

#### FEATURES

- Ultra wide input range, 16.8V-137.5V
- Efficiency up to 89% @110Vin
- 14.4V/1S, 200V/1S transient voltage
- Meet requirements of EN50155
- Package Dimension(without HSK):  
226X100X47(mm3)
- Over voltage protection, Over current protection, hiccup mode
- Input reverse polarity protection
- Negative/Positive Remote ON/OFF
- Without tantalum capacitor inside module
- Operating Base plate Temperature range - 40°C to +100°C
- 4242Vdc input to output reinforced isolation
- 10ms hold up time
- RoHs Compliant
- 5 Years Product Warranty
- Heat-sink is optional
- UL60950-1(pending)



The PM80SV series is isolated 200W DC/DC converters with 4242VDC isolation. The PM80S family comes with a host of industry-standard features, such as over current protection, over voltage protection, over temperature protection and remote on/off. All models have an ultra-wide 8:1 input voltage range (16.8V to 137.5V). With operating temperature of -40°C to +100°C, it is suitable for customers' critical applications, such as process control and automation, transportation, data communication and telecom equipment, test equipment, medical device etc.

#### Model List

Model Number	Input Voltage (Range)	Output Voltage	Output Current		Input Current (typ input voltage)		Load[1] Regulation	Max capacitive Load	Efficiency (110V.)
			Max.	Min.	@Max. Load	@No Load			
			VDC	VDC	A	mA			A(typ.)
PM80S12017	24/48/72/110 (16.8 ~ 137.5)	12	17	0	TBD	TBD	±0.5	2200	89
PM80S15013		15	13	0	TBD	TBD		2200	89
PM80S24008		24	8	0	TBD	TBD		1000	88
PM80S48004		48	4	0	TBD	TBD		500	88
PM80S54004		54	3.7	0	TBD	TBD		450	88

Note[1]: the load regulation data is for the non-parallel version product.

Input Characteristics					
Item	Condition	Min.	Typ.	Max.	Unit
Maxium input voltage		-150		200	Vdc
Operating voltage continously		16.8		137.5	Vdc
Input Surge Voltage (1sec)	0~100% load	14.4		200	Vdc
Input Turn-On Voltage Threshold			14.0		Vdc
Input Turn-Off Voltage Threshold	0% load[1]		12.0		Vdc
Input Under-Voltage Lockout Hysteresis	0% load		2		Vdc
Off-Converter Input Current			TBD		mA
Reverse Polarity Input Current		---	---	5	mA
ON/OFF Control, Logic High	Positive logic	5		10	Vdc
ON/OFF Control, Logic Low	Positive logic	-0.7		0.8	Vdc
Hold up time	Norminal VIN=110Vdc		30		ms
Input Filter				YES	

Note1: the turn-off voltage threshold varies with load current. With full load current ,turn off threshold is about 13V

Output Characteristics(only for non-parallel version)					
Item	Conditions	Min.	Typ.	Max.	Unit
Output power[2]				200	W
Output Voltage Accuracy		---	---	±1.0	%Vo
Line Regulation			±0.1	±0.2	%Vo
Total Outupt Voltage Range	Over Load, Line and Temperature	---	---	±2.5	%Vo
Ripple & Noise		---	TBD	---	mV <sub>P-P</sub>
Dynamic load response	50%-75% full load, 0.1A/uS		3		%Vo
Output Over Current Protection	Output Voltage 10% Low, Hiccup	110		180	%lomax
Short Output Protection	Long Term, Auto-recovery		Yes		
Output Over-Voltage Protection	Hiccup, Auto-recovery	130		150	%Vo
Output Trim Range			No		%Vo

Output Characteristics(only for parallel version)					
Item	Conditions	Min.	Typ.	Max.	Unit
Output power				200	W
Output Voltage Accuracy	Half load	---	---	±1.0	%Vo
Line Regulation			±0.1	±0.2	%Vo
Total Output Voltage Range	Over Load, Line and Temperature	---	---	TBD	%Vo
Ripple & Noise		---	TBD	---	mV <sub>P-P</sub>
Dynamic load response	50%-75% full load, 0.1A/uS		TBD		%Vo
Output Over Current Protection	Output Voltage 10% Low, Hiccup	110		180	%lomax
Short Output Protection	Long Term, Auto-recovery		Yes		
Output Over-Voltage Protection	Hiccup, Auto-recovery	130		150	%Vo
Output Trim Range			No		%Vo
Parallel method	Parallel version		droop		

Note2: when Vin<18V, output power should be less than 150W.

General Characteristics					
Item	Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage (rated)					
Input to output		---	---	4242	VDC
Input to case		---	---	4242	VDC
Output to case		---	---	4242	VDC
I/O Isolation Resistance		100	---	---	MΩ
I/O Isolation Capacitance		---	---	TBD	nF
Switching Frequency			130		KHz

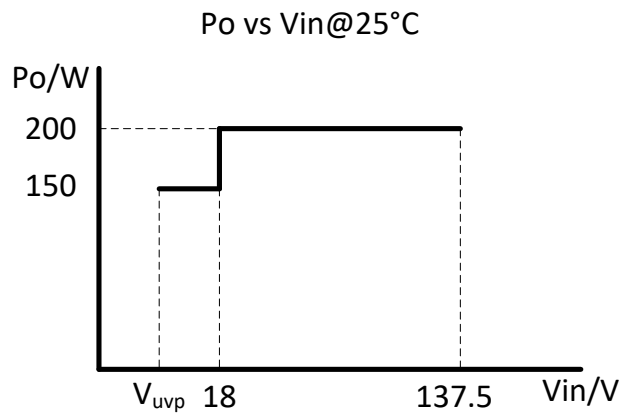
## Environmental Specifications

Parameter	Conditions	Min.	Max.	Unit
Operating Temperature Range (with Derating)	Ambient	-40	+70	°C
Maximum base plate Temperature		---	+100	°C
Storage Temperature Range		-50	+125	°C
Humidity (non condensing)		---	95	% rel. H
Cooling	Conduction cooling/Nature convection with external HSK			

## EMC Specifications

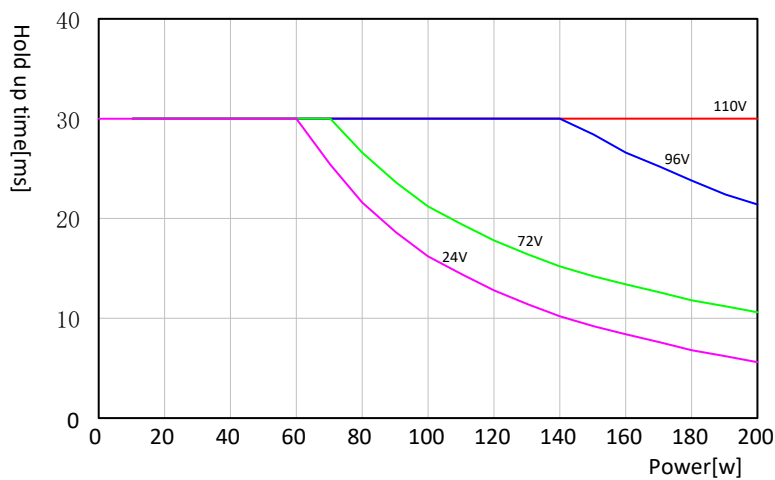
Parameter	Conditions	Level
EMI	EN55011 and EN55022 ClassA	A
ESD	EN61000-4-2 : air ±8kV ,contact ±6kV	A
Radiated immunity	EN61000-4-3 20V/m	A
Fast transient	EN61000-4-4 ±2kv ,5/50ns ,5kHz	A
surge	EN61000-4-5 1.2/50us Line to line 1kV 42ohm 0.5uF Line to ground 2k 42ohm 0.5uF	A
Conducted immunity	EN61000-4-6 10Vrms	A

## Po vs Vin Characteristics



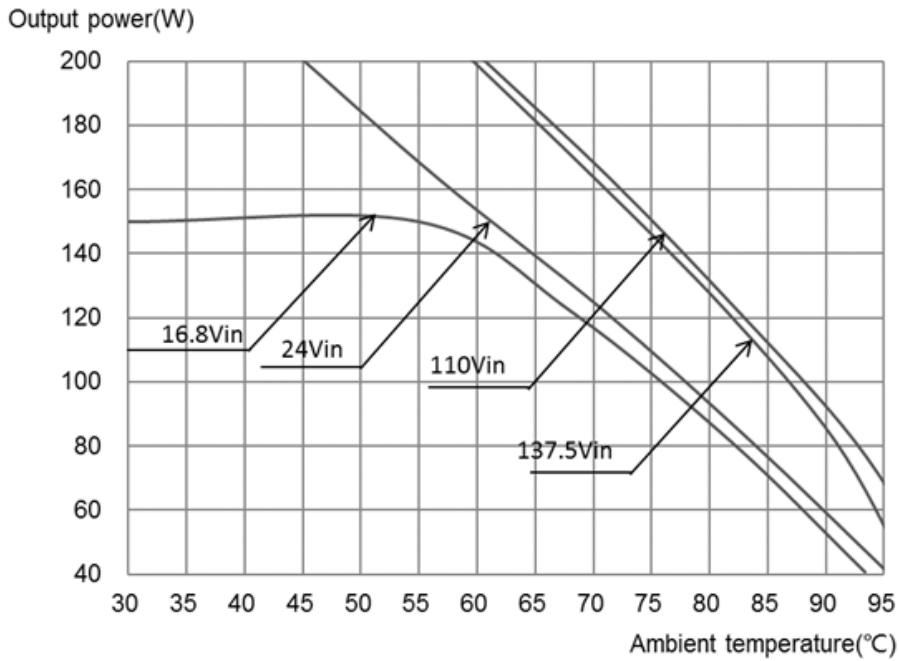
**Figure1** : Output Power vs input voltage @25deg

## Hold up time Characteristics

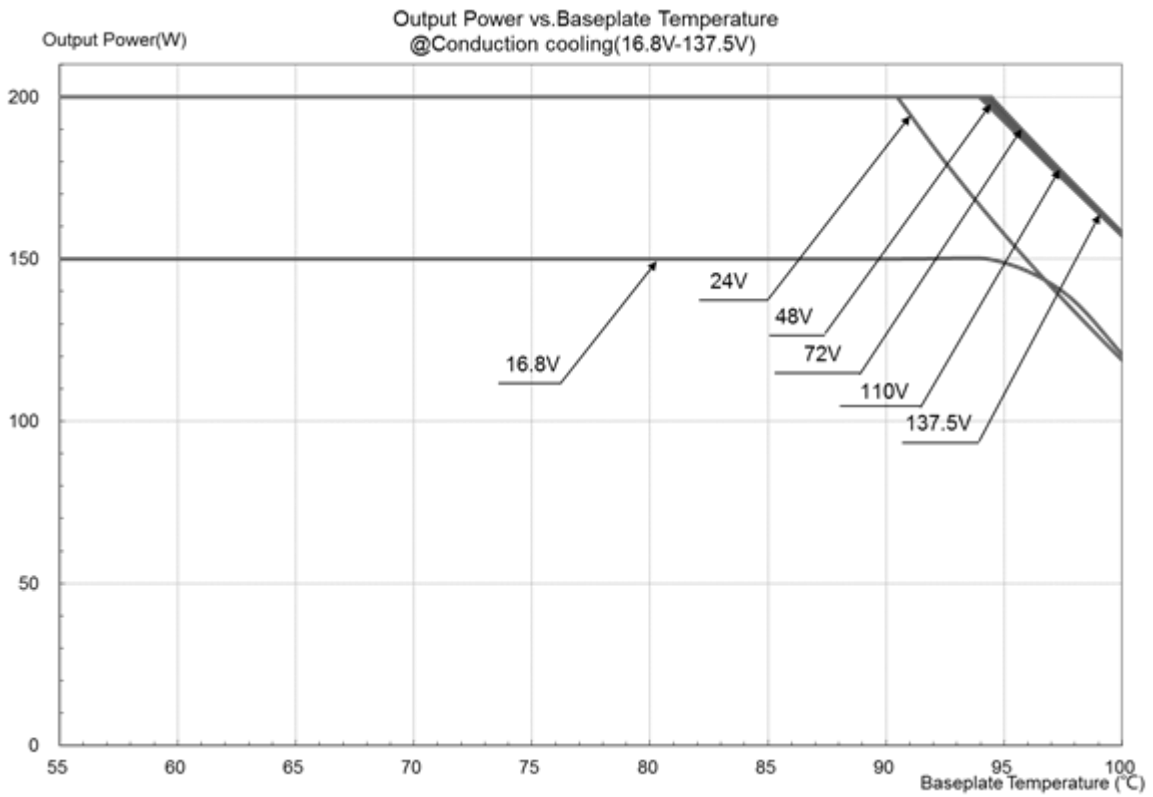


**Figure2** : hold-up time vs Norminal Vin @ 25deg

**Thermal derating curve**

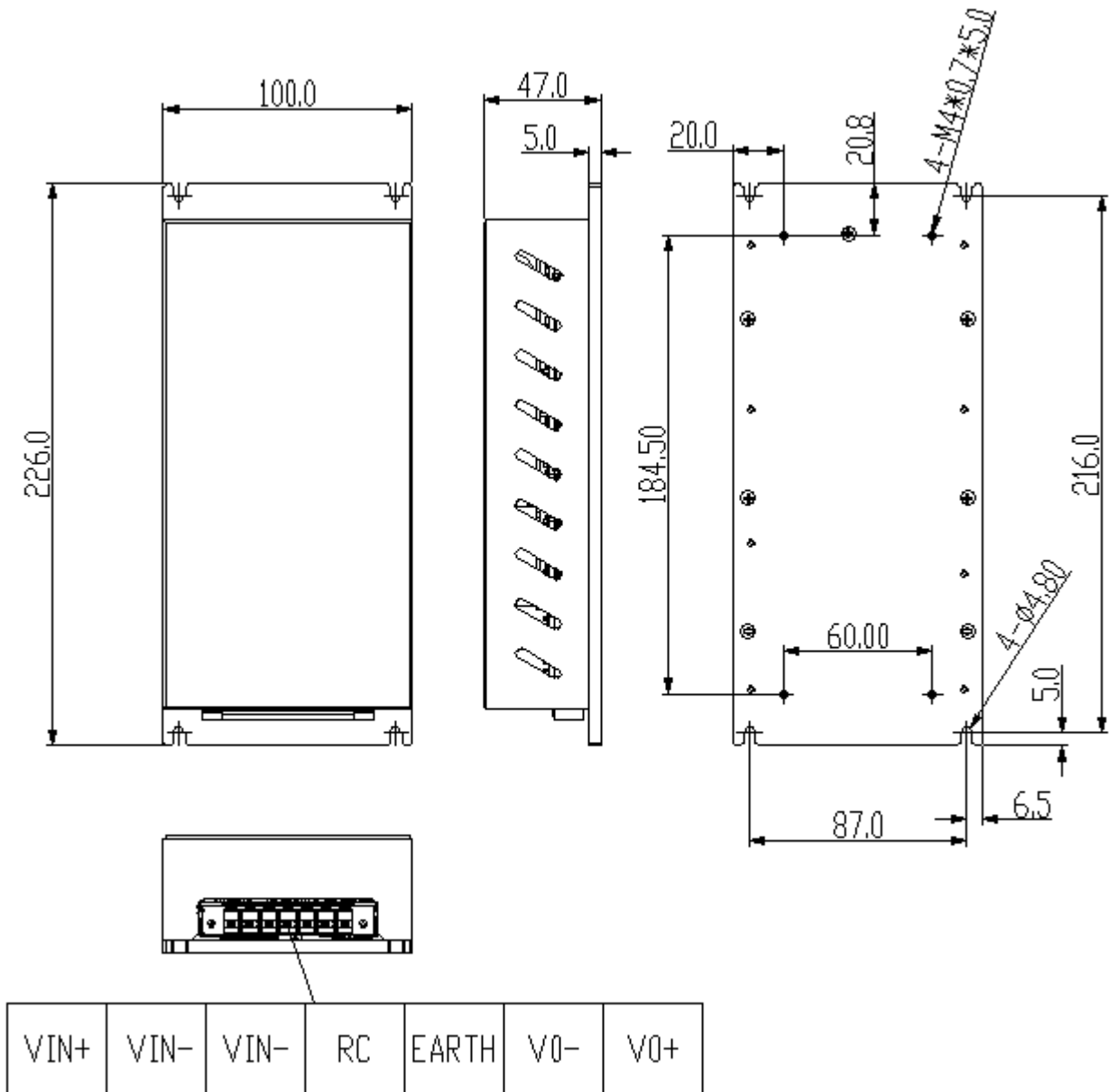


**Figure3** : Output Power vs free air temperature @Vin=16.8V~137.5V  
Nature convection with specified HSK



**Figure4** : Output Power with baseplate temperature @Vin=16.8V~137.5V  
Conduction cooling

**MECHANICAL DRAWING(BASEPLATE)**



**Figure 5:** The pin function and mechanical drawing

connector: DINKLE ECH762RRM-07P;recommended matting connector: DINKLE EC762VM-07P

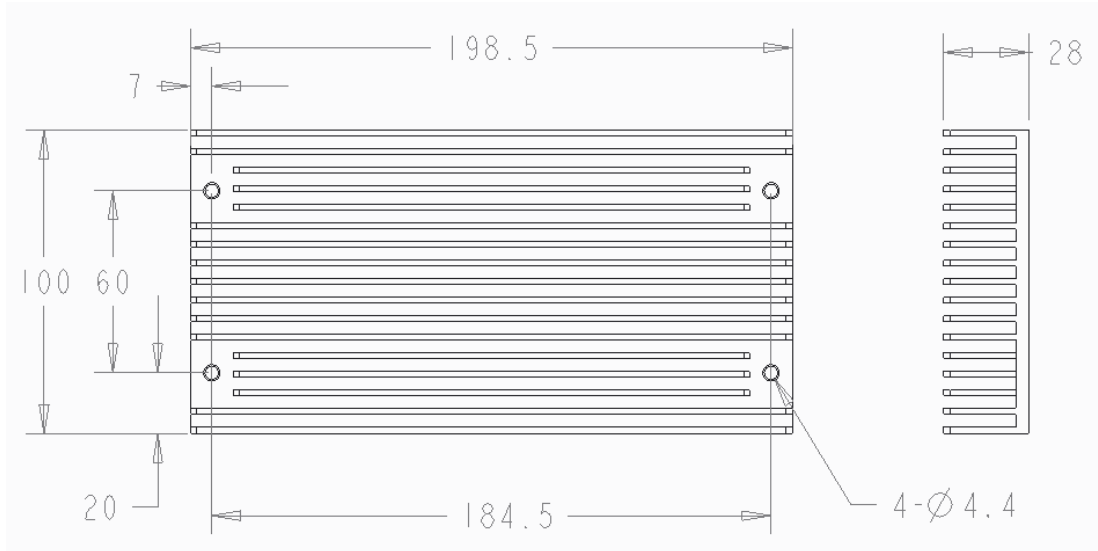
DIMENSIONS ARE IN MILLIMETERS

TOLERANCES ARE:

DECIMALS: .X: ±0.5; .XX: ±0.3.

## HEAT SINK DIMENSION

In nature convection application, a HSK is necessary, otherwise the DCDC product may not continuously operate due to poor cooling method. The proposed HSK design is showed in figure 6.



**Figure 6:** heatsink dimension

Part Numbering System								
PM	80	S	12	017	P	A	F	B
Form factor	Input voltage	Number of output	Output voltage	Output current	On/off logic	Connector type		Option Code
PM-panel mounted	80 = 16.8~137.5V continuously	S – Single	12 – 12V 15 – 15V 24 – 24V 48 – 48V 54 – 54V	017 - 17A 013 - 13A 008 - 8A 004 - 4A	P – Positive N - Negative	A = default other = customer specified	F - RoHS 6/6 (Lead Free)	A –parallel function B – Non parallel

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## **WARRANTY**

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