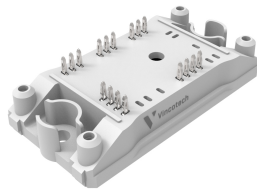
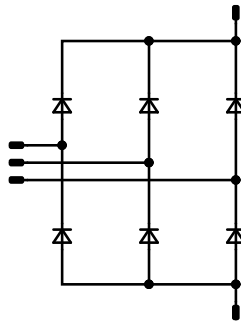




<i>flowCON 0</i>		1600 V / 75 A	
Features		flow 0 12 mm housing	
<ul style="list-style-type: none">• Three phase Input rectifier• 4-tower housing			
Target applications		Schematic	
<ul style="list-style-type: none">• Embedded Drives• Industrial Drives			
Types			
<ul style="list-style-type: none">• V23990-P640-H06Y-PM			



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
Forward current (DC current)	I_F	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	78	A
Surge (non-repetitive) forward current	I_{FSM}	Single Half Sine Wave, $t_p = 10\text{ ms}$ $T_j = 150\text{ °C}$	740	A
Surge current capability	I^2t		2740	A ² s
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	88	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
		AC Voltage $t_p = 1\text{ min}$	2500	V
Creepage distance			min. 12,7	mm
Clearance			9,11	mm
Comparative Tracking Index	CTI		≥ 200	

*100 % tested in production



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				80	25 125 150		1,18 1,15	1,23 ⁽¹⁾ 1,17 ⁽¹⁾	V
Reverse leakage current	I_R	$V_r = 1600$ V				25 150			50 1500	μA

Thermal

Thermal resistance junction to sink ⁽²⁾	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						0,79		K/W
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⁽¹⁾ Value at chip level

⁽²⁾ Only valid with pre-applied Vincotech thermal interface material.



Rectifier Diode Characteristics

figure 1. Rectifier

Typical forward characteristics

$$I_F = f(V_F)$$

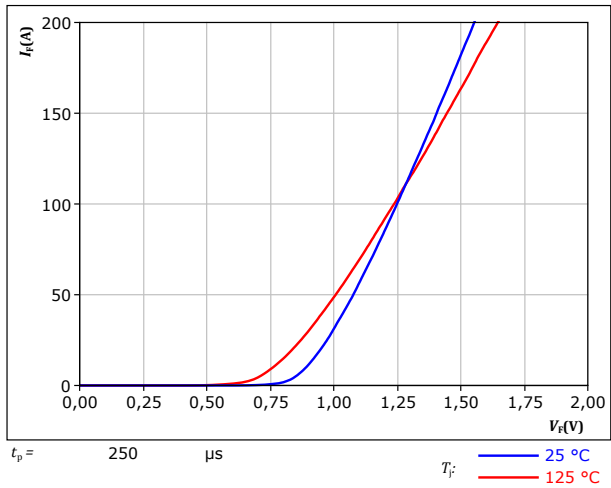
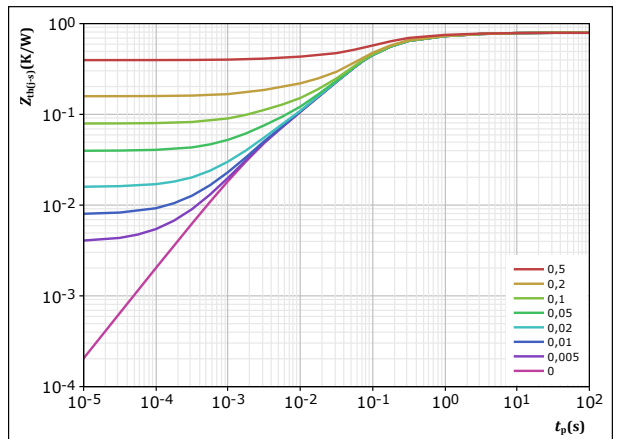


figure 2. Rectifier

Transient thermal impedance as a function of pulse width

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



$D = t_p / T$

$R_{th(j-s)} = 0,792 \text{ K/W}$

Rectifier thermal model values

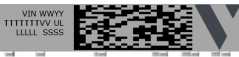
$R \text{ (K/W)}$	$\tau \text{ (s)}$
3,05E-02	5,90E+00
8,93E-02	1,13E+00
2,82E-01	1,79E-01
3,51E-01	6,17E-02
3,93E-02	3,00E-03

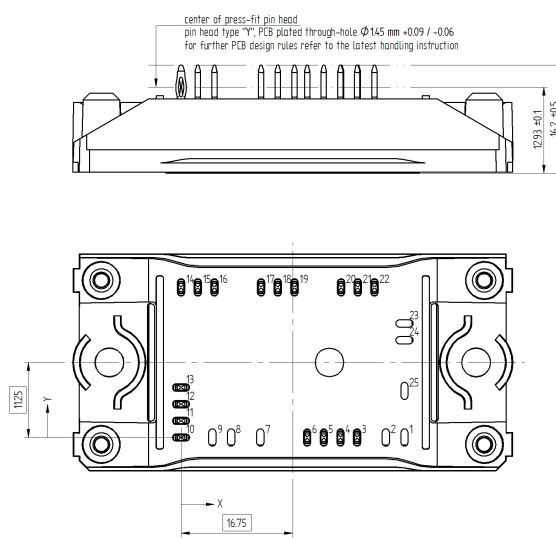


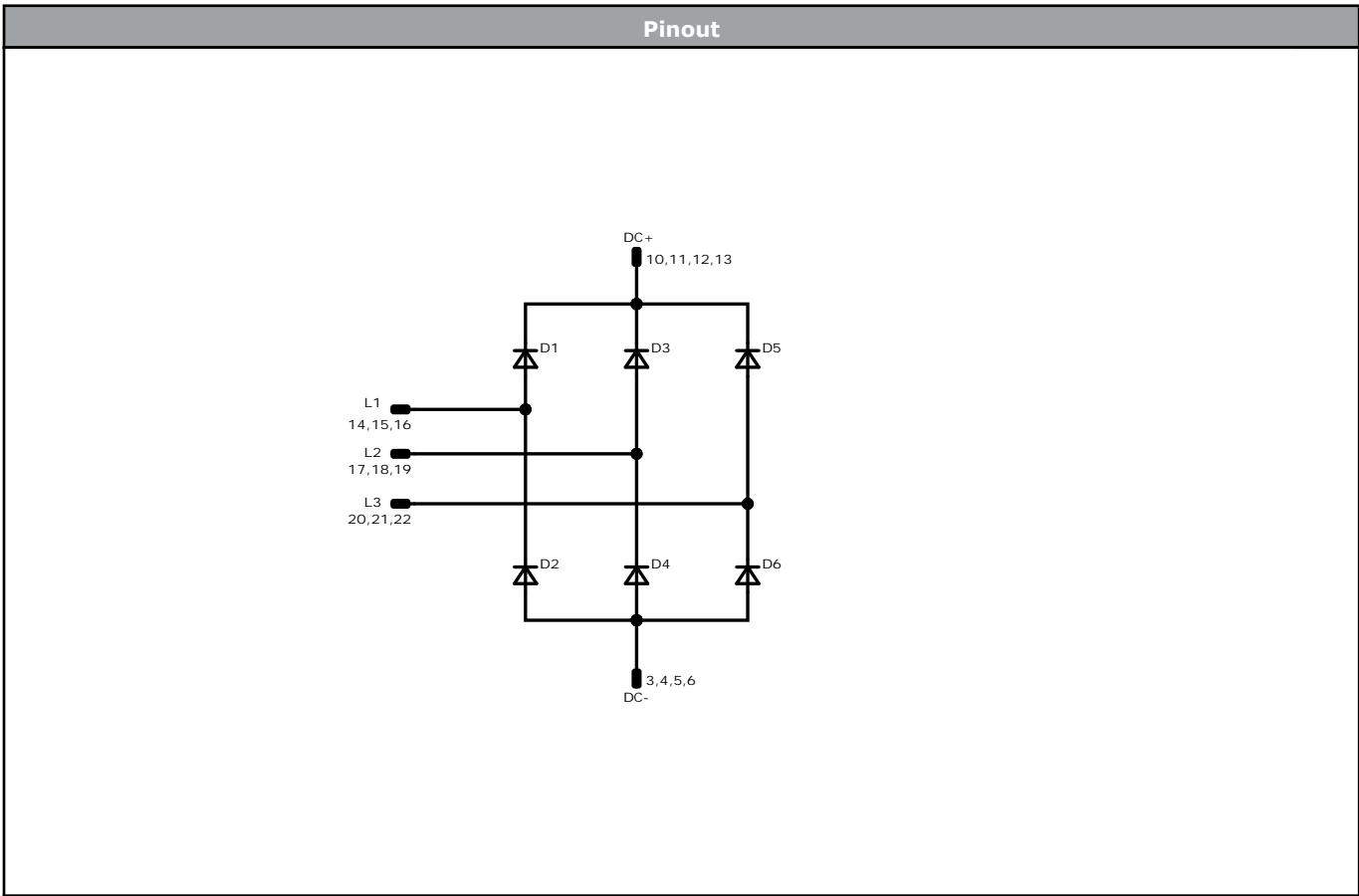
Vincotech

V23990-P640-H06Y-PM
datasheet

Ordering Code	
Version	Ordering Code
Without thermal paste	V23990-P640-H06Y-PM
With thermal paste	V23990-P640-H06Y-PM-/3/

Marking							
	Text	VIN	Date code	Type&Ver	UL	Lot	Serial
		VIN	WWYY	TTTTTTV	UL	LLLLL	SSSS
	Datamatrix	Type&Ver	Lot number	Serial	Date code		
		TTTTTTV	LLLLL	SSSS	WWYY		

Pin table [mm]				Function	Outline	
Pin	X	Y				
1				not assembled	 <p>center of press-fit pin head pin head type "T", PCB plated through-hole $\varnothing 145 \text{ mm} \pm 0.09 / -0.06$ for further PCB design rules refer to the latest handling instruction</p> <p>Tolerance of pinpositions: $\pm 0.5 \text{ mm}$ at the end of pins Dimension of coordinate axis is only offset without tolerance</p>	
2				not assembled		
3	26,4	0		DC-		
4	23,9	0		DC-		
5	21,4	0		DC-		
6	18,9	0		DC-		
7				not assembled		
8				not assembled		
9				not assembled		
10	0	0		DC+		
11	0	2,5		DC+		
12	0	5		DC+		
13	0	7,5		DC+		
14	0	22,5		L1		
15	2,5	22,5		L1		
16	5	22,5		L1		
17	12	22,5		L2		
18	14,5	22,5		L2		
19	17	22,5		L2		
20	24	22,5		L3		
21	26,5	22,5		L3		
22	29	22,5		L3		
23				not assembled		
24				not assembled		
25				not assembled		



Identification					
ID	Component	Voltage	Current	Function	Comment
D2, D1, D4, D3, D6, D5	Rectifier	1600 V	80 A	Rectifier Diode	




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. 

Document No.:	Date:	Modification:	Pages
V23990-P640-H06Y-D1-14	6 Oct. 2020		

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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.