



Vincotech

10-PY096PA035ME-L224F18Y
target datasheet

flow PACK 1

900 V / 35 mΩ

Features

- Wolfspeed(Cree)[™] Silicon Carbide Power MOSFET, C2M[™] MOSFET Technology
- Sixpack with three separated legs
- Solderless Press-fit Mounting Technology

Target applications

- Power Supply

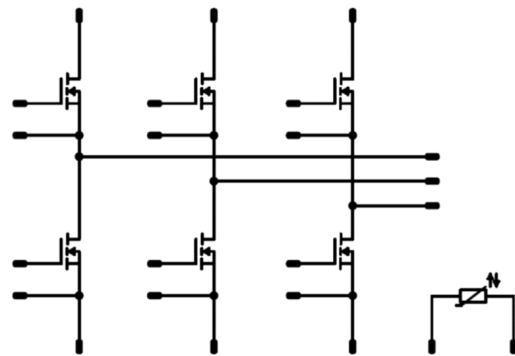
Types

- 10-PY096PA035ME-L224F18Y

flow 1 12mm housing



Schematic



Maximum Ratings

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

Parameter	Symbol	Condition	Value	Unit
Inverter Switch				
Drain-source voltage	V_{DS}		900	V
Drain current	I_D	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	44	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	180	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	63	W
Gate-source voltage	V_{GS}		-8/+18	V
Maximum Junction Temperature	T_{jmax}		150	°C



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Maximum Ratings

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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_{jmax} - 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			12,01	mm
Comparative Tracking Index	CTI		> 200	



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Characteristic Values

Parameter	Symbol	Conditions					Value			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	

Inverter Switch

Static

Drain-source on-state resistance	$r_{DS(on)}$		15		40	25 150		33 45	39	mΩ
Gate-source threshold voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}$			0,01	25	1,8	2,1	4	V
Gate to Source Leakage Current	I_{GSS}		15	0		25			500	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	900		25			200	μA
Internal gate resistance	r_g							2,35		Ω
Gate charge	Q_g		-4/15	400	40	25		60,8		nC
Gate to source charge	Q_{GS}							15		
Gate to drain charge	Q_{GD}							24		
Short-circuit input capacitance	C_{iss}	$f = 1$ MHz	0	600		25		1320		pF
Short-circuit output capacitance	C_{oss}							120		
Reverse transfer capacitance	C_{rss}							8		

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	phase-change material $\lambda = 3,4$ W/mK						1,12		K/W
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Reverse Diode Static

Diode Forward Voltage	V_{SD}		-4		20	25		4,8		V
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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. ± 1 %				25		3962		K
B-value	$B_{(25/100)}$	Tol. ± 1 %				25		4000		K
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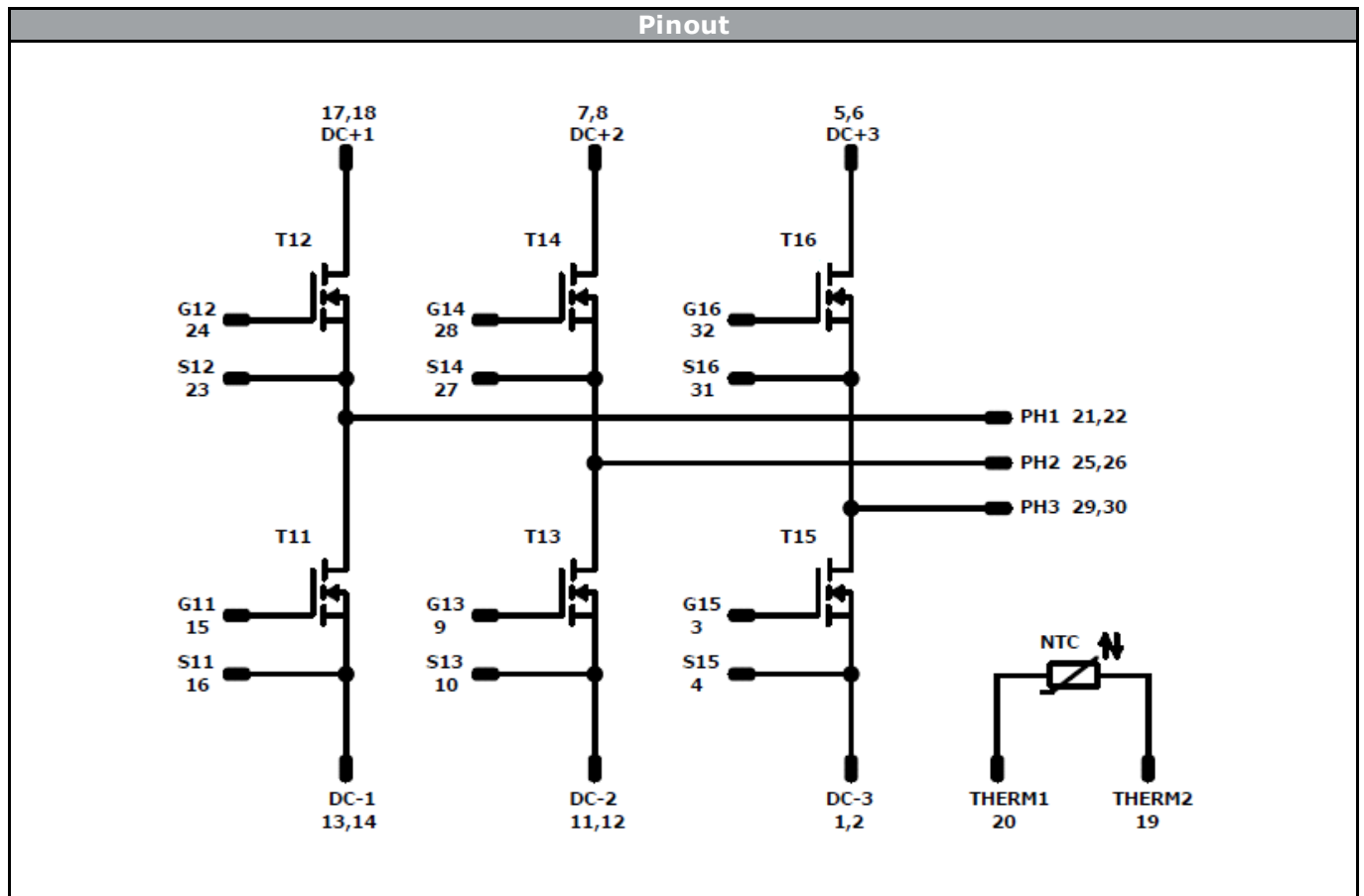
Ordering Code & Marking						
Version			Ordering Code			
without thermal paste 12mm housing with Press-fit pins			10-PY096PA035ME-L224F18Y			
NN-NNNNNNNNNNNNNN TTTTTV WWYY UL VIN LLLLL SSSS 						

Outline							
Pin table [mm]				Pin table [mm]			
Pin	X	Y	Function	Pin	X	Y	Function
1	52,2	2,7	DC-3	30	39	28,2	PH3
2	52,2	0	DC-3	31	42	26,7	S16
3	45,5	12	G15	32	45	25,7	G16
4	42,5	13	S15				
5	41,2	0	DC+3				
6	38,5	0	DC+3				
7	33,1	0	DC+2				
8	30,4	0	DC+2				
9	25	10	G13				
10	22	11	S13				
11	19,4	0	DC-2				
12	16,7	0	DC-2				
13	13,7	0	DC-1				
14	11	0	DC-1				
15	8,7	12	G11				
16	5,7	13	S11				
17	0	0	DC+1				
18	0	2,7	DC+1				
19	14,3	15,6	THERM2				
20	16,1	12,6	THERM1				
21	0	28,2	PH1				
22	2,7	28,2	PH1				
23	5,7	26,7	S12				
24	8,7	25,7	G12				
25	19,4	28,2	PH2				
26	22,1	28,2	PH2				
27	23,1	25,2	S14				
28	26,1	24,2	G14				
29	36,3	28,2	PH3				

Tolerance of pinpositions: ±0,5mm at the end of pins
Dimension of coordinate axis is only offset without tolerance



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Identification					
ID	Component	Voltage	Current	Function	Comment
T11,T12,T13 T14,T15,T16	MOSFET	900 V	35 mΩ	Inverter Switch	
NTC	Thermistor			Thermistor	



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

Handling instruction
Handling instructions for <i>flow 1</i> packages see vincotech.com website.

Package data
Package data for <i>flow 1</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-PY096PA035ME-L224F18Y-T1-14	18 Oct. 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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