



Vincotech

10-EY12NMA009ME30-LS28F14T

target datasheet

flowMNPC E2 SiC

1200 V / 8,67 mΩ

Topology features

- Kelvin Emitter for improved switching performance
- Temperature sensor
- Mixed Voltage Neutral Point Clamped Topology (T-Type)

Component features

- Fast intrinsic diode with low reverse recovery
- High blocking voltage with low on-resistance
- High speed switching with low capacitance

Housing features

- Base isolation: Al₂O₃
- 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

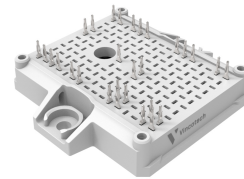
Target applications

- Charging Stations
- Industrial Drives
- Power Supply
- Solar Inverters
- UPS

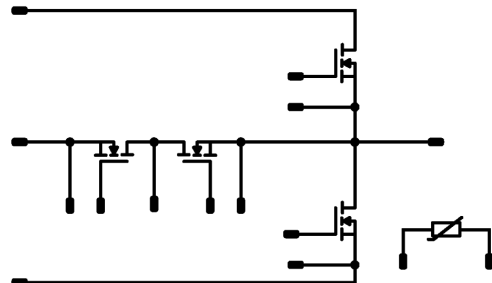
Types

- 10-EY12NMA009ME30-LS28F14T

flow E2 12 mm housing



Schematic





Vincotech

10-EY12NMA009ME30-LS28F14T
target datasheet

Maximum Ratings

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

Parameter	Symbol	Conditions	Value	Unit
Buck Switch				
Drain-source voltage	V_{DS}		1200	V
Drain current (DC current)	I_D	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	177	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	456	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	169	W
Gate-source voltage	V_{GS}	static	-4 / 15	V
		dynamic	-8 / 19	V
Maximum Junction Temperature	T_{jmax}		175	°C

Boost Switch

Drain-source voltage	V_{DS}		1200	V
Drain current (DC current)	I_D	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	177	A
Peak drain current	I_{DM}	t_p limited by T_{jmax}	456	A
Total power dissipation	P_{tot}	$T_j = T_{jmax}$ $T_s = 80\text{ °C}$	169	W
Gate-source voltage	V_{GS}	static	-4 / 15	V
		dynamic	-8 / 19	V
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			9,08	mm
Comparative Tracking Index	CTI		≥ 600	



Vincotech

10-EY12NMA009ME30-LS28F14T
target datasheet

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		

Buck Switch

Static

Drain-source on-state resistance	$r_{DS(on)}$		15		114	25	6,07	8,67	11,3	mΩ
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$			0,0321	25	1,8	2,7	3,6	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		30	750	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	1200		25		3	150	μA
Internal gate resistance	r_g							1,37		Ω
Gate charge	Q_g		-4/15	800	114	25		408		nC
Short-circuit input capacitance	C_{iss}	$f = 100$ kHz	0	1000	0	25		10410		pF
Short-circuit output capacitance	C_{oss}							330		
Reverse transfer capacitance	C_{rss}							27		
Diode forward voltage	V_{SD}		0		58,5	25		4,8		V

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						0,56		K/W
-------------------------------------	---------------	---------------------------------------	--	--	--	--	--	------	--	-----



Vincotech

10-EY12NMA009ME30-LS28F14T
target datasheet

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	

Boost Switch

Static

Drain-source on-state resistance	$r_{DS(on)}$		15		114	25	6,07	8,67	11,3	mΩ
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$			0,0321	25	1,8	2,7	3,6	V
Gate to Source Leakage Current	I_{GSS}		15	0		25		30	750	nA
Zero Gate Voltage Drain Current	I_{DSS}		0	1200		25		3	150	μA
Internal gate resistance	r_g							1,37		Ω
Gate charge	Q_g		-4/15	800	114	25		408		nC
Short-circuit input capacitance	C_{iss}	$f = 100$ kHz	0	1000	0	25		10410		pF
Short-circuit output capacitance	C_{oss}							330		
Reverse transfer capacitance	C_{rss}							27		
Diode forward voltage	V_{SD}		0		58,5	25		4,8		V

Thermal

Thermal resistance junction to sink	$R_{th(j-s)}$	$\lambda_{paste} = 3,4$ W/mK (PSX)						0,56		K/W
-------------------------------------	---------------	---------------------------------------	--	--	--	--	--	------	--	-----

Thermistor

Static

Rated resistance	R					25		5		kΩ
Deviation of R100	$\Delta_{R/R}$	$R_{100} = 493$ Ω				100	-5		5	%
Power dissipation	P							245		mW
Power dissipation constant	d					25		1,4		mW/K
B-value	$B_{(25/50)}$	Tol. ± 2 %						3375		K
B-value	$B_{(25/100)}$	Tol. ± 2 %						3437		K
Vincotech Thermistor Reference									K	



target datasheet

Ordering Code	
Version	Ordering Code
Without thermal paste	10-EY12NMA009ME30-LS28F14T
With thermal paste (5,2 W/mK, PTM6000HV)	10-EY12NMA009ME30-LS28F14T-/7/

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

Pin table [mm]			
Pin	X	Y	Function
1	32	3,2	S11
2	32	0	G11
3	3,2	0	DC+
4	0	0	DC+
5	3,2	3,2	DC+
6	0	3,2	DC+
7	3,2	12,8	GND
8	0	12,8	GND
9	3,2	16	GND
10	0	16	GND
11	0	28,8	S14
12	0	32	G14
13	0	38,4	DC-
14	0	41,6	DC-
15	0	44,8	DC-
16	0	48	DC-
17	19,2	48	S12
18	22,4	48	G12
19	32	48	Therm1
20	32	44,8	Therm2
21	32	38,4	Ph
22	32	35,2	Ph
23	32	32	Ph
24	32	19,2	Ph
25	32	16	Ph
26	32	12,8	Ph
27	16	19,2	S13
28	12,8	19,2	G13
29	16	28,8	CC

center of press-fit pin head
pin head type: TP, PCB plated through-hole Ø1mm ±0.09 / -0.06
for further PCB design rules refer to the latest handling instruction

50.0 ± 0.1
3.0 ± 0.1

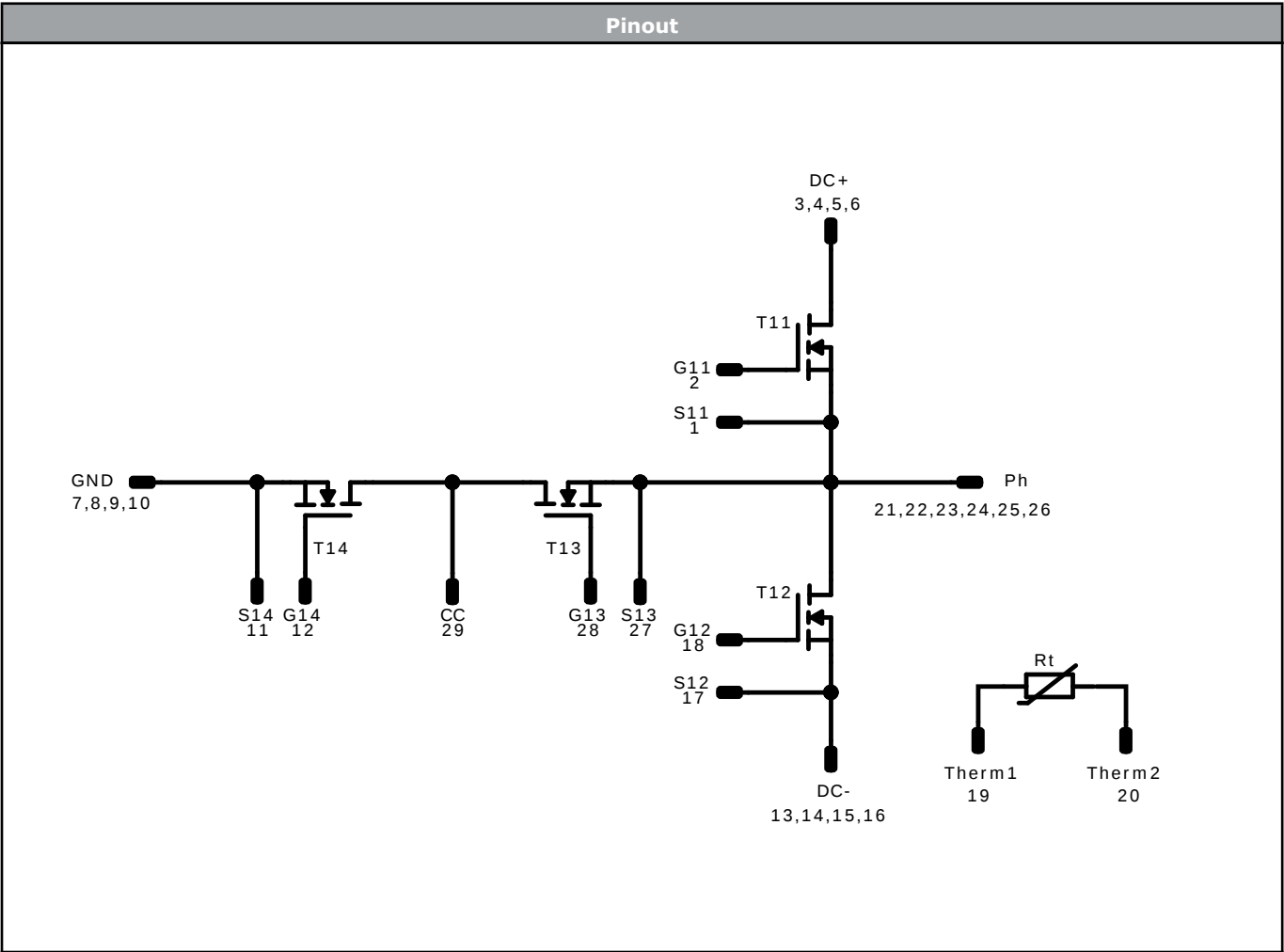
Tolerance of prepositions: ±0.05mm at the end of pins
Dimension of coordinate axis is only offset without tolerance



Vincotech

10-EY12NMA009ME30-LS28F14T

target datasheet



Identification					
ID	Component	Voltage	Current	Function	Comment
T11, T12	MOSFET	1200 V	8,67 mΩ	Buck Switch	
T13, T14	MOSFET	1200 V	8,67 mΩ	Boost Switch	
Rt	Thermistor			Thermistor	



Vincotech

10-EY12NMA009ME30-LS28F14T
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-EY12NMA009ME30-LS28F14T-T1-14	13 Aug. 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.

DISCLAIMER

The information, specifications, procedures, methods and recommendations herein (together "information") are presented by Vincotech to reader in good faith, are believed to be accurate and reliable, but may well be incomplete and/or not applicable to all conditions or situations that may exist or occur. Vincotech reserves the right to make any changes without further notice to any products to improve reliability, function or design. No representation, guarantee or warranty is made to reader as to the accuracy, reliability or completeness of said information or that the application or use of any of the same will avoid hazards, accidents, losses, damages or injury of any kind to persons or property or that the same will not infringe third parties rights or give desired results. It is reader's sole responsibility to test and determine the suitability of the information and the product for reader's intended use.

LIFE SUPPORT POLICY

Vincotech products are not authorised for use as critical components in life support devices or systems without the express written approval of Vincotech.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in labelling can be reasonably expected to result in significant injury to the user.
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.