



Vincotech

10-PY126PA016ME-L227F13Y

target datasheet

flowPACK 1 SiC

1200 V / 16 mΩ

Features

- Sixpack configuration with open emitter
- Compact and low inductive design
- High frequency SiC MOSFET
- Integrated NTC

Target applications

- Charging Stations
- Power Supply
- Welding & Cutting

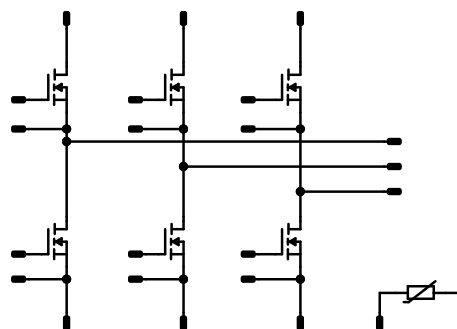
Types

- 10-PY126PA016ME-L227F13Y

flow 1 12 mm housing



Schematic





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Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
Inverter Switch				
Drain-source voltage	V_{DS}		1200	V
Drain current	I_D	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	80	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	240	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	241	W
Gate-source voltage	V_{GS}		-4 / 15	V
Maximum Junction Temperature	T_{jmax}		175	°C



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Parameter	Symbol	Conditions	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 $t_p = 2\text{ s}$	6000	V
Isolation voltage	V_{isol}	AC Voltage $t_p = 1\text{ min}$	2500	V
Creepage distance			min. 12,7	mm
Clearance			11,83	mm
Comparative Tracking Index	CTI		≥ 200	



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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	

Inverter Switch

Static

Drain-source on-state resistance	$r_{DS(on)}$		15		40	25	11,2	16	20,8	mΩ
Gate-source threshold voltage	$V_{GS(th)}$		0		0,0115	25	1,8	2,5	3,6	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		20	500	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	0	0	25		2	38	μA
Internal gate resistance	r_g							0,85		Ω
Gate charge	Q_g		15		80	25		236		nC
Short-circuit input capacitance	C_{iss}	$f = 100 \text{ kHz}$	0	1000	0	25		6714		pF
Short-circuit output capacitance	C_{oss}							258		
Reverse transfer capacitance	C_{rss}							16		
Diode forward voltage	V_{SD}		0		40	25		4,6		V

Thermal

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

Static

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



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Ordering Code	
Version	Ordering Code
Without thermal paste	10-PY126PA016ME-L227F13Y
With thermal paste	10-PY126PA016ME-L227F13Y-/3/

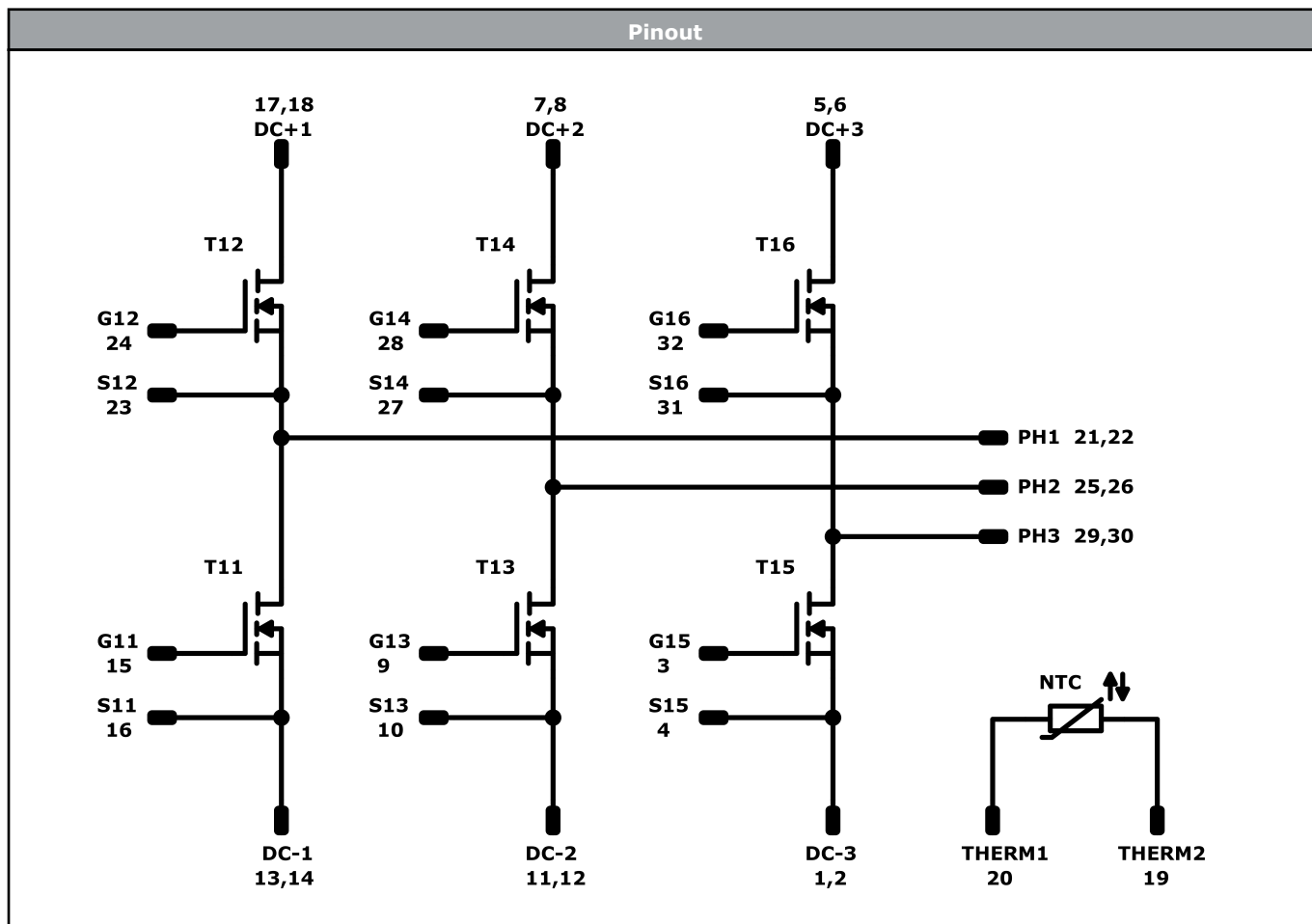
Marking					
	Text	Name NN-NNNNNNNNNNNNNN- TTTTTV	Date code WWYY	UL & VIN UL VIN	Lot LLLLL
	Datamatrix	Type&Ver TTTTTTTV	Lot number LLLLL	Serial SSSS	Date code WWYY

Outline																																																																																																																																							
Pin table [mm] <table><thead><tr><th>Pin</th><th>X</th><th>Y</th><th>Function</th></tr></thead><tbody><tr><td>1</td><td>52,2</td><td>2,7</td><td>DC-3</td></tr><tr><td>2</td><td>52,2</td><td>0</td><td>DC-3</td></tr><tr><td>3</td><td>45,5</td><td>12</td><td>G15</td></tr><tr><td>4</td><td>42,5</td><td>13</td><td>S15</td></tr><tr><td>5</td><td>41,2</td><td>0</td><td>DC+3</td></tr><tr><td>6</td><td>38,5</td><td>0</td><td>DC+3</td></tr><tr><td>7</td><td>33,1</td><td>0</td><td>DC+2</td></tr><tr><td>8</td><td>30,4</td><td>0</td><td>DC+2</td></tr><tr><td>9</td><td>25</td><td>10</td><td>G13</td></tr><tr><td>10</td><td>22</td><td>11</td><td>S13</td></tr><tr><td>11</td><td>19,4</td><td>0</td><td>DC-2</td></tr><tr><td>12</td><td>16,7</td><td>0</td><td>DC-2</td></tr><tr><td>13</td><td>13,7</td><td>0</td><td>DC-1</td></tr><tr><td>14</td><td>11</td><td>0</td><td>DC-1</td></tr><tr><td>15</td><td>8,7</td><td>12</td><td>G11</td></tr><tr><td>16</td><td>5,7</td><td>13</td><td>S11</td></tr><tr><td>17</td><td>0</td><td>0</td><td>DC+1</td></tr><tr><td>18</td><td>0</td><td>2,7</td><td>DC+1</td></tr><tr><td>19</td><td>14,3</td><td>15,6</td><td>THERM2</td></tr><tr><td>20</td><td>16,1</td><td>12,6</td><td>THERM1</td></tr><tr><td>21</td><td>0</td><td>28,2</td><td>PH1</td></tr><tr><td>22</td><td>2,7</td><td>28,2</td><td>PH1</td></tr><tr><td>23</td><td>5,7</td><td>26,7</td><td>S12</td></tr><tr><td>24</td><td>8,7</td><td>25,7</td><td>G12</td></tr><tr><td>25</td><td>19,4</td><td>28,2</td><td>PH2</td></tr><tr><td>26</td><td>22,1</td><td>28,2</td><td>PH2</td></tr><tr><td>27</td><td>23,1</td><td>25,2</td><td>S14</td></tr><tr><td>28</td><td>26,1</td><td>24,2</td><td>G14</td></tr><tr><td>29</td><td>36,3</td><td>28,2</td><td>PH3</td></tr><tr><td>30</td><td>39</td><td>28,2</td><td>PH3</td></tr><tr><td>31</td><td>42</td><td>26,7</td><td>S16</td></tr><tr><td>32</td><td>45</td><td>25,7</td><td>G16</td></tr></tbody></table>				Pin	X	Y	Function	1	52,2	2,7	DC-3	2	52,2	0	DC-3	3	45,5	12	G15	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	30	39	28,2	PH3	31	42	26,7	S16	32	45	25,7	G16
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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	1200 V	16 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-PY126PA016ME-L227F13Y-T1-14	10 Dec. 2019		

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