



Miniature surface mounted DC/DC Converters are an ideal and economical solution for many applications where noise reduction, voltage isolation, voltage conversion in distributed power systems is required. These converters are qualified for the higher temperatures requested by lead-free reflow solder processes, especially for automated SMD production lines.



FEATURES:

- RoHS compliant
- Efficiency up to 78%
- Operating temperature: -40 to 105 °C
- Input voltage: 3.3V, 5V, 12V, 15V, 24V
- Output voltage: $\pm 3.3V$, $\pm 5V$, $\pm 9V$, $\pm 12V$, $\pm 15V$
- UL 94V-0 package material
- 3KVDC isolation
- Custom solutions available
- Optional: Continuous short circuit protection

HM3-XXYYD10Z30/X/P	Nominal Input Voltage (V)	Output Voltage (V)	Output Current (Max./Min) (mA)	Efficiency %
HM3-0303D10Z30	3,3	± 3.3	$\pm 152/\pm 15.2$	70
HM3-0305D10Z30	3,3	± 5	$\pm 100/\pm 10$	70
HM3-0309D10Z30	3,3	± 9	$\pm 55/\pm 5.5$	72
HM3-0312D10Z30	3,3	± 12	$\pm 42/\pm 4.2$	75
HM3-0315D10Z30	3,3	± 15	$\pm 33/\pm 3.3$	80
HM3-0503D10Z30	5	± 3.3	$\pm 152/\pm 15.2$	70
HM3-0505D10Z30	5	± 5	$\pm 100/\pm 10$	70
HM3-0509D10Z30	5	± 9	$\pm 55/\pm 5.5$	72
HM3-0512D10Z30	5	± 12	$\pm 42/\pm 4.2$	75
HM3-0515D10Z30	5	± 15	$\pm 33/\pm 3.3$	80
HM3-1203D10Z30	12	± 3.3	$\pm 152/\pm 15.2$	70
HM3-1205D10Z30	12	± 5	$\pm 100/\pm 10$	70
HM3-1209D10Z30	12	± 9	$\pm 55/\pm 5.5$	26
HM3-1212D10Z30	12	± 12	$\pm 42/\pm 4.2$	75
HM3-1215D10Z30	12	± 15	$\pm 33/\pm 3.3$	80
HM3-1515D10Z30	15	± 15	$\pm 33/\pm 3.3$	80
HM3-2403D10Z30***	24	± 3.3	$\pm 152/\pm 15.2$	70
HM3-2405D10Z30***	24	± 5	$\pm 100/\pm 10$	70
HM3-2409D10Z30***	24	± 9	$\pm 55/\pm 5.5$	72
HM3-2412D10Z30***	24	± 12	$\pm 42/\pm 4.2$	75
HM3-2415D10Z30***	24	± 15	$\pm 33/\pm 3.3$	80

Optional: suffix "X" = has no Pin 5, 10, 12 e.g.: HM3-1212D10Z30X

Optional: suffix "P" = continuous short circuit protection, e.g.: HM3-1212D10Z30XP

*** available soon

The models listed above is just for standard type. If you need the special specification product, please contact our specialists: sales@haufe-power.de

Package Unit: 35

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INPUT CHARACTERISTICS (Min./Typ./Max.):

Voltage range 3.3V input types (V):	2.9 / 3.3 / 3.6
Voltage range 5V input types (V):	4.5 / 5 / 5.5
Voltage range 12V input types (V) :	11 / 12 / 13.3
Voltage range 15V input types (V):	13.4 / 15 / 16.4
Voltage range 24V input types V):	22 / 24 / 26.6
Reflected ripple current (mA p-p):	- / 40 / 50

ISOLATION CHARACTERISTICS:

Isolation test voltage (VDC):	3000 / - / - (Tested for 1 second)
Resistance (Viso = 1000 VDC) (GΩ):	1 / - / -

ABSOLUTE MAXIMUM RATINGS:

Short-circuit protection:	1 sec.
Lead temperature 1.5mm from case for 10 seconds:	300°C
Internal power dissipation :	680mW
Input voltage Vin:	03= 5.5V / 05=7V / 12=15V / 15=18V / 24=28V

Comment on AMS:

All specs typ. at TA=25°C, nominal input voltage and rated output current unless otherwise specified

OUTPUT CHARACTERISTICS (Min. / Typ. / Max.):

Rated Power TA= -40°C to 85°C (W):	- / - / 1.1
Voltage Set Point Accuracy (%):	See tolerance envelope
Line regulation High VIN to low VIN (%):	/ 1.0 / 1.2
Load Regulation *** 0303, 0503	- / 9 / -
Load Regulation *** 0309	- / 9 / -
Load Regulation *** 0509, 1209, 2409	- / 7 / -
Load Regulation *** 0312, 0315	- / 12 / -
Load Regulation *** 0512, 1212, 2412	- / 7 / -
Load Regulation *** 0515, 1215, 1515, 2415	- / 7 / -
Load Regulation *** 5V output types (%):	- / 9 / -

(*** = 10% load to rated load)

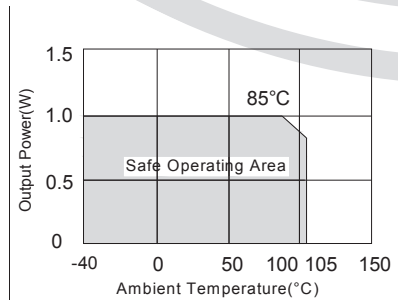
GENERAL CHARACTERISTICS (Min. / Typ. / Max.)

Switching frequency 0312, 0315 (kHz)	- / 110 / -
Switching frequency 0303, 0305, 0503 (kHz)	- / 115 / -
Switching frequency all other variants (kHz)	- / 120 / -

TEMPERATUR CHARACTERISTICS (Min. / Typ. / Max.)

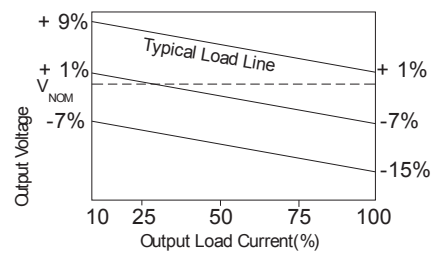
Derating if the temperature is ≥85°C (°C):	-40 / - / 105
Storage temperature (°C):	-55 / - / 125
Cooling:	Free air convection

TEMPERATURE DERATING GRAPHS

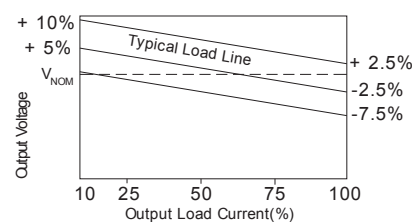


TOLERANCE ENVELOPES

Tolerance Envelope 3.3V output types



All other types



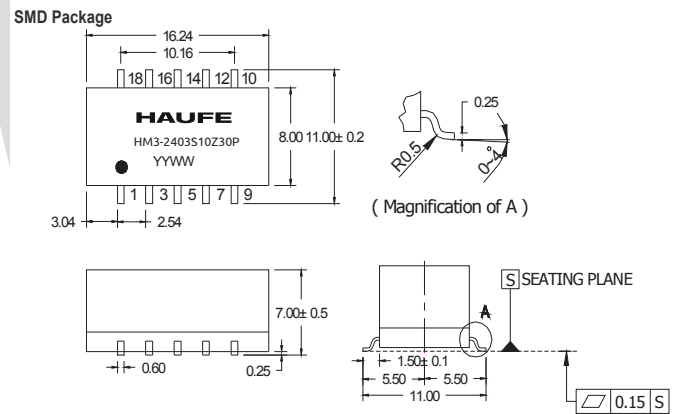


PIN CONNECTIONS

10 PIN SMD		
Pin	Function	Add suffix "X" function
1	-Vin	-Vin
3	+Vin	+Vin
5	NA	No Pin
7	OV	OV
9	-Vout	-Vout
10	NA	No Pin
12	+Vout	+Vout
14	NA	No Pin
16	NA	No Pin
18	NA	NA

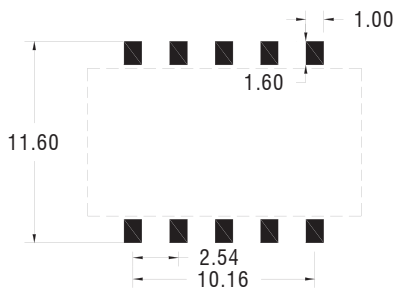
NA - Not available for electrical connection.

MECHANICAL DIMENSION

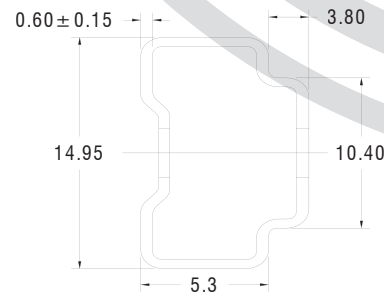


All dimensions in mm ±0.25mm. All pins on a 2.54 pitch. Weight: 1.53g

RECOMMENDED FOOTPRINT DETAILS



TUBE OUTLINE DIMENSIONS

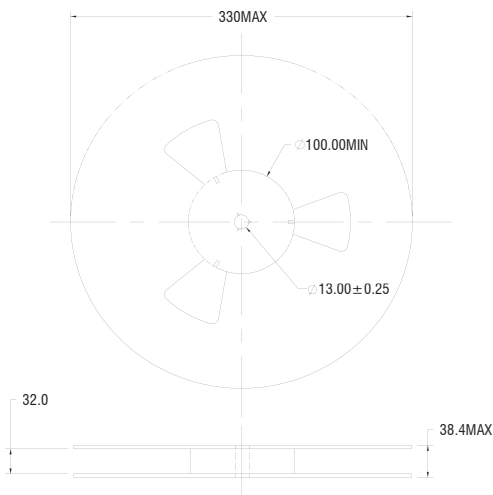


Unless otherwise stated all dimensions in mm±0.5mm.

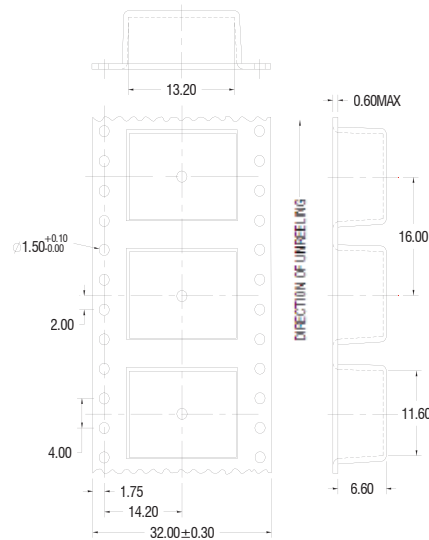
Tube length: 475mm±2.0mm

Tube Quantity: 25PCS

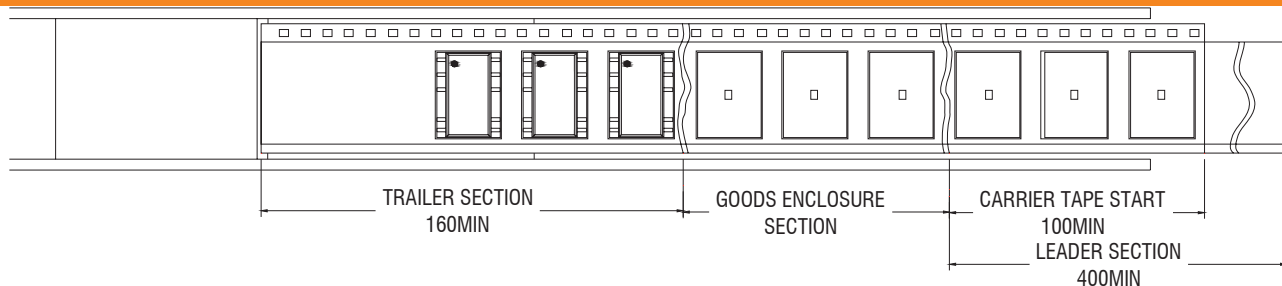
REEL OUTLINE DIMENSIONS



TAPE OUTLINE DIMENSIONS



REEL PACKING DETAILS



Product Orientation

Pin 1, located nearest to carrier drive sprocket

Reel quantity : 500 PCS

INDUKTIVITÄTEN
 STROMVERSORGUNGEN
 BLECHBEARBEITUNG
 MAGNETISCHE ABSCHIRMUNGEN