



Vincotech

30-P2126PA140H7-L280F19Y

target datasheet

flowPACK 2

1200 V / 140 A

Topology features

- 3xHalf Bridge
- Open Emitter configuration
- Kelvin Emitter for improved switching performance
- Temperature sensor

Component features

- High speed switching
- Low collector emitter saturation voltage
- Low turn-off losses
- Optimized for hard switching topologies
- Positive temperature coefficient

Housing features

- Base isolation: Al₂O₃
- Convex shaped baseplate for superior thermal contact
- Cu baseplate
- Thermo-mechanical push-and-pull force relief
- Press-fit pin
- Reliable cold welding connection

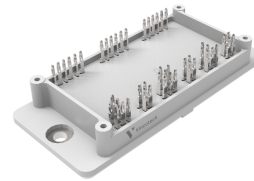
Target applications

- Elevator Drives
- Embedded Drives
- Industrial Drives

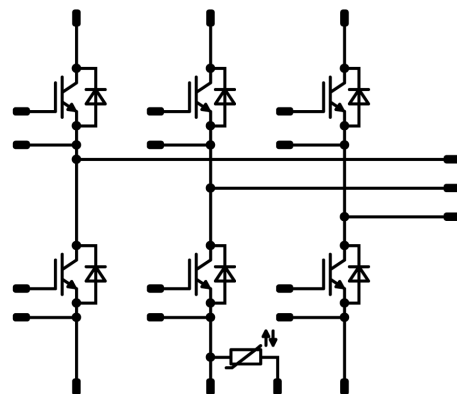
Types

- 30-P2126PA140H7-L280F19Y

flow 2 17 mm housing



Schematic





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Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
Inverter Switch				
Collector-emitter voltage	V_{CES}		1200	V
Collector current (DC current)	I_C	$T_j = T_{jmax}$ $T_a = 80\text{ °C}$	118	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}	420	A
Turn off safe operating area		$T_j = 150\text{ °C}$, $V_{CE} = 1200\text{ V}$	420	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_a = 80\text{ °C}$	223	W
Gate-emitter voltage	V_{GES}		± 20	V
Maximum junction temperature	T_{jmax}		175	°C

Inverter Diode

Peak repetitive reverse voltage	V_{RRM}		1200	V
Forward current (DC current)	I_F	$T_j = T_{jmax}$ $T_a = 80\text{ °C}$	85	A
Repetitive peak forward current	I_{FRM}	t_p limited by T_{jmax}	420	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_a = 80\text{ °C}$	155	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
Creepage distance			>12,7	mm
Clearance			>12,7	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

Gate-emitter threshold voltage	$V_{GE(th)}$	$V_{CE} = V_{GE}$			0,0012	25	4,7	5,5	6,2	V
Collector-emitter saturation voltage	V_{CEsat}		15		140	25		1,7	2,15	V
Collector-emitter cut-off current	I_{CES}		0	1200		25			4	µA
Gate-emitter leakage current	I_{GES}		20	0		25			100	nA
Internal gate resistance	r_g							None		Ω
Input capacitance	C_{ies}	$f = 100 \text{ kHz}$	0	25		25		18500		pF
Output capacitance	C_{oes}							317		pF
Reverse transfer capacitance	C_{res}							94		pF
Gate charge	Q_g	$V_{CC} = 960 \text{ V}$	0/15		140	25		1032		nC

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)						0,43		K/W
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Inverter Diode

Static

Forward voltage	V_F				36	25		1,7	2	V
Reverse leakage current	I_R	$V_r = 1200 \text{ V}$				25			4	µA

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)						0,61		K/W
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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		

Thermistor

Static

Rated resistance	R					25		22		kΩ
Deviation of R100	$\Delta_{R/R}$	$R_{100} = 1484 \Omega$				100	-5		5	%
Power dissipation	P					25		130		mW
Power dissipation constant	d					25		1,5		mW/K
B-value	$B_{(25/50)}$	Tol. $\pm 1 \%$						3962		K
B-value	$B_{(25/100)}$	Tol. $\pm 1 \%$						4000		K
Vincotech Thermistor Reference									I	



target datasheet

Ordering Code	
Version	Ordering Code
Without thermal paste	30-P2126PA140H7-L280F19Y
With thermal paste (5,2 W/mK, PTM6000HV)	30-P2126PA140H7-L280F19Y-/7/
With thermal paste (3,4 W/mK, PSX-P7)	30-P2126PA140H7-L280F19Y-/3/

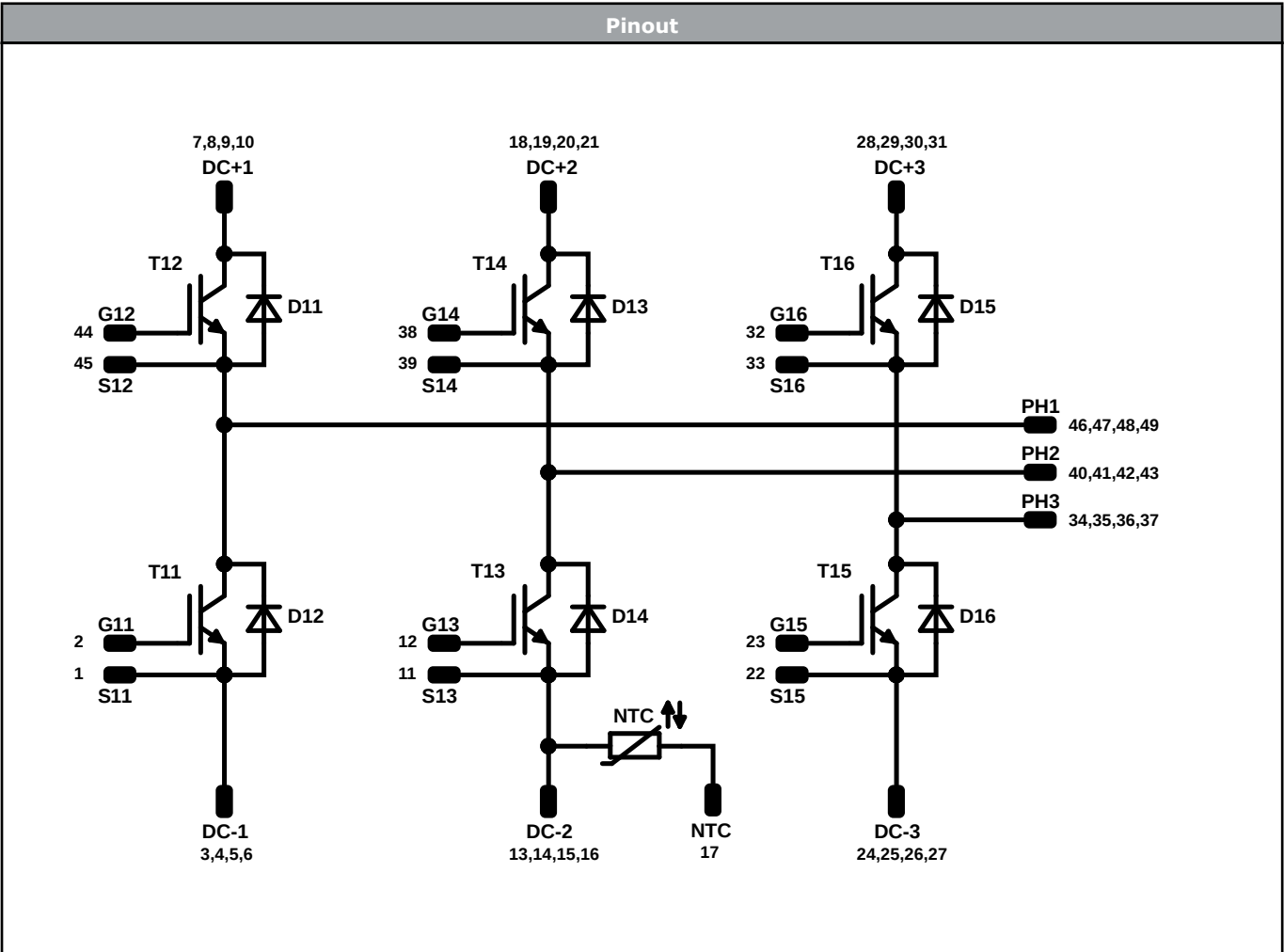
Marking							
	Text	Name		Date code	UL & VIN	Lot	Serial
		NN-NNNNNNNNNNNNNN- TTTTTV		WWYY	UL VIN	LLLLL	SSSS
	Datamatrix	Type&Ver	Lot number	Serial	Date code		
		TTTTTV	LLLLL	SSSS	WWYY		

Pin table [mm]							
Pin	X	Y	Function	26	54,5	5,4	DC-3
1	0,9	0	S11	27	57,2	0	DC-3
2	0,9	3	G11	28	65,8	0	DC+3
3	3,9	0	DC-1	29	65,8	2,7	DC+3
4	3,9	2,7	DC-1	30	68,5	0	DC+3
5	3,9	5,4	DC-1	31	68,5	2,7	DC+3
6	6,6	0	DC-1	32	64,7	36	G16
7	15,2	0	DC+1	33	61,7	36	S16
8	15,2	2,7	DC+1	34	58,7	36	PH3
9	17,9	0	DC+1	35	56	36	PH3
10	17,9	2,7	DC+1	36	53,3	36	PH3
11	26,2	0	S13	37	50,6	36	PH3
12	26,2	3	G13	38	39,4	36	G14
13	29,2	0	DC-2	39	36,4	36	S14
14	29,2	2,7	DC-2	40	33,4	36	PH2
15	29,2	5,4	DC-2	41	30,7	36	PH2
16	31,9	0	DC-2	42	28	36	PH2
17	32,2	4,05	NTC	43	25,3	36	PH2
18	40,5	0	DC+2	44	14,1	36	G12
19	40,5	2,7	DC+2	45	11,1	36	S12
20	43,2	0	DC+2	46	8,1	36	PH1
21	43,2	2,7	DC+2	47	5,4	36	PH1
22	51,5	0	S15	48	2,7	36	PH1
23	51,5	3	G15	49	0	36	PH1
24	54,5	0	DC-3				
25	54,5	2,7	DC-3				



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Identification					
ID	Component	Voltage	Current	Function	Comment
T11, T12, T13, T14, T15, T16	IGBT	1200 V	140 A	Inverter Switch	
D11, D12, D13, D14, D15, D16	FWD	1200 V	140 A	Inverter Diode	
Rt	Thermistor			Thermistor	



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Packaging instruction				
Standard packaging quantity (SPQ) 36	>SPQ	Standard	<SPQ	Sample
Handling instruction				
Handling instructions for <i>flow 2</i> packages see vincotech.com website.				
Package data				
Package data for <i>flow 2</i> 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 UL 1557 recognized under E192116 up to a junction temperature under switching condition $T_{j,op}=175^{\circ}\text{C}$ and up to 3500VAC/1min isolation voltage. For more information see vincotech.com website.				

Document No.:	Date:	Modification:	Pages
30-P2126PA140H7-L280F19Y-T1-14	10 Aug. 2026	Initial Release	

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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