

AA20B

20 Watts

AA20B Series

Total Power	20 Watts
Input Voltages	12V, 24V or 48V
# of Outputs	Single, Dual



SPECIAL FEATURES

- Six-sided shielding
- Wide 2:1 Δ /4:1 input range
- Telecom models (-048L models) feature thermal shutdown and undervoltage lock out to meet ETS 300 132-2 paragraph 4.6
- Small size 2.0" x 1.6" x 0.40"
- 5 year warranty

ENVIRONMENTAL

Operating ambient temperature range:
-40°C to +60°C

Operating Temperature (baseplate): 105°C max

Storage Temperature: -55°C to +105°C

Cooling Method: Convection

EMI/RFI: Six-sided shielding

MTBF: 361,000 hours (MIL HDBK-217)
Bellcore: >1.7 Mil hours. See notes.

SAFETY

UL UL1950 Recognized
CSA CSA22.2-950 Certified
TUV EN60950 Certified

Switching frequency 200kHz
Temperature coefficient $\pm 0.02\%$ per °C

NOTES

1. An external .1 μ F ceramic capacitor is recommended to be placed from +Vout to -Vout. 20MHz bandwidth.
2. Consult factory for filter recommendations to meet FCC, or other specifications.
3. Requires external 2.2 μ F 100V film capacitor (ITW/Paktron part # 225K100RA4 or equiv.) on input.
4. Calculated for MIL HDBK-217E ground Benign at 25°C full load. Bellcore calculated per TR-NWT-000332 method 1 parts count, case 1.
5. Minimum load 10% of full load.
6. All specifications are typical at nominal input and full load unless otherwise noted.
7. Specifications subject to change without notice.
8. Mechanical drawings for reference only.

ELECTRICAL SPECIFICATIONS

Input

Input range	9 to 36 VDC; 18 to 75 VDC; 36 to 75 VDC: 9 to 18 VDC
Input capacitance	46L & 48L 2.2 μ F (typ); 012L & 24L 4.9 μ F (typ)
Input capacitor	Required See Note 3
No load input power	350mW (typ)
Input reflected ripple (P-P)	46L & 48L 105mA (typ); 012L & 24L 90mA (typ); See Note 2
Input capacitance	2.5 μ F typical
Input surge voltage	100V for 100mS (046L and 048L) 50V for 100mS (024L)
Efficiency	81 - 88% typical

Control

Enable	on = 2.5 to 5.5Vdc or open circuit off = 0 to 0.8Vdc Ref. to -Vin. TTL compatible
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Output

Voltage tolerance	$\pm 1\%$ max (factory set-point)
Line regulation	$\pm 0.25\%$ max
Load regulation	$\pm 0.5\%$ (10%L-FL max (main)) $\pm 1.0\%$ (10%L-FL max (aux)) bal. loads
Output voltage	
Adjust range	$\pm 10\%$ using external resistor or trim pot
Short circuit protection	Continuous Power Cycle (main)
Overvoltage protection	Zener Clamp
Transient response	500usec (50% step load change to with 1% V _o)
Noise/ripple	50mV p-p (typ) (See note 1)

Isolation

Input to output	1500 VDC
Isolation resistance	1x10 ⁹ (Ohms)
Isolation capacitance	100pF

AA20B-012L-033S
 AA20B-024L-033S
 AA20B-048L-033S

ORDERING INFORMATION

Input Voltage	Output 1 Voltage	Output 2 Voltage	Maximum Power	Model Number
9-18V	3.3V @ 4.5A		15W	AA20B-012L-033S
9-36V	5V @ 4A		20W	AA20B-024L-050S
9-36V	12V @ 1.670A		20W	AA20B-024L-120S
9-36V	15V @ 1.340A		20W	AA20B-024L-150S
9-36V	12V @ 0.840A	-12V @ 0.840A	20W	AA20B-024L-120D
9-36V	15V @ 0.667A	-15V @ 0.667A	20W	AA20B-024L-150D
18-36V	3.3V @ 5A		16.5W	AA20B-024L-033S
18-75V	5V @ 4A		20W	AA20B-046L-050S
18-75V	12V @ 1.670A		20W	AA20B-046L-120S
18-75V	15V @ 1.340A		20W	AA20B-046L-150S
18-75V	12V @ 0.840A	-12V @ 0.840A	20W	AA20B-046L-120D
18-75V	15V @ 0.667A	-15V @ 0.667A	20W	AA20B-046L-150D
36-75V	3.3V @ 5A		16.5W	AA20B-048L-033S
36-75V	5V @ 4A		20W	AA20B-048L-050S
36-75V	12V @ 1.670A		20W	AA20B-048L-120S
36-75V	15V @ 1.340A		20W	AA20B-048L-150S
36-75V	12V @ 0.840A	-12V @ 0.840A	20W	AA20B-048L-120D
36-75V	15V @ 0.667A	-15V @ 0.667A	20W	AA20B-048L-150D

Please contact Astec for information on other output voltages, power ranges and configurations.

PIN ASSIGNMENTS

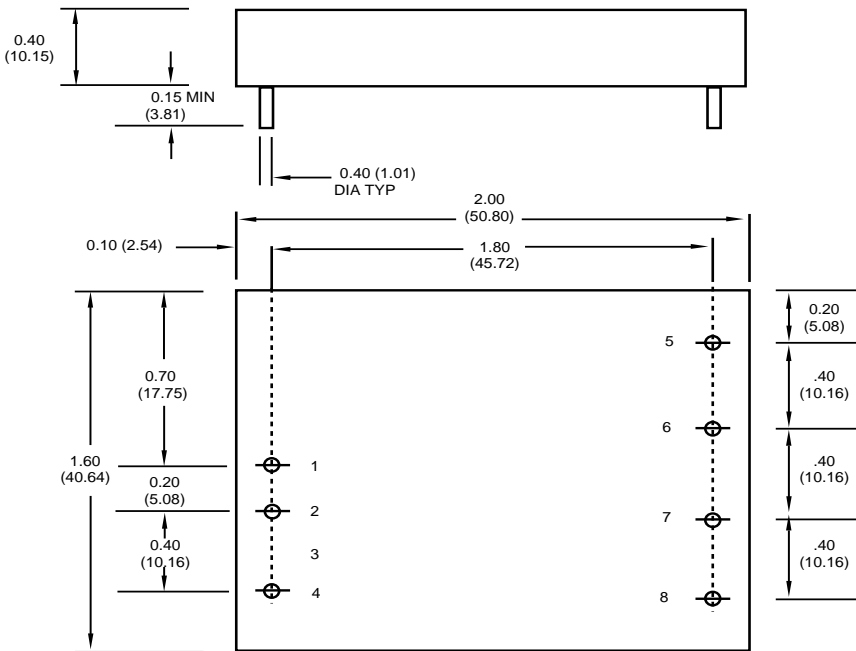
Single Output

- +Vin (Case GND 048L/046L)
- Vin (Case GND 024L/012L)
- No pin
- Enable
- No pin
- Output 1
- COM
- Trim

Dual Output

- +Vin (Case GND 048L/046L)
- Vin (Case GND 024L)
- No pin
- Enable
- Output 1
- COM
- Output 2
- Trim

DIMENSIONS

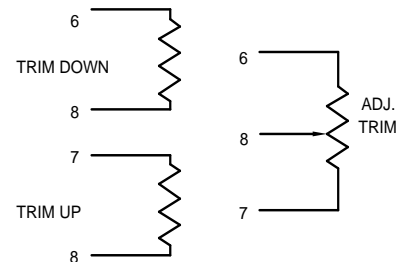


BOTTOM VIEW

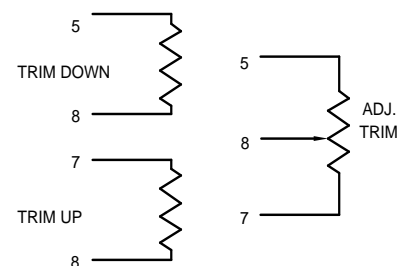
ALL DIMENSIONS ARE IN INCHES (mm)

TRIM METHOD

(Singles)



(Duals)



Case Material: Metal six-sided
Weight: 2.0 oz./56 grams.

Note: Pins 0.040 in Dia x 0.15 in min