boost Diode, Positive Boost Diode

Peak repetitive reverse voltage	$V_{RRM}$		650	V
Continuous (direct) forward current	$I_F$	$T_s = 80\text{ °C}$	10	A
Repetitive peak forward current	$I_{FRM}$	$t_p$ limited by $T_{jmax}$	40	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	74,39	W
Maximum junction temperature	$T_{jmax}$		175	°C

## Positive Boost Blocking Diode, Neutral Point Diode

Peak repetitive reverse voltage	$V_{RRM}$		1600	V
Continuous (direct) forward current	$I_F$	$T_s = 80\text{ °C}$	50	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	90,83	W
Maximum junction temperature	$T_{jmax}$		150	°C

## Positive Boost Diode Protection Diode

Peak repetitive reverse voltage	$V_{RRM}$		650	V
Continuous (direct) forward current	$I_F$	$T_s = 80\text{ °C}$	20	A
Repetitive peak forward current	$I_{FRM}$	$t_p$ limited by $T_{jmax}$	40	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	47,13	W
Maximum junction temperature	$T_{jmax}$		175	°C



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target datasheet

## Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
<b>Neutral Point Diode</b>				
Peak repetitive reverse voltage	$V_{RRM}$		1600	V
Continuous (direct) forward current	$I_F$	$T_s = 80\text{ °C}$	60	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	102,59	W
Maximum junction temperature	$T_{jmax}$		150	°C
<b>Capacitor</b>				
Maximum DC voltage	$V_{MAX}$		630	V



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target datasheet

## Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
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### Module Properties

#### Thermal Properties

Storage temperature	$T_{stg}$		-40...+125	°C
Operation Junction Temperature	$T_{jop}$		-40...+( $T_{jmax} - 25$ )	°C

#### Isolation Properties

Isolation voltage	$V_{isol}$	DC voltage $t_p = 2\text{ s}$	6000	V
Creepage distance			>12,7	mm
Clearance			8	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		

#### Neutral Point Switch

##### Static

Gate-emitter threshold voltage	$V_{GE(th)}$				0.075	25	2,6	4,5	6,4	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	15			75	25 175		1,6 1,92	2,1	V
Collector-emitter cut-off current	$I_{CES}$	0	650			25			250	μA
Input capacitance	$C_{ies}$							4845		pF
Output capacitance	$C_{oes}$	0	30			25		155		pF
Reverse transfer capacitance	$C_{res}$							14		pF
Gate charge	$Q_g$	15	400	75		25		128		nC

##### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)						0,62		K/W
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#### Negative Boost Diode, Positive Boost Diode

##### Static

Forward voltage	$V_F$					25 150 175		1,35 1,55 1,63	1,55	V
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##### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)						1,28		K/W
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#### Positive Boost Blocking Diode, Neutral Point Diode

##### Static

Forward voltage	$V_F$					25 125		1 0,9	1,21 1,1	V
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##### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)						0,77		K/W
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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		

#### Positive Boost Diode Protection Diode

##### Static

Forward voltage	$V_F$				25	1,23	1,55	1,87	V
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##### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)					2,02		K/W
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#### Neutral Point Diode

##### Static

Forward voltage	$V_F$				25 125	1 0,9	1,21 1,1	V
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##### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)					0,68		K/W
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#### Capacitor

##### Static

Capacitance	$C$						100		nF
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**10-PG07ANA150F401-LH24L58T**  
target datasheet

### Characteristic Values

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

### Thermistor

#### Static


Deviation of $R_{100}$	$\Delta R/R$	$R_{100} = 1484 \Omega$				100	-5		5	%
Power dissipation	$P$							5		mW
Power dissipation constant	$d$					25		1,5		mW/K
B-value	$B_{(25/50)}$					25		3962		K
B-value	$B_{(25/100)}$					25		4000		K

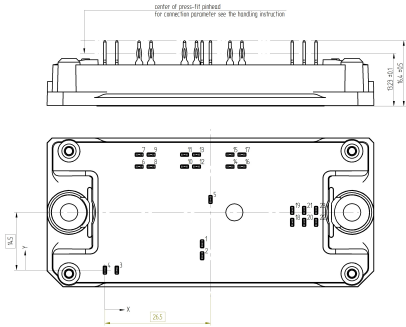


# 10-PG07ANA150F401-LH24L58T

target datasheet

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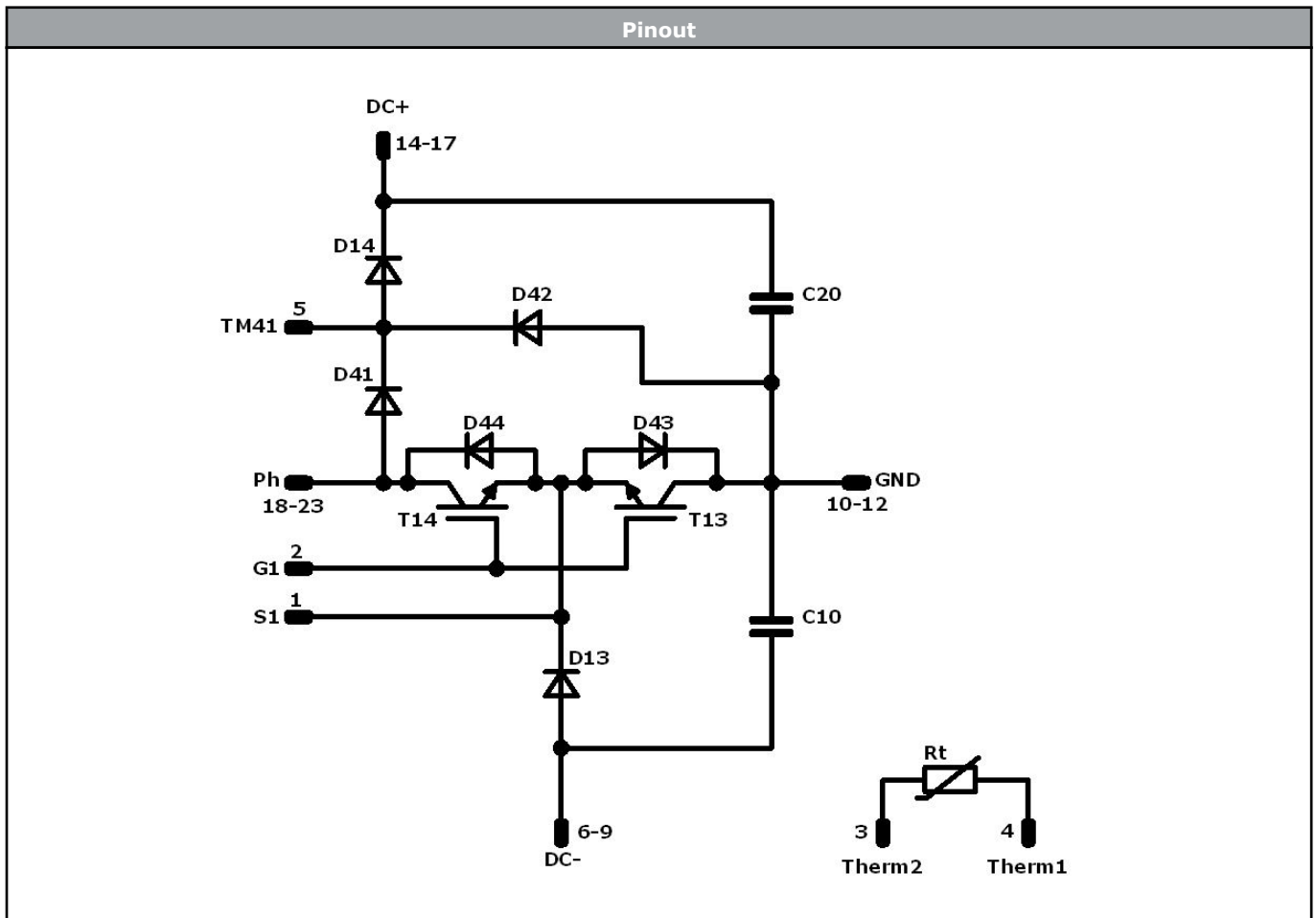
Ordering Code & Marking						
Version			Ordering Code			
NN-NNNNNNNNNNNNNN TTTTITTV WWYY UL VIN LLLLL SSSS					10-PG07ANA150F401-LH24L58T	
					<b>Date code</b>	<b>UL &amp; VIN</b>
			<b>Name</b>	<b>Type&amp;Ver</b>	<b>Lot number</b>	<b>Serial</b>
<b>Text</b>	NN-NNNNNNNNNNNNNN- TTTTITTV		WWYY	UL VIN	LLLLL	SSSS
<b>Datamatrix</b>	TTTTITTV	LLLLL	SSSS	WWYY		

Pin table [mm]				<h3>Outline</h3>  <p>offset of press-fit pinbase for connector parameter see the handling instruction</p> <p>tolerance of pinposition: tolerance of the end of pin Dimension of coordinate-pin is only offset without tolerance</p>
Pin	X	Y	Function	
1	24,4	6,6	S1	
2	24,4	3,6	G1	
3	3	0	Therm2	
4	0	0	Therm1	
5	26,5	17,75	TM41	
6	8,6	26	DC-	
7	8,6	29	DC-	
8	11,6	26	DC-	
9	11,6	29	DC-	
10	20	26	GND	
11	20	29	GND	
12	23	26	GND	
13	23	29	GND	
14	31,4	26	DC+	
15	31,4	29	DC+	
16	34,4	26	DC+	
17	34,4	29	DC+	
18	47	12	Ph	
19	47	15	Ph	
20	50	12	Ph	
21	50	15	Ph	
22	53	12	Ph	
23	53	15	Ph	





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Identification					
ID	Component	Voltage	Current	Function	Comment
T13, T14	IGBT	650 V	75 A	Neutral Point Switch	
D13	FWD	650 V	10 A	Negative Boost Diode	
D14	FWD	650 V	10 A	Positive Boost Diode	
D41	Rectifier	1600 V	65 A	Positive Boost Blocking Diode	
D42	FWD	650 V	20 A	Positive Boost Diode Protection Diode	
D43, D44	Rectifier	1600 V	65 A	Neutral Point Diode	
C10, C20	Capacitor	630 V	100 nF	Capacitor	
Rt	Thermistor		22 kΩ	Thermistor	




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

Handling instruction
Handling instructions for <i>flow 1</i> packages see vincotech.com website.

Package data
Packaging data for <i>flow 1</i> packages see vincotech.com website.

UL recognition and file number
This device is certified according to UL 1557 standard, UL file number E192116. For more information see vincotech.com website. 

Document No.:	Date:	Modification:	Pages
10-PG07ANA150F401-LH24L58T-T1-14	16 Jul. 2018	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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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.