

P R B X

POWERBOX Industrial Line MAB05 Series 3W 4:1 Single and Dual Output DC/DC Converter

Features

3W isolated output
24-pin DIP package
4:1 input range
Regulated outputs
Pi input filter
Continuous short circuit protection

Input

Input voltage range See table
Input filter Pi type

Output

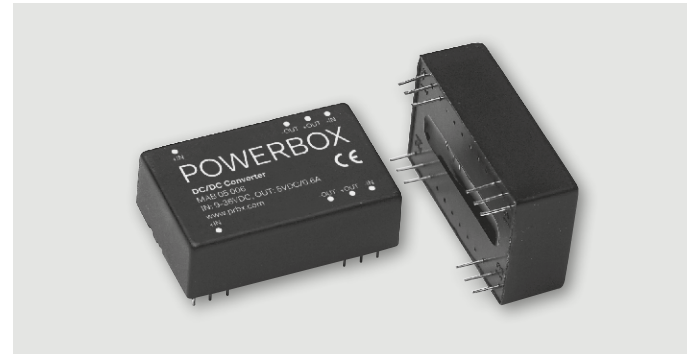
Voltage accuracy $\pm 2.0\%$ max.
Voltage balance (dual) $\pm 1.0\%$ max.
Temperature coefficient $\pm 0.05\%/^{\circ}\text{C}$.
Ripple and noise $_{20\text{MHz BW}}$ Single & $\pm 5\text{V}$ 100mV p-p max.
Dual 1% p-p max.
Short circuit protection Continuous
Line regulation¹ Single/Dual $\pm 0.5\%$ max.
Load regulation Single² $\pm 0.5\%$ max.
Dual³ $\pm 1.0\%$ max.

Environmental

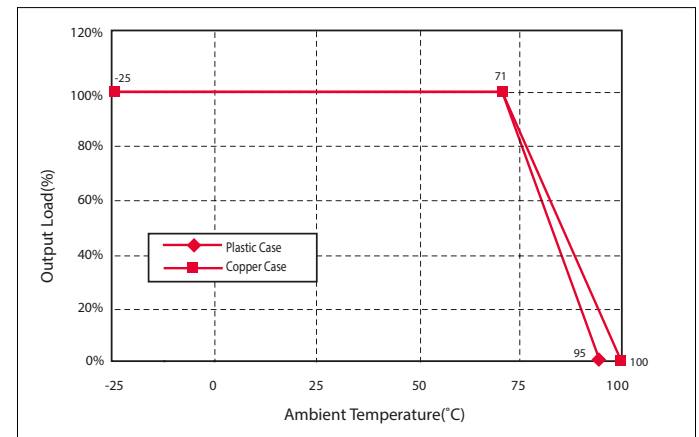
Operating ambient temp. -25 to $+71^{\circ}\text{C}$.
Derating above 71°C Linearly to zero power at 95°C (plastic case).
Linearly to zero power at 100°C (copper case).
Case temperature⁹ 95°C max (plastic case).
 100°C max (copper case).
Cooling Natural convection.
Storage temperature -40 to $+100^{\circ}\text{C}$.

General

Efficiency See table.
Isolation voltage⁴ Standard models: 500 VDC min.
Suffix "HM" models: 1.5 kVDC min.
Suffix "H" models: 3 kVDC min.
Isolation resistance 10^9 ohms.
Switching frequency 100kHz, min.
Dimensions 31.8 x 20.3 x 10.2 mm.
Weight 12.5g.
Case material Standard models:
Non-conductive black plastic.
Suffix "M"⁵ models:
Black coated copper with non-conductive base.



Derating Curve



Note:

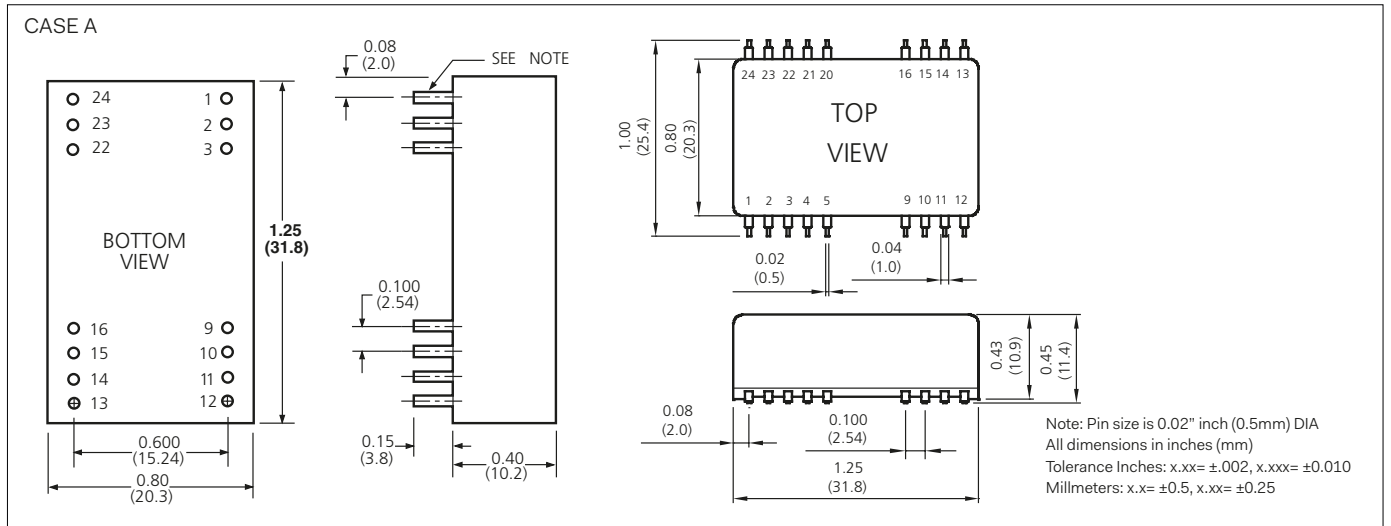
1. Measured from high line to low line.
2. Measured from full load to 10% load.
3. Suffix "S" to the model number with SMD packages.
4. Max case temperature under any operating conditions should not be exceeded 100°C .

POWERBOX Industrial Line
MAB05 Series
3W 4:1 Single and Dual Output
DC/DC Converter

Model Number	Input Voltage	Output Voltage	Output Current	Input Current		Efficiency	Case
				No Load	Full Load		
MAB 05 003	9-36 VDC	3.3 VDC	600 mA	15 mA	117 mA	70%	A
MAB 05 006	9-36 VDC	5 VDC	600 mA	15 mA	117 mA	72%	A
MAB 05 009	9-36 VDC	12 VDC	250 mA	15 mA	165 mA	76%	A
MAB 05 012	9-36 VDC	15 VDC	200 mA	15 mA	165 mA	76%	A
MAB 05 015	9-36 VDC	±5 VDC	±300 mA	25 mA	179 mA	70%	A
MAB 05 018	9-36 VDC	±12 VDC	±125 mA	25 mA	174 mA	72%	A
MAB 05 021	9-36 VDC	±15 VDC	±100 mA	25 mA	174 mA	72%	A
MAB 05 024	18-72 VDC	3.3 VDC	600 mA	7.5 mA	58 mA	70%	A
MAB 05 027	18-72 VDC	5 VDC	600 mA	7.5 mA	87 mA	72%	A
MAB 05 030	18-72 VDC	12 VDC	250 mA	7.5 mA	81 mA	77%	A
MAB 05 033	18-72 VDC	15 VDC	200 mA	7.5 mA	81 mA	77%	A
MAB 05 036	18-72 VDC	±5 VDC	±300 mA	12 mA	88 mA	71%	A
MAB 05 039	18-72 VDC	±12 VDC	±125 mA	12 mA	87 mA	72%	A
MAB 05 042	18-72 VDC	±15 VDC	±100 mA	12 mA	87 mA	72%	A

Note:
 1. Nominal input voltages 24 or 48 VDC.

Mechanical



Pin Connection	Standard version (500VDC)				"HM" (1.5kVDC) and "H" (3kVDC) models				
	Single Output		Dual Output		Pin	Single Output		Dual Output	
Pin	DIP	SDM	DIP	SMD		DIP	SDM	DIP	SMD
1,24	+V Input		+V Input		1,24	NP	NC	NP	NC
2,23	NC		-V Input		2,3	-V Input		-V Input	
3,22	NC		Common	4,5	NP	NC	NP	NC	
4	NP	NC	NP	NC	9	NC		Common	
5	NP	NC	NP	NC	10,15	NC		NC	
9	NP	NC	NP	NC	11	NC		-V Output	
10,15	-V Output		Common		12,13	NP	NC	NP	NC
11,14	+V Output		+V Output		14	+V Output		+V Output	
12,13	-V Input		-V Input		16	-V Output		Common	
16	NP	NC	NP	NC	20,21	NP	NC	NP	NC
20,21	NP	NC	NP	NC	22,23	+V Input		+V Input	

*NP-No
 *NC-No Connection with pin