



Vincotech

**10-FZ074PA080CR-L622F68**  
**10-PZ074PA080CR-L622F68Y**  
 target datasheet

fastPACK 0 H	650 V / 80 mΩ
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;"><b>Features</b></div> <ul style="list-style-type: none"> <li>High speed H-Bridge</li> <li>High efficiency MOS</li> <li>Enhanced body diode</li> <li>Integrated capacitors</li> <li>Thermistor</li> </ul>	<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;"><b>flow 0 12mm housing</b></div> <div style="display: flex; justify-content: space-around;"> </div> <p style="display: flex; justify-content: space-around; font-size: small;"> <span>Solder pins</span> <span>Press-fit pins</span> </p>
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;"><b>Target applications</b></div> <ul style="list-style-type: none"> <li>Power Supply</li> <li>Solar</li> <li>UPS</li> <li>Welding</li> </ul>	<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;"><b>Schematic</b></div>
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;"><b>Types</b></div> <ul style="list-style-type: none"> <li>10-FZ074PA080CR-L622F68</li> <li>10-PZ074PA080CR-L622F68Y</li> </ul>	

## Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
<b>H-Bridge Switch</b>				
Drain-source voltage	$V_{DSS}$		650	V
Drain current	$I_D$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	18	A
Peak drain current	$I_{DM}$	$t_p$ limited by $T_{jmax}$	137	A
Avalanche current, repetitive	$I_{AR}$	$t_p$ limited by $T_{jmax}$ PAV=EAR* $\eta$	8,7	A
MOSFET dv/dt ruggedness	dv/dt	$V_{DS} = 0/480\text{ V}$	50	V/ns
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	87	W
Gate-source voltage	$V_{GSS}$		±20	V
Reverse diode dv/dt	dv/dt		50	V/ns
Maximum Junction Temperature	$T_{jmax}$		150	°C



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Parameter	Symbol	Condition	Value	Unit
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### DC Link Capacitance

Maximum DC voltage	$V_{MAX}$		630	V
Operation Temperature	$T_{op}$		-55...+125	°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 Voltage $t_p=2s$	4000	V
Creepage distance			min. 12,5	mm
Clearance		Solder pins / Press-fit pins	9,55 / 9,57	mm
Comparative Tracking Index	CTI		> 200	



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## Characteristic Values

### H-Bridge Switch

Parameter	Symbol	Conditions					Value			Unit
		$V_{GS}$ [V]	$V_{DS}$ [V]	$I_D$ [A]	$T_1$ [°C]	Min	Typ	Max		
<b>Static</b>										
Drain-source on-state resistance	$r_{DS(on)}$		10		17,6	25 125 150		78 159		mΩ
Gate-source threshold voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}$			0,00176	25 125	3,5	4	4,5	V
Gate to Source Leakage Current	$I_{GSS}$		20	0		25 125			100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$		0	650		25 125			3,5	μA
Internal gate resistance	$r_g$							0,75		Ω
Gate charge	$Q_g$							170		nC
Gate to source charge	$Q_{GS}$		0	480	26,3	25		25		
Gate to drain charge	$Q_{GD}$							120		
Short-circuit input capacitance	$C_{iss}$							5030		pF
Short-circuit output capacitance	$C_{oss}$	f=1MHz	0	100		25		215		
Reverse transfer capacitance	$C_{rss}$							115		

### Reverse Diode Static

Diode forward voltage	$V_{SD}$				43,3	25		0,9		V
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### Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda=3,4$ W/mK						0,80		K/W
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### DC Link Capacitance

Capacitance	$C$							150		nF
Tolerance								-10	+10	%



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### Thermistor

Parameter	Symbol	Conditions				Value			Unit
		$V_{GS}$ [V]	$V_{DS}$ [V]	$I_D$ [A]	$T_j$ [°C]	Min	Typ	Max	
Rated resistance	$R$				25		22		kΩ
Deviation of R100	$\Delta_{R/R}$	R100=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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Ordering Code & Marking								
Version				Ordering Code				
without thermal paste with Solder pins 12mm housing				10-FZ074PA080CR-L622F68				
without thermal paste with Press-fit pins 12mm housing				10-PZ074PA080CR-L622F68Y				
NN-NNNNNNNN NNNN-TTTTTTV Vinco LLLLL WWYY SSSS UL				<b>Text</b> Name NN-NNNNNNNNNNNNNN	<b>Type&amp;Ver</b> TTTTTTVV	<b>Date code</b> WWYY	<b>Vinco&amp;Lot</b> Vinco LLLLL	<b>Serial&amp;UL</b> SSSS UL
		<b>Datamatrix</b> Type&Ver TTTTTTVV	Lot number LLLLL	Serial SSSS	Date code WWYY			

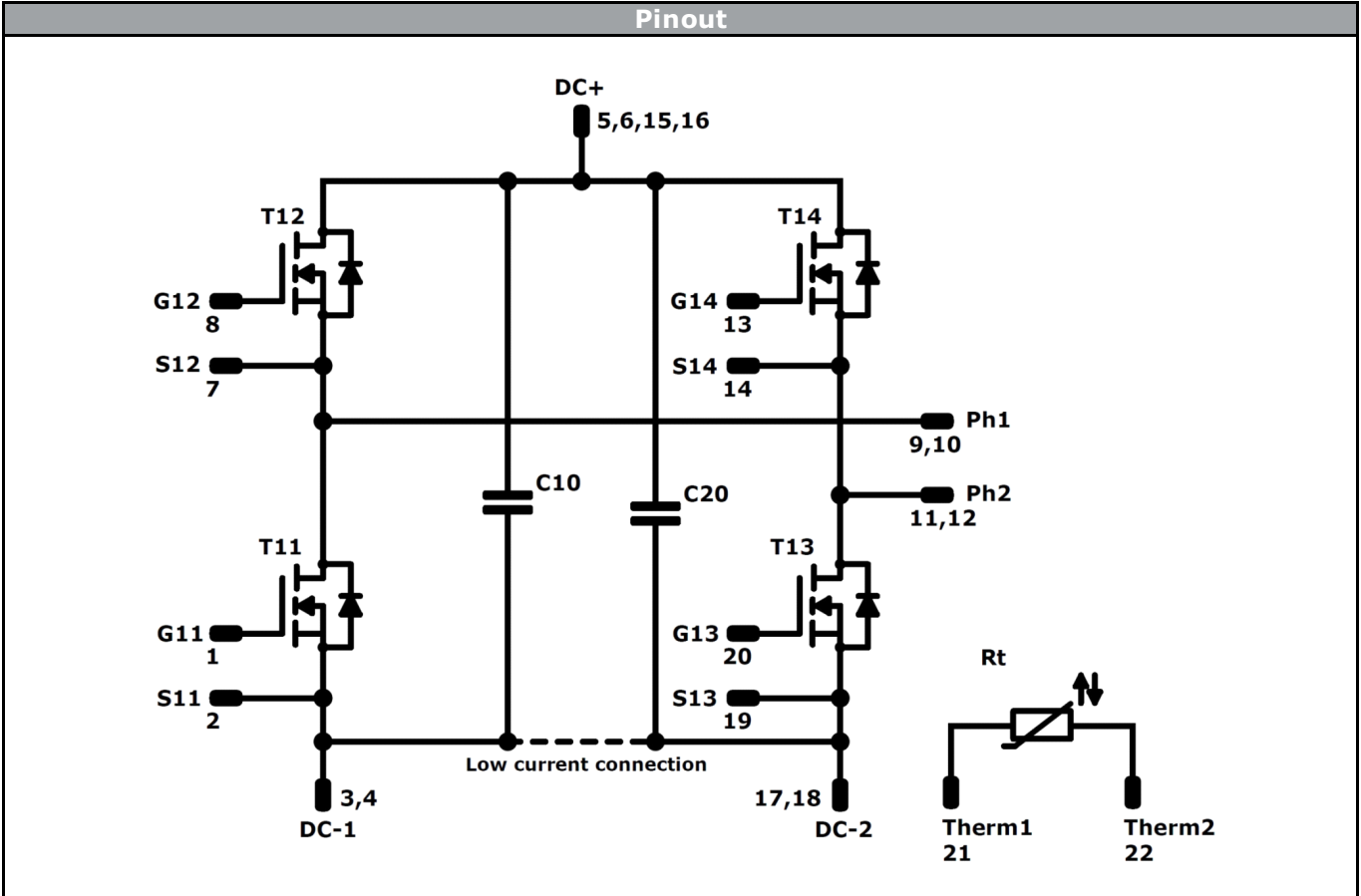
Pin table [mm]				Outline	
Pin	X	Y	Function		
1	0	22,5	G11		
2	2,9	22,5	S11		
3	8,3	22,5	DC-1		
4	10,8	22,5	DC-1		
5	19,6	22,5	DC+		
6	22,1	22,5	DC+		
7	29,1	22,5	S12		
8	32	22,5	G12		
9	33,5	17,8	Ph1		
10	33,5	15,3	Ph1		
11	33,5	7,2	Ph2		
12	33,5	4,7	Ph2		
13	32	0	G14		
14	29,1	0	S14		
15	22,1	0	DC+		
16	19,6	0	DC+		
17	10,8	0	DC-2		
18	8,3	0	DC-2		
19	2,9	0	S13		
20	0	0	G13		
21	0	8	Therm1		
22	0	14,5	Therm2		

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>					
ID	Component	Voltage	Current	Function	Comment
T11-T14	MOSFET	650 V	80 mΩ	H-Bridge Switch	
C10, C20	Capacitor	630 V	-	DC Link Capacitance	
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</i> 0 packages see vincotech.com website.

Package data
Package data for <i>flow</i> 0 packages see vincotech.com website.

Document No.:	Date:	Modification:	Pages
10-xZ074PA080CR-L622F68x-T1-14	06 Jan. 2016		

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.