



Vincotech

10-EY076PA100I7-L194F08T

target datasheet

flowPACK E2

650 V / 100 A

Topology features

- Open Emitter configuration
- Temperature sensor
- Inverter
- Low side Kelvin Emitter for improved switching performance

Component features

- Easy paralleling
- Low collector emitter saturation voltage
- Low turn-off losses
- Positive temperature coefficient

Housing features

- Base isolation:
- Convex shaped substrate for superior thermal contact
- Compact housing
- CTI600 housing material
- Thermo-mechanical push-and-pull force relief
- Press-fit pin
- Reliable cold welding connection

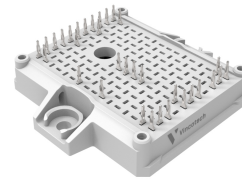
Target applications

- General Purpose Drives
- HVAC
- Industrial Drives

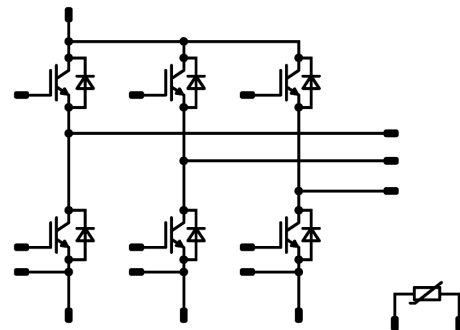
Types

- 10-EY076PA100I7-L194F08T

flow E2 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				
Collector-emitter voltage	V_{CES}		650	V
Collector current (DC current)	I_C	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	117	A
Repetitive peak collector current	I_{CRM}	t_p limited by T_{jmax}	300	A
Turn off safe operating area		$T_j = 150\text{ °C}$, $V_{CE} = 1200\text{ V}$	300	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	132	W
Gate-emitter voltage	V_{GES}		± 20	V
Short circuit ratings	t_{SC}	$V_{GE} = 15\text{ V}$, $V_{CC} = 400\text{ V}$ $T_j = 150\text{ °C}$	3	μs
Maximum junction temperature	T_{jmax}		175	$^{\circ}\text{C}$

Inverter Diode

Peak repetitive reverse voltage	V_{RRM}		650	V
Forward current (DC current)	I_F	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	91	A
Repetitive peak forward current	I_{FRM}	t_p limited by T_{jmax}	300	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	107	W
Maximum junction temperature	T_{jmax}		175	$^{\circ}\text{C}$

Module Properties

Thermal Properties

Storage temperature	T_{stg}		$-40...+125$	$^{\circ}\text{C}$
Operation temperature under switching condition	T_{jop}		$-40...+(T_{jmax} - 25)$	$^{\circ}\text{C}$

Isolation Properties

Isolation voltage	V_{isol}	DC Test Voltage $t_p = 2\text{ s}$	6000	V
Creepage distance			$> 12,7$	mm
Clearance			9,08	mm
Comparative Tracking Index	CTI		≥ 600	



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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	$V_{GE(th)}$	$V_{CE} = V_{GE}$			0,001	25	4,35	5	5,65	V
Collector-emitter saturation voltage	V_{CEsat}		15		100	25		1,35	1,65	V
Collector-emitter cut-off current	I_{CES}		0	650		25			40	µA
Gate-emitter leakage current	I_{GES}		20	0		25			200	nA
Internal gate resistance	r_g							None		Ω
Input capacitance	C_{ies}	$f = 1 \text{ Mhz}$	0	25		25		6100		pF
Output capacitance	C_{oes}							184		pF
Reverse transfer capacitance	C_{res}							62		pF
Gate charge	Q_g	$V_{CC} = 520 \text{ V}$	15		100	25		580		nC

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)						0,72		K/W
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Inverter Diode

Static

Forward voltage	V_F				100	25		1,65	2	V
Reverse leakage current	I_R	$V_r = 650 \text{ V}$				25			40	µA

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4 \text{ W/mK}$ (PSX)						0,89		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		5		kΩ
Deviation of R100	$\Delta_{R/R}$	$R_{100} = 499 \Omega$				100	3,2		3,3	%
Power dissipation	P					25		130		mW
Power dissipation constant	d					25		1,3		mW/K
B-value	$B_{(25/50)}$	Tol. $\pm 1 \%$						3380		K
Vincotech Thermistor Reference									V	



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Ordering Code	
Version	Ordering Code
Without thermal paste	10-EY076PA100I7-L194F08T
With thermal paste (5,2 W/mK, PTM6000HV)	10-EY076PA100I7-L194F08T-/7/

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

Outline

Pin table [mm]

Pin	X	Y	Function
1	32	3,2	G16
2	32	0	Ph3
3	28,8	0	Ph3
4	25,6	0	Ph3
5	19,2	0	Ph2
6	16	0	Ph2
7	12,8	0	Ph2
8	12,8	3,2	G14
9	6,4	0	Ph1
10	3,2	0	Ph1
11	0	0	Ph1
12	0	3,2	G12
13	0	19,2	Therm1
14	0	28,8	Therm2
15	0	44,8	G11
16	0	48	S11
17	3,2	48	DC-1
18	6,4	48	DC-1
19	9,6	48	DC-1
20	12,8	48	S13
21	12,8	44,8	G13
22	16	48	DC-2
23	19,2	48	DC-2
24	22,4	48	DC-2
25	22,4	44,8	G15
26	25,6	48	S15
27	28,8	48	DC-3
28	32	48	DC-3
29	32	44,8	DC-3
30	12,8	25,6	DC+
31	12,8	22,4	DC+
32	12,8	19,2	DC+
33	12,8	16	DC+

center of press-fit pinhead
for correction parameter see the handling instruction

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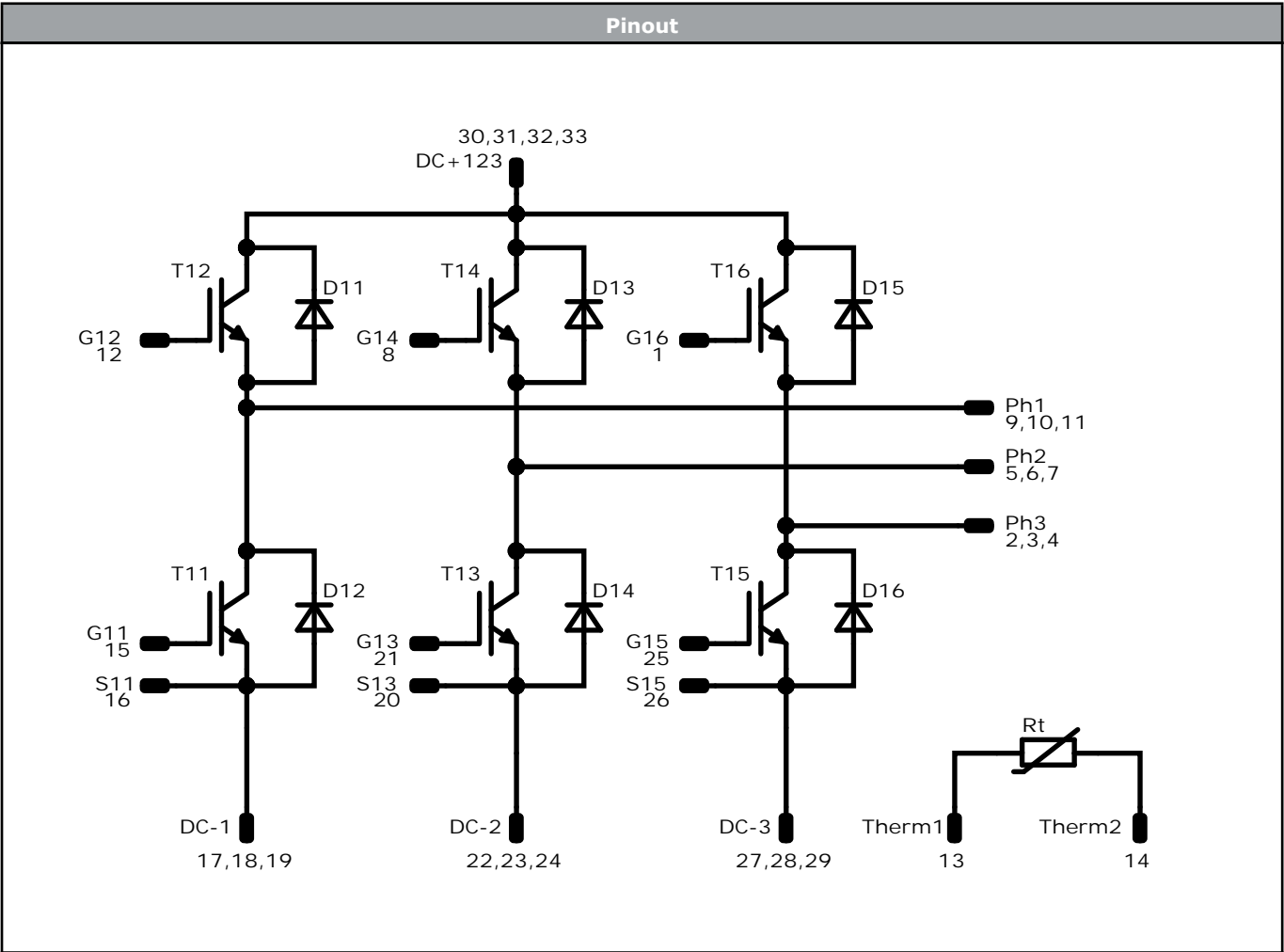
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Identification					
ID	Component	Voltage	Current	Function	Comment
T11, T12, T13, T14, T15, T16	IGBT	650 V	100 A	Inverter Switch	
D11, D12, D13, D14, D15, D16	FWD	650 V	100 A	Inverter Diode	
Rt	Thermistor			Thermistor	



Vincotech

10-EY076PA100I7-L194F08T
target datasheet

Packaging instruction				
Standard packaging quantity (SPQ) 100	>SPQ	Standard	<SPQ	Sample
Handling instruction				
Handling instructions for <i>flow</i> E2 packages see vincotech.com website.				
Package data				
Package data for <i>flow</i> E2 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
10-EY076PA100I7-L194F08T-T1-14	27 Apr. 2025	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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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.