



Isolated and Regulated 20 WATT Modular DC/DC Converters

FDC20 series



Unit measures 1"W x 2"L x 0.375"H

- Wide 2 : 1 Input Range
- High Efficiency
- Regulated Outputs
- 1600V Isolation
- Full EMI Shielding
- Standard Pinouts

Model Number	Output Voltage	Output Amps	Input Range
SINGLE OUTPUT			
FDC20-12S33	3.3 VDC	4	9-18 VDC
FDC20-24S33		4	18-36 VDC
FDC20-48S33		4	36-72 VDC
FDC20-12S05	5 VDC	4	9-18 VDC
FDC20-24S05		4	18-36 VDC
FDC20-48S05		4	36-72 VDC
FDC20-12S12	12 VDC	1.67	9-18 VDC
FDC20-24S12		1.67	18-36 VDC
FDC20-48S12		1.67	36-72 VDC
FDC20-12S15	15 VDC	1.33	9-18 VDC
FDC20-24S15		1.33	18-36 VDC
FDC20-48S15		1.33	36-72 VDC
DUAL OUTPUT			
FDC20-12D05	+/-5 VDC	+/-2	9-18 VDC
FDC20-24D05		+/-2	18-36 VDC
FDC20-48D05		+/-2	36-72 VDC
FDC20-12D12	+/-12 VDC	+/-0.833	9-18 VDC
FDC20-24D12		+/-0.833	18-36 VDC
FDC20-48D12		+/-0.833	36-72 VDC
FDC20-12D15	+/-15 VDC	+/-0.666	9-18 VDC
FDC20-24D15		+/-0.666	18-36 VDC
FDC20-48D15		+/-0.666	36-72 VDC

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Model Number	Output Voltage	Output Amps	Input Range
TRIPLE OUTPUT			
FDC20-12T3312	3.3, +/-12 VDC	3, +/-0.3	9-18 VDC
FDC20-24T3312		3, +/-0.3	18-36 VDC
FDC20-48T3312		3, +/-0.3	36-72 VDC
FDC20-12T3315	3.3, +/-15 VDC	3, +/-0.25	9-18 VDC
FDC20-24T3315		3, +/-0.25	18-36 VDC
FDC20-48T3315		3, +/-0.25	36-72 VDC
FDC20-12T0512	5, +/-12 VDC	2, +/-0.3	9-18 VDC
FDC20-24T0512		2, +/-0.3	18-36 VDC
FDC20-48T0512		2, +/-0.3	36-72 VDC
FDC20-12T0515	5, +/-15 VDC	2, +/-0.25	9-18 VDC
FDC20-24T0515		2, +/-0.25	18-36 VDC
FDC20-48T0515		2, +/-0.25	36-72 VDC

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INPUT SPECIFICATIONS

Input Voltage Ranges:	12 VDC Nominal	9-18 VDC
	24 VDC Nominal	18-36 VDC
	48 VDC Nominal	36-72 VDC
Max. Voltage Surge (100mS max)	12 VDC Nominal	36 VDC
	24 VDC Nominal	50 VDC
	48 VDC Nominal	100 VDC
Input Filter	Pi Type	

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart	
Load Regulation	singles: +/-1%	
25% - FL (single/dual)	duals: +/-2%	
10%-FL (triple)	3.3/5 V: +/-2%, 12/15 V: +/-5%	
Line Regulation (Single/Dual)	+/-0.2%	
(triple)	3.3/5V: +/-1%, 12/15V: +/-5%	
Temperature Coefficient	+/-0.02%/DegC	
Ripple/Noise(Single/Dual/Triple)	(75 / 100 / 1%) mV Pk-Pk, typ	
Voltage Stability (+/-12,+/-15)	+/- 2%, (+/-5%)	
Transient Response Recovery		
	25% Load Step Change	500 microSeconds
Short Circuit Protection	Continuous, self-recovering	
Overvoltage Protection Threshold:		
	3.3V Output	3.9Volts
	5V Output	6.2Volts
	12V Output	15Volts
	15V Output	18Volts

GENERAL SPECIFICATIONS

On/Off Control	(Ref to - Input pin)
	Logic "1"/Open=ON
	Logic "0"/GND=OFF
Input-Out Isolation	1600VDC
In/Out Capacitance	1000 pF
Isolation Resistance	10000 M Ohms
Efficiency	81%, typ
Switching Frequency	300Khz, Single typ

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	-25 to +70 DegC(see derate)
Storage Temperature	-55 to +125 DegC *
Maximum Case Temp	112 DegC *
MTBF	1.93 MHrs
	MIL-HDBK-217F TA=25C FL

PHYSICAL SPECIFICATIONS

Case Material	Nickel-Coated Copper
	Non-Conductive Base
Construction/Weight	Encapsulated/1.86oz (52g)

All specifications are typical at nominal input, full load, and 25DegC unless otherwise noted

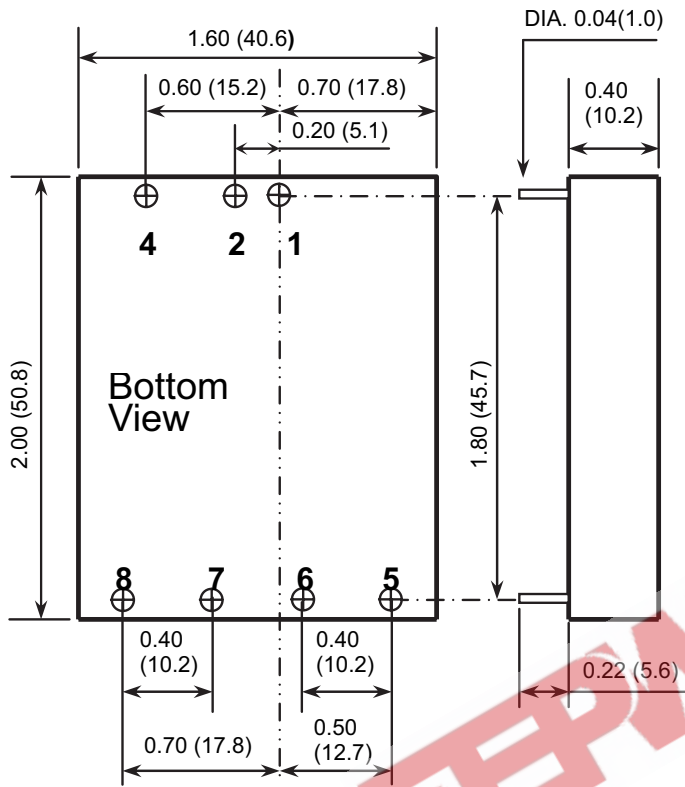
* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranted nor implied.

Astrodyne products are not authorized or warranted for use as critical components in life support systems, equipment used in hazardous environments, nuclear controls systems, or other mission-critical applications.

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MECHANICAL DIMENSIONS

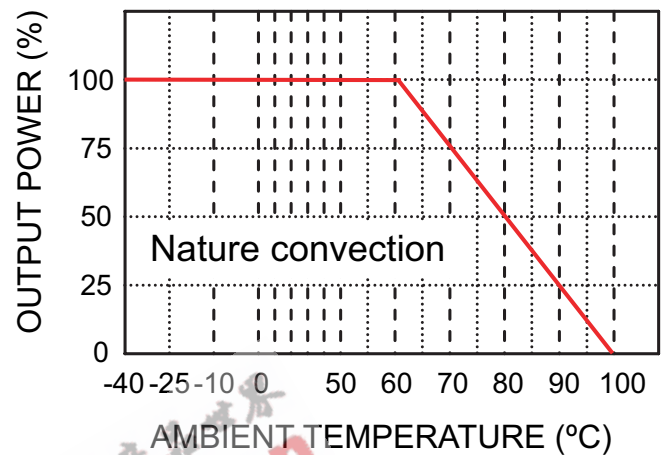


1. All dimensions in Inches (mm)
Tolerance: X.XX±0.02 (X.X±0.5)
X.XXX±0.01 (X.XX±0.25)
2. Pin pitch tolerance ±0.014(0.35)

Pin #	Single	Dual	Triple
1	+ Input	+ Input	+ Input
2	- Input	- Input	- Input
3	No Pin	No Pin	No Pin
4	Control	Control	Control
5	No Pin	+ Output	+ Aux Out
6	+ Output	Common	+5V, +3.3V
7	- Output	- Output	Common
8	Trim	Trim	- Aux Out

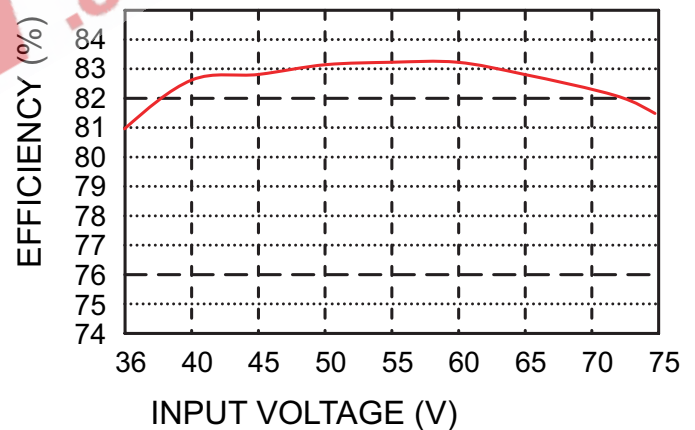
OUTPUT DERATING CURVE

FDC20-48S05 Derating Curve



FDC20-48S05

Efficiency VS Input Voltage



FDC20-48S05

Efficiency VS Output load

