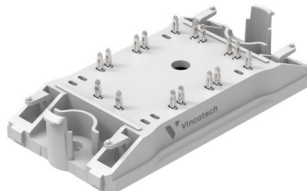
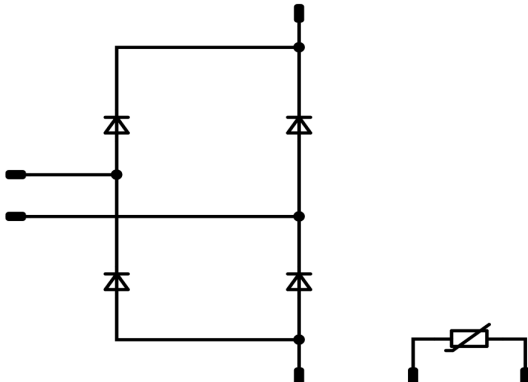




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flowCON 0		600 V / 30 A
Features • Single-phase Rectifier • High speed diodes • Low inductive design • Integrated thermistor		flow 0 12 mm housing 
Target applications • Charging Stations • Power Supply		Schematic 
Types • 10-PZ06O2A030FW-LH02J08Y		

Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
Rectifier Diode				
Peak repetitive reverse voltage	V_{RRM}		600	V
Continuous (direct) forward current	I_F	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	32	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_{jop}		-40...(T_{jmax} - 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] V_F [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	μA

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		kΩ
Deviation of R_{100}	$\Delta_{R/R}$	$R_{100} = 1484$ Ω				100	-5		5	%
Power dissipation	P					25		5		mW
Power dissipation constant						25		1,5		mW/K
B-value	$B_{(25/50)}$	Tol. ±1 %				25		3962		K
B-value	$B_{(25/100)}$	Tol. ±1 %				25		4000		K
Vincotech NTC Reference									I	



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Rectifier Diode Characteristics

figure 1. Rectifier Diode

Typical forward characteristics

$$I_F = f(V_F)$$

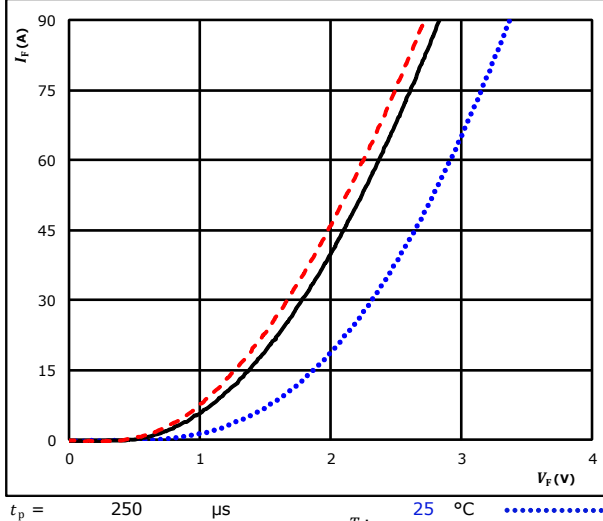
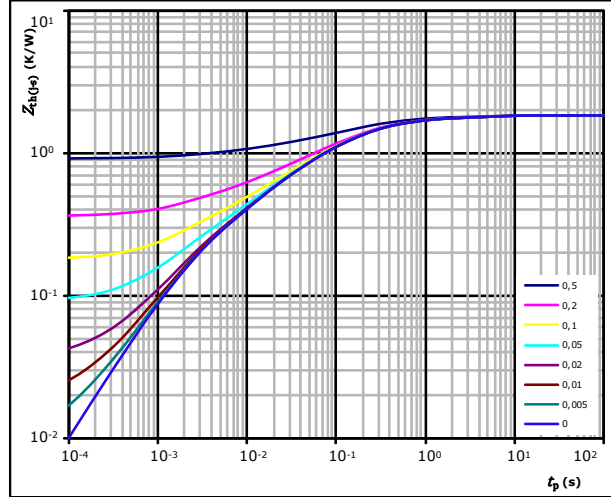


figure 2. Rectifier Diode

Transient thermal impedance as a function of pulse width

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



$$D = \frac{t_p}{T}$$

$$R_{th(j-s)} = 1,81 \text{ K/W}$$

Diode thermal model values

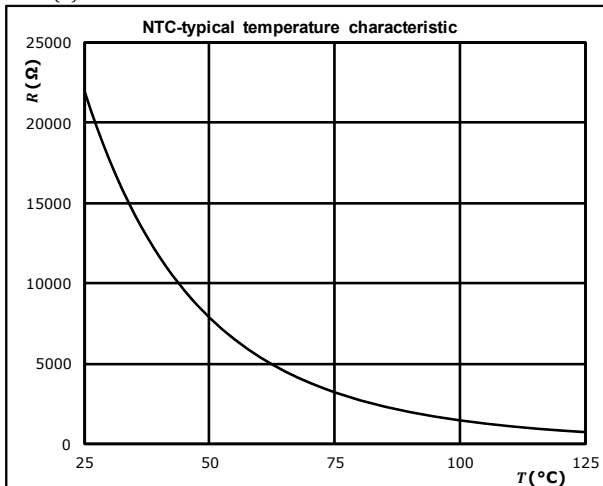
R (K/W)	τ (s)
1,53E-01	3,12E+00
5,19E-01	3,17E-01
6,76E-01	7,98E-02
3,13E-01	1,47E-02
1,53E-01	2,20E-03

Thermistor Characteristics

figure 1. Thermistor

Typical NTC characteristic as a function of temperature

$$R = f(T)$$





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

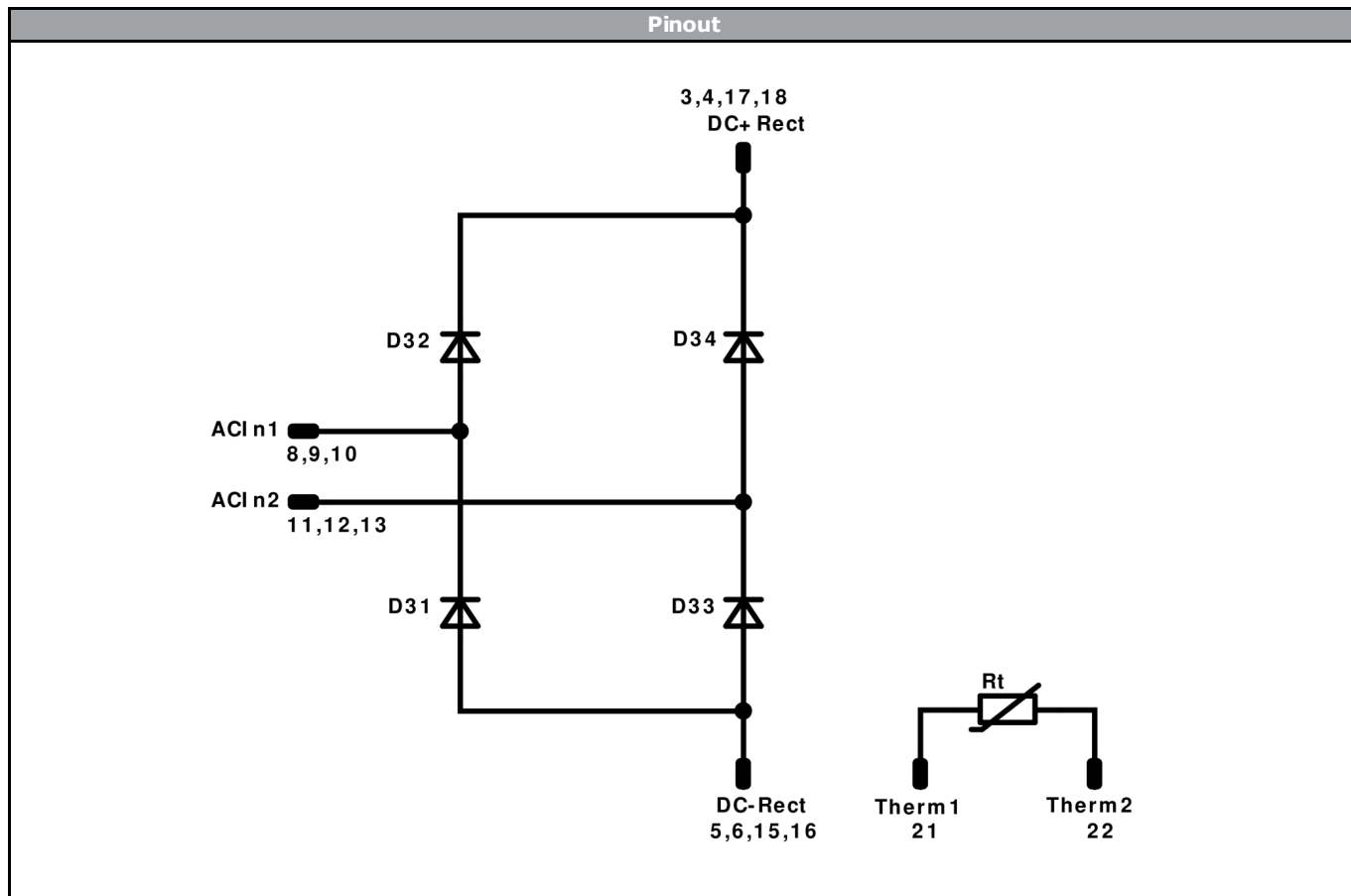
Tolerance of pinpositions: $\pm 0.5\text{mm}$ at the end of pins
Dimension of coordinate axis is only offset without tolerance



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Identification					
ID	Component	Voltage	Current	Function	Comment
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-D2-14	19 Mar. 2019	Correction of I_c/I_f values	1

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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.