

### **ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 8 WATTS SINGAL & DUAL OUTPUT APS08DM-S & APS08DM-D SERIES**



#### **FEATURES:**

- **LOW COST SINGLE & DUAL OUTPUT**
- **WIDE 4:1 & 2:1 INPUT RANGE**
- **8W ISOLATED OUTPUT**
- **SIX-SIDED METAL SHIELD**

#### **SPECIFICATION**

##### **INPUT SPECIFICATION**

**Input Range:** Wide 4:1 & 2:1 DC input range  
See Ratings Chart

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

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

**Input Fuse:** Use external fuse

**Input Filter:** Pi-Network

**Undervoltage Shutdown:** 8Vdc

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

**Isolation Voltage:** 1,500Vdc

**EMI:** Six-sided metal shielding

##### **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

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

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

##### **GENERAL SPECIFICATION**

**Efficiency:** Typ. 84% various with input

**Switching Frequency:** Fixed frequency 100KHz

**Circuit Topology:** 100K Hz. Forward Circuit

**Transient Response:** Full to 1/2 load < 200  $\mu$ Sec.

**Case:** Black coated steel with non-conductive  
metal base

**Weight:** 27.5g (0.95 Oz.)

**Power Density:** 10Watts. / Cubic inch

**Operating Temperature:** -25°C to +71°C range  
-20°C to +60°C @ full load without derating

**Temperature:** -40°C to +105°C

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

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

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

**Commercial Grade only**

**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 to 1/2 Full Load 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

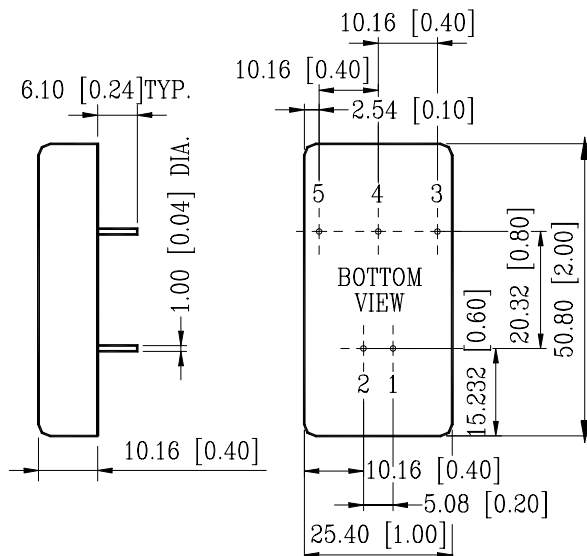
MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT VO1(Vdc)	OUTPUT VO1(A)	CASE SIZE
		N. L. (mA)	F.L.			
APS08DM-24B-S03	18.0- 36.0	46	290	3.3V	1.50A	DM2C
APS08DM-24B-S05	18.0- 36.0	46	393	5.0V	1.50A	DM2C
APS08DM-24B-S09	18.0- 36.0	46	420	9.0V	0.90A	DM2C
APS08DM-24B-S12	18.0- 36.0	46	415	12.0V	0.67A	DM2C
APS08DM-24B-S15	18.0- 36.0	46	425	15.0V	0.55A	DM2C
APS08DM-24B-S24	18.0- 36.0	46	430	24.0V	0.35A	DM2C
APS08DM-12D-S03	9.0- 36.0	50	580	3.3V	1.50A	DM2C
APS08DM-12D-S05	9.0- 36.0	50	786	5.0V	1.50A	DM2C
APS08DM-12D-S09	9.0- 36.0	50	846	9.0V	0.90A	DM2C
APS08DM-12D-S12	9.0- 36.0	50	830	12.0V	0.67A	DM2C
APS08DM-12D-S15	9.0- 36.0	50	850	15.0V	0.55A	DM2C
APS08DM-12D-S24	9.0- 36.0	50	860	24.0V	0.35A	DM2C
APS08DM-24D-S03	9.0- 36.0	50	290	3.3V	1.50A	DM2C
APS08DM-24D-S05	9.0- 36.0	50	393	5.0V	1.50A	DM2C
APS08DM-24D-S09	9.0- 36.0	50	420	9.0V	0.90A	DM2C
APS08DM-24D-S12	9.0- 36.0	50	415	12.0V	0.67A	DM2C
APS08DM-24D-S15	9.0- 36.0	50	425	15.0V	0.55A	DM2C
APS08DM-24D-S24	9.0- 36.0	50	430	24.0V	0.35A	DM2C
APS08DM-48D-S03	20.0- 72.0	46	145	3.3V	1.50A	DM2C
APS08DM-48D-S05	20.0- 72.0	46	196	5.0V	1.50A	DM2C
APS08DM-48D-S09	20.0- 72.0	46	210	9.0V	0.90A	DM2C
APS08DM-48D-S12	20.0- 72.0	46	207	12.0V	0.67A	DM2C
APS08DM-48D-S15	20.0- 72.0	46	212	15.0V	0.55A	DM2C
APS08DM-48D-S24	20.0- 72.0	46	215	24.0V	0.35A	DM2C

## DUAL OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT(Vdc)		OUTPUT(A)		CASE SIZE
		N. L. (mA)	F.L.	+VO1	-VO2	+VO1	-VO2	
APS08DM-24B-D03	18.0- 36.0	46	300	+3.3V	-3.3V	0.80A	0.80A	DM2C
APS08DM-24B-D05	18.0- 36.0	46	420	+ 5.0V	-5.0V	0.80A	0.80A	DM2C
APS08DM-24B-D12	18.0- 36.0	46	420	+12.0V	-12.0V	0.34A	0.34A	DM2C
APS08DM-24B-D15	18.0- 36.0	46	420	+15.0V	-15.0V	0.27A	0.27A	DM2C
APS08DM-24D-D03	9.0- 36.0	50	300	+3.3V	-3.3V	0.80A	0.80A	DM2C
APS08DM-24D-D05	9.0- 36.0	50	420	+ 5.0V	-5.0V	0.80A	0.80A	DM2C
APS08DM-24D-D12	9.0- 36.0	50	420	+12.0V	-12.0V	0.34A	0.34A	DM2C
APS08DM-24D-D15	9.0- 36.0	50	420	+15.0V	-15.0V	0.27A	0.27A	DM2C
APS08DM-48D-D03	20.0- 72.0	46	150	+3.3V	-3.3V	0.80A	0.80A	DM2C
APS08DM-48D-D05	20.0- 72.0	46	210	+ 5.0V	-5.0V	0.80A	0.80A	DM2C
APS08DM-48D-D12	20.0- 72.0	46	210	+12.0V	-12.0V	0.34A	0.34A	DM2C
APS08DM-48D-D15	20.0- 72.0	46	210	+15.0V	-15.0V	0.27A	0.27A	DM2C

**MECHANICAL DIMENSIONS: MM [INCHES]**

**Weight: 27.5g (0.95 Oz.)**



### PIN ASSIGNMENT

PIN NO.	SINGLE	DUAL
PIN# 1.	-INPUT	-INPUT
PIN# 2.	+INPUT	+INPUT
PIN# 3.	DC-COM	-VO2
PIN# 4.	NC	DC-COM
PIN# 5.	VO1	+VO1

CASE SIZE: DM2C