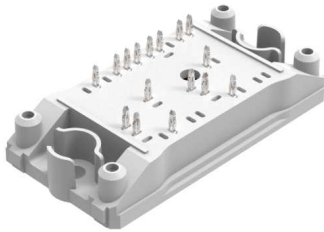
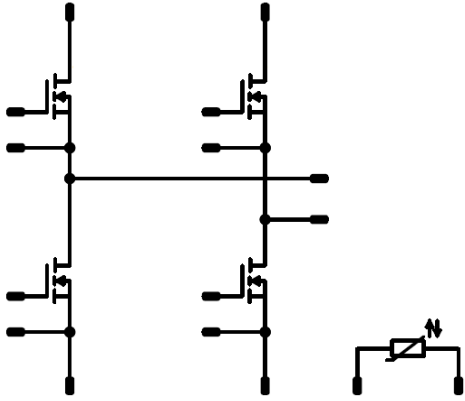




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<i>fast</i> PACK 0 H	1200 V / 40 mΩ
<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;"><b>Features</b></div> <ul style="list-style-type: none"> <li>H-bridge or 2x half-bridge</li> <li>SiC MOS</li> <li>fsw up to 250kHz</li> <li>Thermistor</li> </ul>	<div style="background-color: #eee; padding: 2px; margin-bottom: 5px;"><b>flow 0 12mm housing</b></div> 
<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> </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-PC124PA040MR-L638F18Y</li> </ul>	

## Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
<b>Half-Bridge Switch</b>				
Drain-source voltage	$V_{DS}$		1200	V
Drain current	$I_D$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	32	A
Peak drain current	$I_{DM}$	$t_p$ limited by $T_{jmax}$	137	A
Total power dissipation	$P_{tot}$	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	73	W
Gate-source voltage	$V_{GS}$		-4/22	V
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 <sub>jmax</sub> - 25)	°C

#### Isolation Properties

Isolation voltage	$V_{isol}$	DC Test Voltage $t_p = 2\text{ s}$	4000	V
Creepage distance			min. 12,7	mm
Clearance			9,61	mm
Comparative Tracking Index	CTI		> 200	



## Characteristic Values

Parameter	Symbol	Conditions					Value			Unit
		$V_{GE}$ [V] $V_{GS}$ [V]	$V_{CE}$ [V] $V_{DS}$ [V]	$I_C$ [A] $I_D$ [A]	$T_j$ [°C]	Min	Typ	Max		

### Half-Bridge Switch

#### Static

Drain-source on-state resistance	$r_{DS(on)}$		18		20	25 125 150		39 52 60	50	mΩ
Gate-source threshold voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}$			0,01	25	2,7		5,6	V
Gate to Source Leakage Current	$I_{GSS}$		22 -4	0		25			100 -100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$		0	1200		25			10	μA
Internal gate resistance	$r_g$							7		Ω
Gate charge	$Q_g$							107		nC
Gate to source charge	$Q_{GS}$		18	600	20	25		22		
Gate to drain charge	$Q_{GD}$							41		
Short-circuit input capacitance	$C_{iss}$							1337		pF
Short-circuit output capacitance	$C_{oss}$	$f = 1$ MHz	0	800		25		76		
Reverse transfer capacitance	$C_{rss}$							27		

#### Reverse Diode Static

Forward voltage	$V_{sd}$		0		20	25		3,20		V
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#### Thermal


Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda = 3,4$ W/mK						1,31		K/W
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### Thermistor

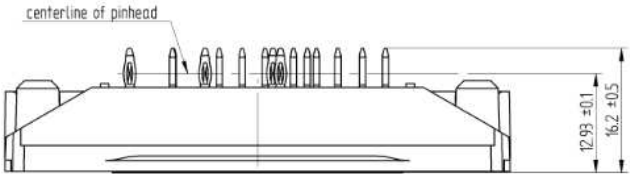
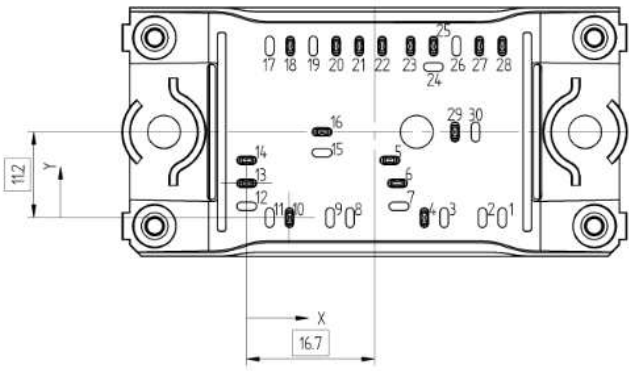
Rated resistance	R					25		22		kΩ
Deviation of $R_{100}$	$\Delta_{R/R}$	$R_{100} = 1484$ Ω				100	-5		5	%
Power dissipation	P					25		5		mW
Power dissipation constant						25		1,5		mW/K
B-value	$B_{(25/50)}$	Tol. $\pm 1$ %				25		3962		K
B-value	$B_{(25/100)}$	Tol. $\pm 1$ %				25		4000		K
Vincotech NTC Reference									I	



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Ordering Code & Marking						
Version				Ordering Code		
without thermal paste 12mm housing with Press-fit pins				10-PC124PA040MR-L638F18Y		
						
Text	Name	Date code	UL & VIN	Lot	Serial	
	NN-NNNNNNNNNNNNNN-TTTTTIV	WWYY	UL VIN	LLLLL	SSSS	
Datamatrix	Type&Ver	Lot number	Serial	Date code		
	TTTTTTIV	LLLLL	SSSS	WWYY		

Outline				
Pin table [mm]				
Pin	X	Y	Function	
1			not assembled	
2			not assembled	
3			not assembled	
4	23,2	0	Ph2	
5	18,7	7,5	G14	
6	19,7	4,5	S14	
7			not assembled	
8			not assembled	
9			not assembled	
10	5,6	0	Ph1	
11			not assembled	
12			not assembled	
13	0	4,5	S12	
14	0	7,5	G12	
15			not assembled	
16	9,85	11,2	DC+1	
17			not assembled	
18	5,7	22,4	DC-1	
19			not assembled	
20	11,7	22,4	S11	
21	14,7	22,4	G11	
22	17,7	22,4	Therm1	
23	21,4	22,4	Therm2	
24			not assembled	
25	24,4	22,4	DC-2	
26			not assembled	
27	30,4	22,4	S13	
28	33,4	22,4	G13	
29	27,2	11,2	DC+2	
30			not assembled	

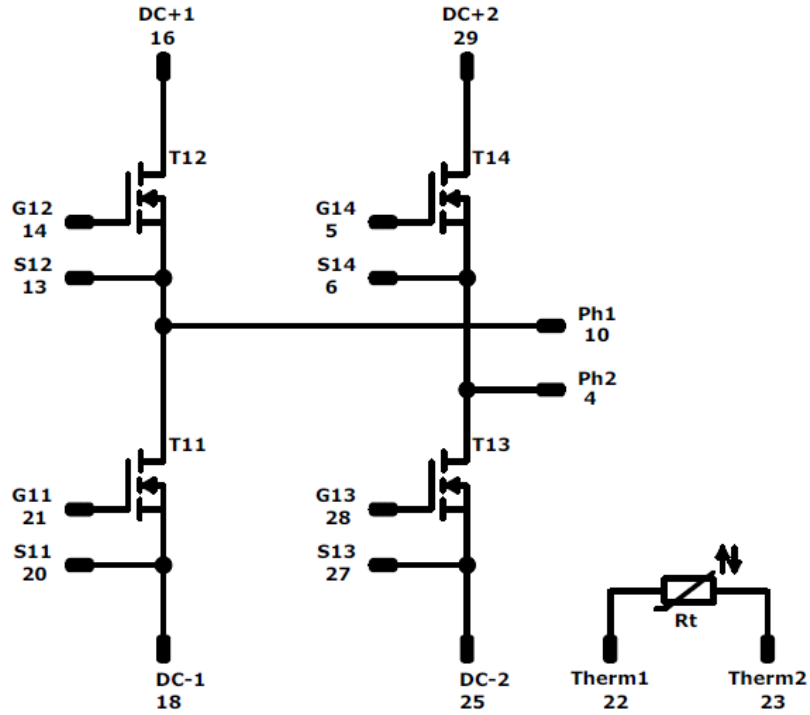



Tolerance of pinpositions: ±0.5mm at the end of pins  
Dimension of coordinate axis is only offset without tolerance.



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**Pinout**



**Identification**

ID	Component	Voltage	Current	Function	Comment
T11,T12,T13,T14	MOSFET	1200 V	40 mΩ	Half-Bridge Switch	
Rt	Thermistor			Thermistor	




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Packaging instruction			
Standard packaging quantity (SPQ)	<b>135</b>	>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-PC124PA040MR-L638F18Y-T1-14	10 Jun. 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.