



Vincotech

10-P0164RA110RJ-LN06J19Y

datasheet

flowCON 0

1600 V / 110 A

Features

- 1 Phase Input Rectifier, Non-Controlled

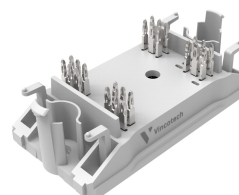
Target applications

- Embedded Drives
- Industrial Drives

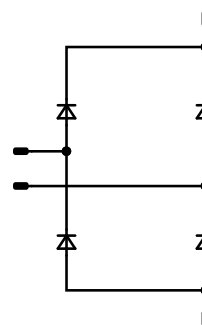
Types

- 10-P0164RA110RJ-LN06J19Y

flow 0 17 mm housing



Schematic





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Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
Rectifier Diode				
Peak repetitive reverse voltage	V_{RRM}		1600	V
Continuous (direct) forward current	I_F	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	119	A
Surge (non-repetitive) forward current	I_{FSM}	Single Half Sine Wave, $t_p = 10\text{ ms}$ $T_j = 150\text{ °C}$	1380	A
Surge current capability	I^2t		9520	A ² s
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	132	W
Maximum junction temperature	T_{jmax}		150	°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 Test Voltage* $t_p = 2\text{ s}$	6000	V
Creepage distance			min. 12,7	mm
Clearance			min, 12,7	mm
Comparative Tracking Index	CTI		≥ 200	

*100 % tested in production



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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	

Rectifier Diode

Static

Forward voltage	V_F				110	25 125		1,22 1,11		V
Reverse leakage current	I_R	$V_r = 1600$ V				25 150			100 2000	μA

Thermal

Thermal resistance junction to sink ⁽²⁾	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						0,53		K/W
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⁽²⁾ Only valid with pre-applied Vincotech thermal interface material.



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Rectifier Diode Characteristics

figure 1.

Rectifier

Typical forward characteristics

$$I_F = f(V_F)$$

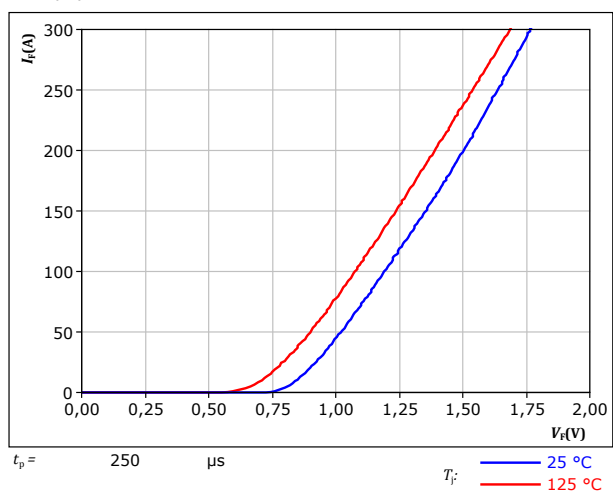
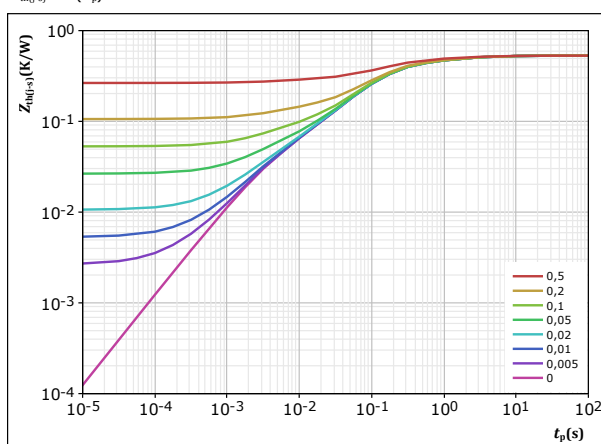


figure 2.

Rectifier

Transient thermal impedance as a function of pulse width

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




$D =$	t_p / T	
$R_{th(j-s)} =$	0,53	K/W
Rectifier thermal model values		
R (K/W)	τ (s)	
1,56E-02	8,53E+00	
9,06E-02	1,44E+00	
2,54E-01	1,78E-01	
1,38E-01	6,01E-02	
3,18E-02	3,70E-03	



datasheet

Ordering Code	
Version	Ordering Code
Without thermal paste	10-P0164RA110RJ-LN06J19Y
With thermal paste	10-P0164RA110RJ-LN06J19Y-/3/

Marking							
	Text	Name		Date code	UL & VIN	Lot	Serial
		NN-NNNNNNNNNNNNNN- TTTTTV		WWYY	UL VIN	LLLLL	SSSS
	Datamatrix	Type&Ver	Lot number	Serial	Date code		
		TTTTTTVV	LLLLL	SSSS	WWYY		

Outline

Pin table [mm]

Pin	X	Y	Function
1	2,7	0	ACIn1
2	0	0	ACIn1
3	2,7	2,7	ACIn1
4	0	2,7	ACIn1
5	2,7	5,4	ACIn1
6	0	5,4	ACIn1
7	2,7	17,1	ACIn2
8	0	17,1	ACIn2
9	2,7	19,8	ACIn2
10	0	19,8	ACIn2
11	2,7	22,5	ACIn2
12	0	22,5	ACIn2
13	30,5	22,5	DC+Rect
14	33,5	22,5	DC+Rect
15	30,5	19,6	DC+Rect
16	33,5	19,6	DC+Rect
17	30,5	16,7	DC+Rect
18	33,5	16,7	DC+Rect
19	not assembled		
20	not assembled		
21	30,5	5,8	DC-Rect
22	33,5	5,8	DC-Rect
23	30,5	2,9	DC-Rect
24	33,5	2,9	DC-Rect
25	not assembled		
26	30,5	0	DC-Rect
27	33,5	0	DC-Rect

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

77.2 ± 0.1
27.2 ± 0.5

112.5
16.75

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

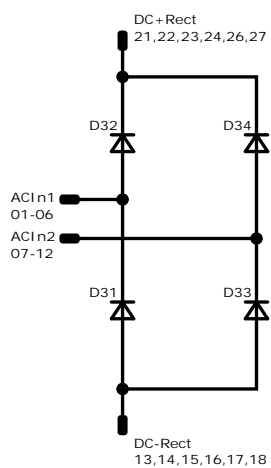


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Pinout



Identification

ID	Component	Voltage	Current	Function	Comment
D31, D32, D33, D34	Rectifier	1600 V	110 A	Rectifier Diode	



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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.

Vincotech thermistor reference
See Vincotech thermistor reference table at 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.



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10-P0164RA110RJ-LN06J19Y-D1-14	11 Aug. 2020		

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