

### ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 7.5 WATTS SINGLE & DUAL OUTPUT APS07DM-S & APS07DM-D SERIES



#### FEATURES:

- VERY LOW PROFILE 7.0 MM HIGH
- SINGLE & DUAL OUTPUT
- WIDE 4:1 INPUT RANGE
- 7.5W ISOLATED OUTPUT
- SIX-SIDED METAL SHIELD

#### SPECIFICATION

##### INPUT SPECIFICATION

**Input Range:** Wide 4:1 DC input range  
See Ratings Chart

**Input Voltage:** Nominal 12/24/48Vdc

**Input Current:** Various with input range and load  
See Ratings Chart

**Input Fuse:** Use external fuse

**Input Filter:** Pi-Network

**Undervoltage Shutdown:** 8Vdc

**Isolation Resistor:** 1,000 Mega Ohms

**Isolation Voltage:** 1,500Vdc

**EMI:** Six-sided metal shielding

**Remote On/Off:** TTL/CMOS-Compatible Input Control  
Logic input reference to -Input/-Vin  
Logic [1]/Open(or 2.5-7.0Vdc above -Vin)=ON  
Logic [2]/Short(or 0-0.08Vdc above -Vin)=OFF

##### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart

**Output Current:** See Ratings Chart

**Voltage Accuracy:** Main O/P  $\pm 2.0\%$  typ.

**Line Regulation:**  $\pm 0.5\%$  typ.

**Load Regulation:** Single O/P  $\pm 1.0\%$  typ.  
Dual O/P  $\pm 2.0\%$  typ.

**Noise & Ripple:** Typ. 100mV for 3.3V/5.0V &  
1.0% for others peak to peak

**OVP:** Built-in on main output

**Adjustability:** Not available

**Short Circuit Protection:** Power fold back,  
Self-recovering

**Overload Protection:** About 130% of overrange  
foldback type

##### GENERAL SPECIFICATION

**Efficiency:** Typ. 81%, various with input.

**Switching Frequency:** Fixed frequency 450K Hz.

**Circuit Topology:** 450K Hz. Forward Circuit.

**Transient Response:** Full to 1/2 load <200 uSec.

**Case:** Black coated aluminum with non-conductive metal base.

**Weight:** 20.0g (0.71 Oz.).

**Power Density:** 12.0Watts./ Cubic inch.

**Operating Temperature:** -40°C to +85°C range. -25°C to +71°C @ full load without derating. Derating linearly 3.5%/°C from +71°C @ full load to +85°C @ half-load.

**Storage Temperature:** -55°C to +110°C.

**Humidity:** Up to 95% RH, Non-condensing.

**Temperature Coefficient:** 0.02% /°C.

**Cooling:** Convection cooling up to 60°C @F-L. At least 100LFM moving air is recommended for F-L >+60°C in a confined area.

**Commercial Grade:** Full load up to +71°C with moving air.

**Industrial Grade:** +71 to +85°C F-L to H-L with moving air.

NOTE:(1) All measurements are at nominal input, full load and +25°C unless otherwise specified.

(2) Line Regulation measured from High to Low Lines at full load.

(3) Load Regulation measured from Full Load (F-L) to Half-Load (H-L) at nominal input.

(4) Correct fuse size by calculating the max. DC current drain at low Line input & Load and then adding 20-25% for the desired fuse size.

# INPUT/OUTPUT & VOLTAGE/CURRENT RATINGS CHART

## SINGLE OUTPUT

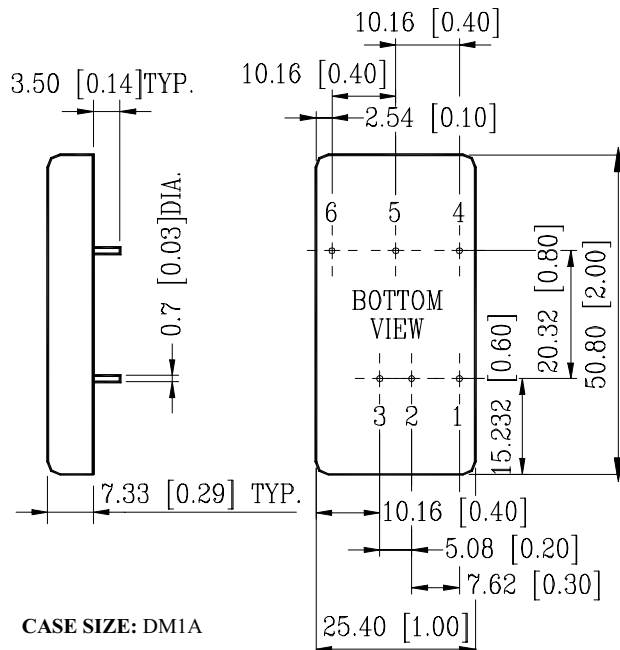
MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT		CASE SIZE
		N.L. (mA)	F.L. (mA)	VO1(Vdc)	VO1(A)	
APS07DM-12D-S03	9.0- 36.0	50	700	3.3V	1.90A	DM1A
APS07DM-12D-S05	9.0- 36.0	50	780	5.0V	1.50A	DM1A
APS07DM-12D-S09	9.0- 36.0	50	780	9.0V	0.83A	DM1A
APS07DM-12D-S12	9.0- 36.0	50	780	12.0V	0.62A	DM1A
APS07DM-12D-S15	9.0- 36.0	50	780	15.0V	0.50A	DM1A
APS07DM-24D-S03	9.0- 36.0	50	350	3.3V	1.90A	DM1A
APS07DM-24D-S05	9.0- 36.0	50	390	5.0V	1.50A	DM1A
APS07DM-24D-S09	9.0- 36.0	50	390	9.0V	0.83A	DM1A
APS07DM-24D-S12	9.0- 36.0	50	390	12.0V	0.62A	DM1A
APS07DM-24D-S15	9.0- 36.0	50	390	15.0V	0.50A	DM1A
APS07DM-48D-S03	18.0- 72.0	46	175	3.3V	1.90A	DM1A
APS07DM-48D-S05	18.0- 72.0	46	192	5.0V	1.50A	DM1A
APS07DM-48D-S09	18.0- 72.0	46	192	9.0V	0.83A	DM1A
APS07DM-48D-S12	18.0- 72.0	46	192	12.0V	0.62A	DM1A
APS07DM-48D-S15	18.0- 72.0	46	192	15.0V	0.50A	DM1A

## DUAL OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT (Vdc)		OUTPUT(A)		CASE SIZE
		N.L. (mA)	F.L. (mA)	+VO1	-VO2	+VO1	-VO2	
APS07DM-12D-D03	9.0- 36.0	50	700	+3.3V	-3.3V	0.95A	0.95A	DM1A
APS07DM-12D-D05	9.0- 36.0	50	780	+5.0V	-5.0V	0.75A	0.75A	DM1A
APS07DM-12D-D12	9.0- 36.0	50	780	+12.0V	-12.0V	0.31A	0.31A	DM1A
APS07DM-12D-D15	9.0- 36.0	50	780	+15.0V	-15.0V	0.25A	0.25A	DM1A
APS07DM-24D-D03	9.0- 36.0	50	350	+3.3V	-3.3V	0.95A	0.95A	DM1A
APS07DM-24D-D05	9.0- 36.0	50	390	+5.0V	-5.0V	0.75A	0.75A	DM1A
APS07DM-24D-D12	9.0- 36.0	50	390	+12.0V	-12.0V	0.31A	0.31A	DM1A
APS07DM-24D-D15	9.0- 36.0	50	390	+15.0V	-15.0V	0.25A	0.25A	DM1A
APS07DM-48D-D03	18.0- 72.0	46	175	+3.3V	-3.3V	0.95A	0.95A	DM1A
APS07DM-48D-D05	18.0- 72.0	46	192	+5.0V	-5.0V	0.75A	0.75A	DM1A
APS07DM-48D-D12	18.0- 72.0	46	192	+12.0V	-12.0V	0.31A	0.31A	DM1A
APS07DM-48D-D15	18.0- 72.0	46	192	+15.0V	-15.0V	0.25A	0.25A	DM1A

**MECHANICAL DIMENSIONS: MM [INCHES]**

**Weight: 20.0g (0.71 Oz.).**



## PIN ASSIGNMENT

PIN NO	SINGLE	DUAL
PIN #1.	Remote ON/OFF	Remote ON/OFF
PIN #2.	- INPUT/-Vin	- INPUT/-Vin
PIN #3.	+ INPUT	+ INPUT
PIN #4.	DC-COM	- VO2
PIN #5.	NC	DC-COM
PIN #6.	VO1	+ VO1