
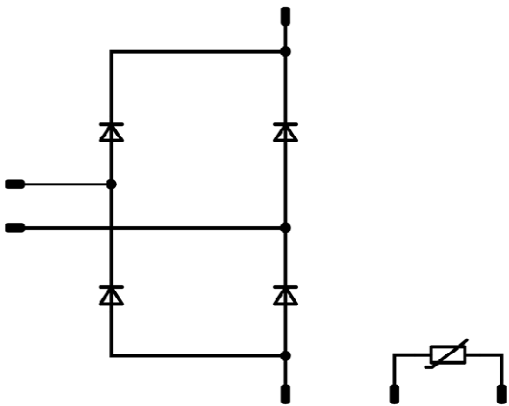




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<i>flowCON 0</i>	600 V / 30 A
<div style="background-color: #ccc; padding: 2px; text-align: center; font-weight: bold; margin-bottom: 5px;">Features</div> <ul style="list-style-type: none"> <li>Single-phase Rectifier</li> <li>High speed diodes</li> <li>Low inductive design</li> <li>Integrated thermistor</li> </ul>	<div style="background-color: #ccc; padding: 2px; text-align: center; font-weight: bold; margin-bottom: 5px;">flow 0 12 mm housing</div> 
<div style="background-color: #ccc; padding: 2px; text-align: center; font-weight: bold; margin-bottom: 5px;">Target applications</div> <ul style="list-style-type: none"> <li>Charging Stations</li> <li>Power Supply</li> </ul>	<div style="background-color: #ccc; padding: 2px; text-align: center; font-weight: bold; margin-bottom: 5px;">Schematic</div> 
<div style="background-color: #ccc; padding: 2px; text-align: center; font-weight: bold; margin-bottom: 5px;">Types</div> <ul style="list-style-type: none"> <li>10-PZ06O2A030FW-LH02J08Y</li> </ul>	

## Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
<b>Rectifier Diode</b>				
Peak repetitive reverse voltage	$V_{RRM}$		600	V
Continuous (direct) forward current	$I_F$		30	A
Surge (non-repetitive) forward current	$I_{FSM}$	60 Hz Single Half Sine Wave $t_p = 8,3\text{ ms}$	300	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	52	W
Maximum junction temperature	$T_{jmax}$		175	°C



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## Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
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### Module Properties

#### Thermal Properties

Storage temperature	$T_{stg}$		-40...+125	°C
Operation temperature under switching condition	$T_{top}$		-40...(T <sub>max</sub> - 25)	°C

#### Isolation Properties

Isolation voltage	$V_{isol}$	DC Test Voltage* $t_p = 2\text{ s}$	6000	V
		AC Voltage $t_p = 1\text{ min}$	2500	V
Creepage distance			min. 12,7	mm
Clearance			9,15	mm
Comparative Tracking Index	CTI		> 200	

\*100 % tested in production



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## Characteristic Values

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

### Rectifier Diode

#### Static

Forward voltage	$V_F$			30	25 125 150		2,32 1,78 1,67	2,85		V
Reverse leakage current	$I_R$		600		25 150			100 500		$\mu$ A

#### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)					1,81			K/W
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### Thermistor

Rated resistance	$R$				25		22			k $\Omega$
Deviation of $R_{100}$	$\Delta_{R/R}$	$R_{100} = 1484$ $\Omega$			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		

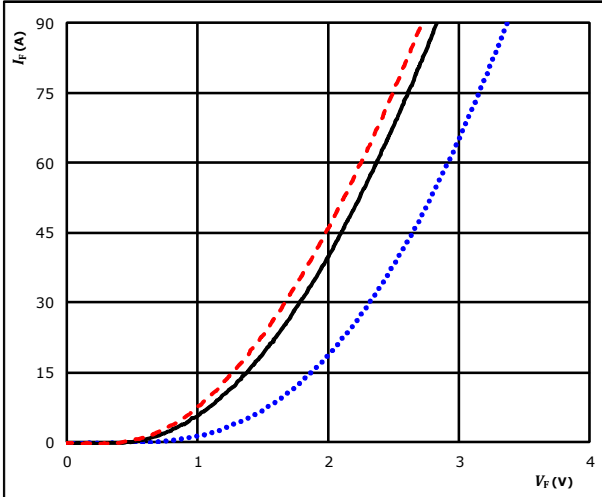


## Rectifier Diode Characteristics

**figure 1. Rectifier Diode**

Typical forward characteristics

$$I_F = f(V_F)$$

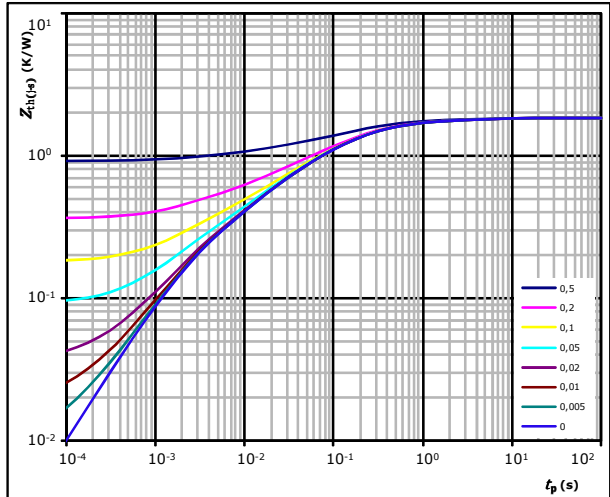


$t_p = 250 \mu s$   
 $T_j$ : 25 °C .....  
 125 °C ———  
 150 °C - - - -

**figure 2. Rectifier Diode**

Transient thermal impedance as a function of pulse width

$$Z_{th(j-s)} = f(t_p)$$



$D = t_p / T$   
 $R_{th(j-s)} = 1,81 \text{ K/W}$   
 Diode thermal model values

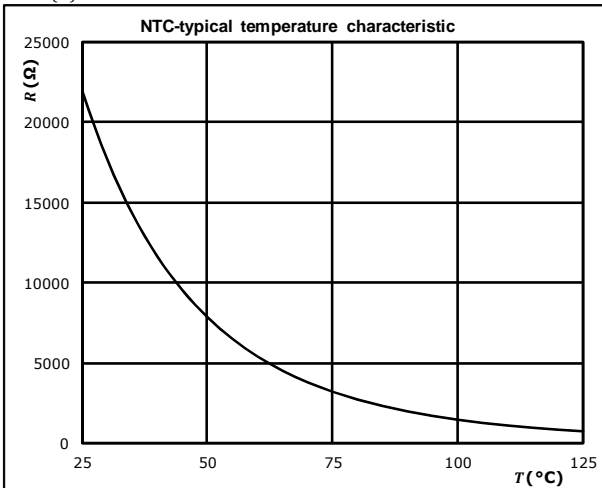
$R$ (K/W)	$\tau$ (s)
1,53E-01	3,12E+00
5,19E-01	3,17E-01
6,76E-01	7,98E-02
3,13E-01	1,47E-02
1,53E-01	2,20E-03

## Thermistor Characteristics

**figure 1. Thermistor**

Typical NTC characteristic as a function of temperature

$$R = f(T)$$





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Ordering Code & Marking								
Version			Ordering Code					
without thermal paste 12 mm housing with press-fit pins			10-PZ06O2A030FW-LH02J08Y					
NN-NNNNNNNNNNNN TTTTUV WWYY UL VIN LLLL SSSS			Name		Date code	UL & VIN	Lot	Serial
			NN-NNNNNNNNNNNN-TTTTUV		WWYY	UL VIN	LLLLL	SSSS
			Type&Ver	Lot number	Serial	Date code		
Datamatrix			TTTTUV	LLLLL	SSSS	WWYY		

Pin table			
Pin	X	Y	Function
1			Not assembled
2			Not assembled
3	8,3	22,5	DC+
4	10,8	22,5	DC+
5	19,6	22,5	DC-
6	22,1	22,5	DC-
7			Not assembled
8	32	22,5	ACIn1
9	33,5	17,8	ACIn1
10	33,5	15,3	ACIn1
11	33,5	7,2	ACIn2
12	33,5	4,7	ACIn2
13	32	0	ACIn2
14			Not assembled
15	22,1	0	DC-
16	19,6	0	DC-
17	10,8	0	DC+
18	8,3	0	DC+
19			Not assembled
20			Not assembled
21	0	8	Therm1
22	0	14,5	Therm2

center of press-fit pinhead  
for connection parameter see the handling instruction

12.93 ± 0.1  
16.2 ± 0.5

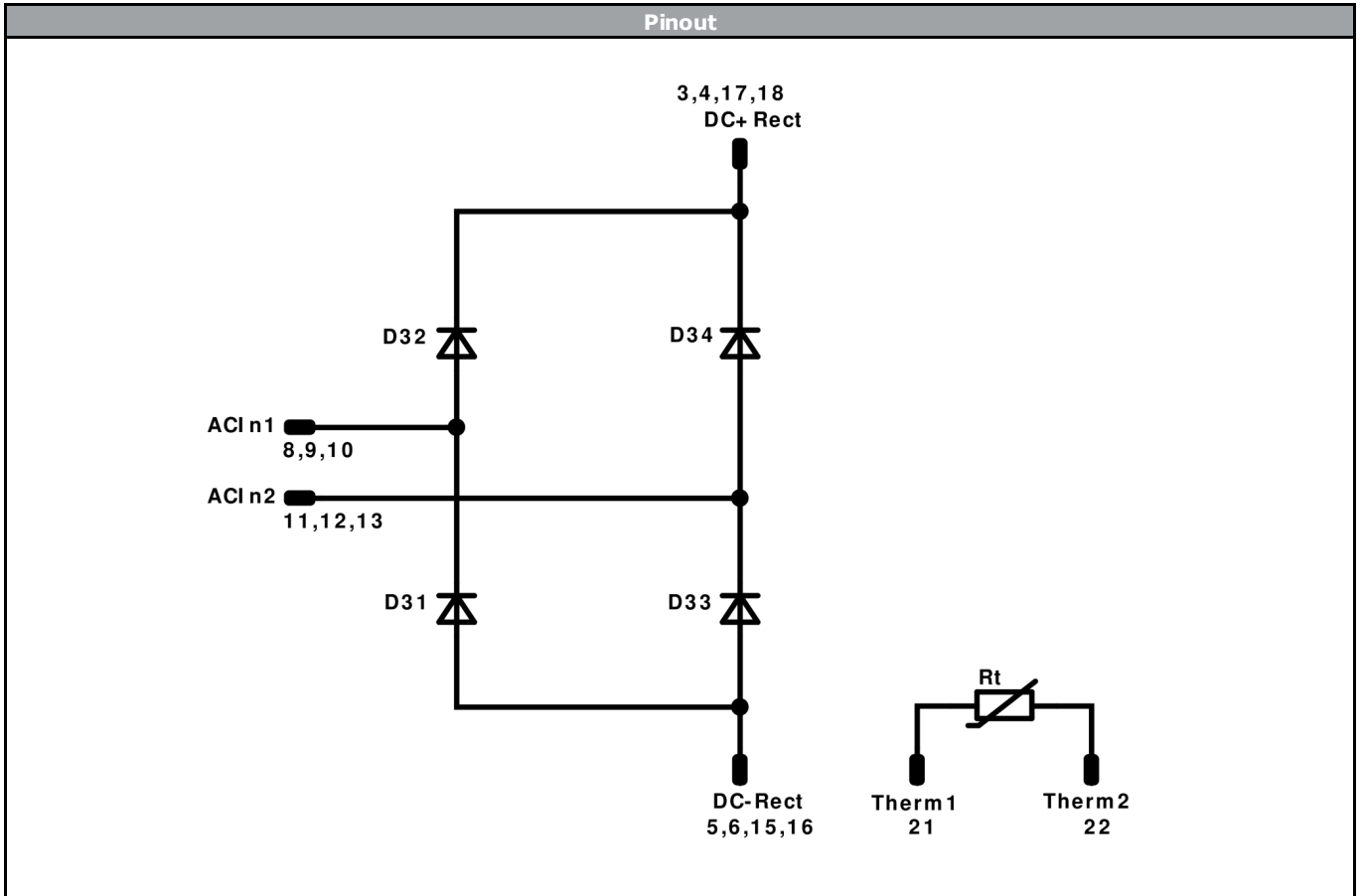
16.75

11.25

Tolerance of pinpositions: ±0.5mm at the end of pins  
Dimension of coordinate axis is only offset without tolerance



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<b>Identification</b>					
<b>ID</b>	<b>Component</b>	<b>Voltage</b>	<b>Current</b>	<b>Function</b>	<b>Comment</b>
D31, D32, D33, D34	Rectifier	600 V	30 A	Rectifier 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.

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-PZ06O2A030FW-LH02J08Y-D1-14	28 Mar. 2018		

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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.