
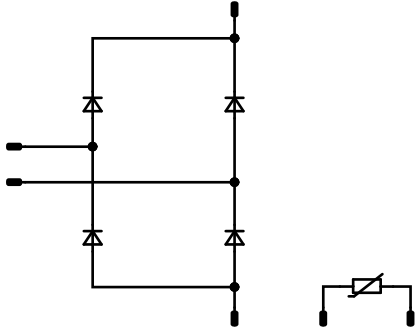




flowCON E1		1200 V / 30 A	
Features		flow E1 12 mm housing	
<ul style="list-style-type: none">• Compact and low inductive design• Integrated NTC• 1200V SiC-Diode• Single phase Rectifier			
Target applications		Schematic	
<ul style="list-style-type: none">• Charging Stations• Power Supply• Welding & Cutting			
Types			
<ul style="list-style-type: none">• 10-EZ124RA030RO-LS08J88T			



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10-EZ124RA030RO-LS08J88T
datasheet

Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
Rectifier Diode				
Peak repetitive reverse voltage	V_{RRM}		1200	V
Forward current (DC current)	I_F	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	40	A
Repetitive peak forward current	I_{FRM}	t_p limited by T_{jmax}	138	A
Surge (non-repetitive) forward current	I_{FSM}	Single Half Sine Wave, $t_p = 8,3\text{ ms}$ $T_j = 150\text{ °C}$	99	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	100	W
Maximum junction temperature	T_{jmax}		175	°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
Isolation voltage	V_{isol}	AC Voltage $t_p = 1\text{ min}$	2500	V
Creepage distance			min. 12,7	mm
Clearance			8,62	mm
Comparative Tracking Index	CTI		≥ 600	

*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				30	25 125 150		1,43 1,77 1,9	1,6 ⁽¹⁾	V
Reverse leakage current	I_R	$V_T = 1200$ V				25 150		30 240	600	μA

Thermal

Thermal resistance junction to sink ⁽²⁾	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						0,95		K/W
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Thermistor

Static

Rated resistance	R					25		5		kΩ
Deviation of R_{100}	$\Delta_{R/R}$	$R_{100} = 499$ Ω				100	3,2		3,3	%
Power dissipation	P							5		mW
Power dissipation constant	d					25		1,3		mW/K
B-value	$B_{(25/50)}$	Tol. ±1 %						3380		K
Vincotech Thermistor Reference									V	

⁽¹⁾ Value at chip level

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



Rectifier Diode Characteristics

figure 1. FWD

Typical forward characteristics

$$I_F = f(V_F)$$

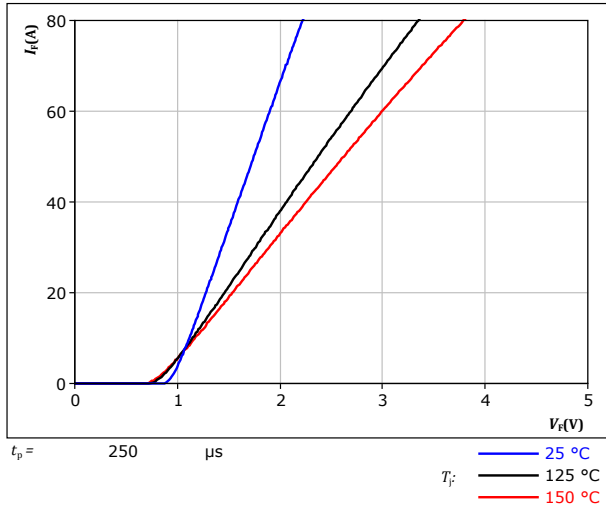
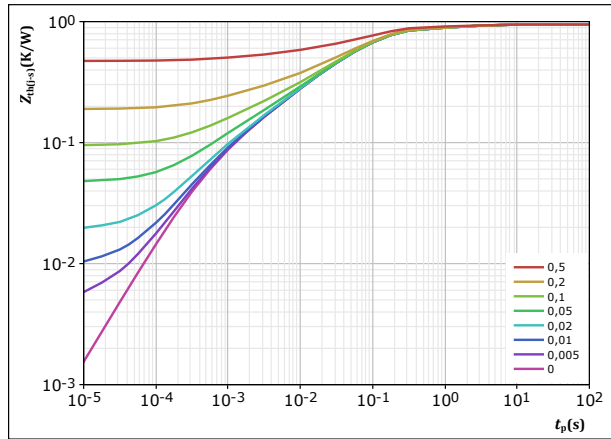


figure 2. FWD

Transient thermal impedance as a function of pulse width

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



$D =$	t_p / T	
$R_{th(j-s)} =$	0,946	K/W
FWD thermal model values		
R (K/W)	τ (s)	
8,93E-02	2,06E+00	
4,65E-01	1,09E-01	
2,40E-01	2,12E-02	
1,05E-01	2,87E-03	
4,66E-02	4,51E-04	

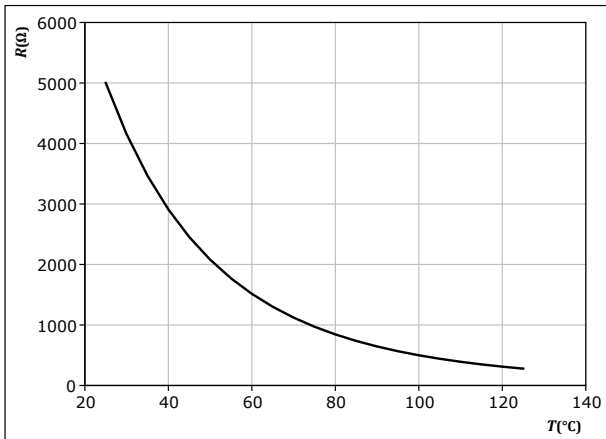


Thermistor Characteristics

figure 3. Thermistor

Typical NTC characteristic as function of temperature

$$R_T = f(T)$$






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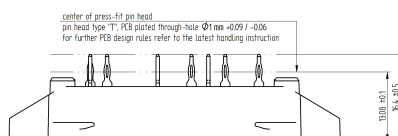
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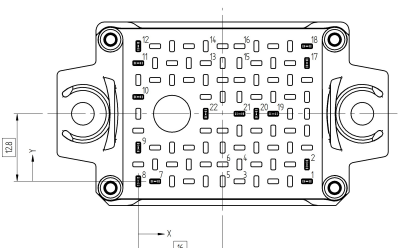
Ordering Code	
Version	Ordering Code
Without thermal paste	10-EZ124RA030RO-LS08J88T
With thermal paste	10-EZ124RA030RO-LS08J88T-/3/

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

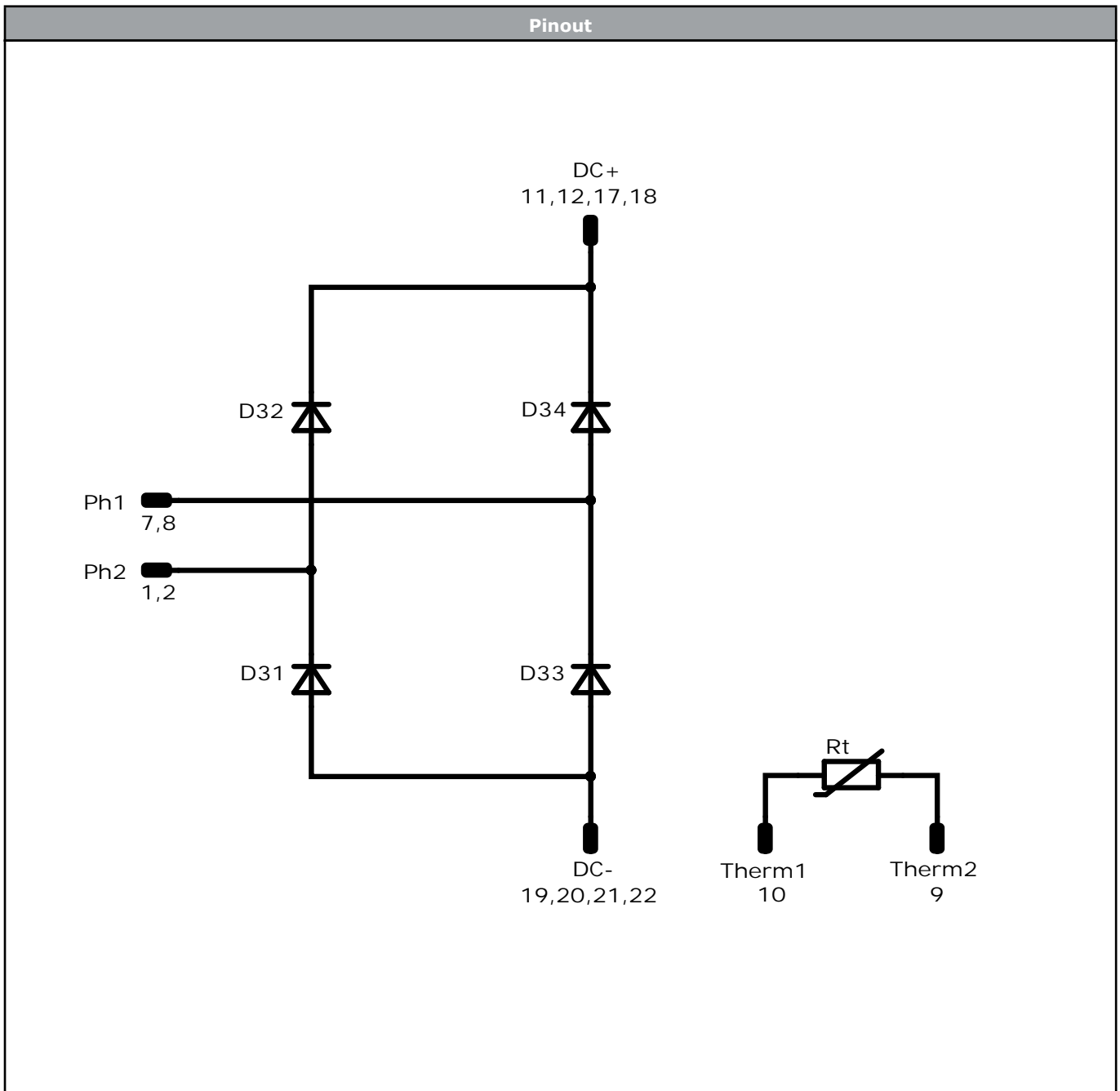
Outline				
Pin table [mm]				
Pin	X	Y	Function	
1	32	0	Ph2	
2	32	3,2	Ph2	
3	not assembled			
4	not assembled			
5	not assembled			
6	not assembled			
7	3,2	0	Ph1	
8	0	0	Ph1	
9	0	6,4	Therm2	
10	0	16	Therm1	
11	0	22,4	DC+	
12	0	25,6	DC+	
13	not assembled			
14	not assembled			
15	not assembled			
16	not assembled			
17	32	22,4	DC+	
18	32	25,6	DC+	
19	25,6	12,8	DC-	
20	22,4	12,8	DC-	
21	19,2	12,8	DC-	
22	12,8	12,8	DC-	

center of press-fit pin head
pin head type "T", PCB plated through-hole $\phi 1\text{mm} +0.09 / -0.06$
For further PCB design rules refer to the latest handling instruction





Tolerance of positions: $\pm 0.4\text{mm}$ at the end of pins
Dimension of coordinate axis is only offset without tolerance



Identification					
ID	Component	Voltage	Current	Function	Comment
D31, D32, D33, D34	FWD	1200 V	30 A	Rectifier Diode	
Rt	Thermistor			Thermistor	




Packaging instruction				
Standard packaging quantity (SPQ) 100	>SPQ	Standard	<SPQ	Sample

Handling instruction
Handling instructions for <i>flow</i> E1 packages see vincotech.com website.

Package data
Package data for <i>flow</i> E1 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
10-EZ124RA030RO-LS08J88T-D1-14	22 Sep. 2020	Initial Release	

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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.