

100 Watts

AK45C-20/ AV45C-20

High Efficiency



Total Power: 100 Watts
Input Voltages: 48V
No. of Outputs: Single

Electrical Specs

Input

Input Range 36 to 75 VDC
Input Surge 100V /100ms
Efficiency 5V @ 89% Typ
3.3V @ 86% Typ
2.5V @ 84% Typ

Output

Load Regulation 0.2% typical down to no load
(output 5V and above)
10mV typical down to no load
(output below 5V)

Line Regulation 0.1% typical
(output 5V and above)
10mV typical
(output below 5V)

Voltage Tolerance $\pm 1\%$
Noise/Ripple 100mV max typ
Remote sense Up to 0.5V
Transient Response 5% max deviation with 25% to 75% full
(output 5V and above)
200mV (output below 5V)

Overvoltage Protection 500 μ s (max) recovery
130% nominal output
(output 5V and above)
160% nominal output
(1.8V and 2V)
140% nominal output
(3.3V output)

Current Limit 115% nominal output
Switching Frequency 375kHz (typ)

Control

Voltage Adjust 90 to 110% Vo (1.8 V)
80 to 110% Vo (2.5, 3.3, 5 V)
Enable TTL compatible
(Positive or Negative enable options)

Special Features

- High efficiency
- Industry standard package
1.45" x 2.28" x 0.5"
- High capacitive load limit on start-up
- Industry Standard features: UVLO, OVP, OCP,
OTP, Output Enable, Differential Remote
Sense
- Regulation to zero load
- Fixed frequency switching
- Basic insulation

Environmental

Operating case temperature range:
-40°C to +100°C

Storage temperature: -55°C to +105°C

Overtemperature protection: 110°C typical

MTBF: > 1 million hours

Safety

AK45C:

UL,cUL 1950
TUV EN60950
Basic Insulation

AV45C:

UL 1950
CSA 22.2-950-95
TUV EN60950
Operational Insulation

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AK45C/AV45C

Ordering Information

Input Voltage	Output Voltage	Output Current	Efficiency ²	Model Number
48V	1.5V	20A	85% Min	AV45C-048L-015F20HA (N) - (6)(8)
48V	1.8V	20A	85% Min	AV45C-048L-050F20HA (N) - (6)(8)
48V	3.3V	20A	89% Min	AV45C-048L-050F20HA (N) - (6)(8)
48V	5V	20A	90% Min	AV45C-048L-050F20HA (N) - (6)(8)
48V	1.8V	20A	81% min (84% typ)	AK45C-048L-018F20HA (N) - (6)(8)
48V	2.5V	20A	84% min (86% typ)	AK45C-048L-025F20HA (N) - (6)(8)
48V	3.3V	20A	86% min (88% typ)	AK45C-048L-033F20HA (N) - (6)(8)
48V	3.3V	20A	86% min (88% typ)	AK45C-048L-033F20HAN-6T ⁷

OPTIONS:

"N" = designates Negative Logic Enable (default is Positive Enable with no suffix "N" required)

"-6" = designates 3.7mm pin length (default pin length is 5mm with no suffix required)

"-8" = designates 2.8mm pin length

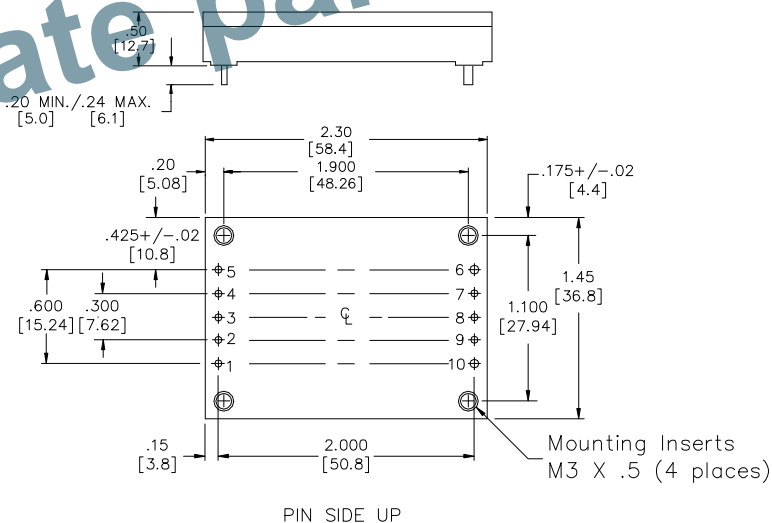
Pin Assignments

Single Output

1. +Vin
2. No Pin
3. Enable
4. No Pin
5. - VIN
6. -Vout
7. - Sense
8. Trim
9. +Sense
10. +Vout

Notes:

1. 20 MHz bandwidth. External 10 uF tant. capacitor in parallel with 1 uF ceramic capacitor placed across the output and secondary return ground.
2. Efficiency measurements are typical values taken at full load, nominal line and $T_A = 25^\circ\text{C}$.
3. All specifications are typical at nominal line, full load and $T_A = 25^\circ\text{C}$ unless otherwise noted.
4. All specifications subject to change without notice.
5. Mechanical drawings are for reference only. Dimensions are in inches [millimeters]. Pin placement tolerance ± 0.005 [0.127]. Mechanical Tolerance ± 0.02 [0.5]. $\varnothing = 0.060$ " for Pins 6&10, the rest are $\varnothing = 0.040$ ".
6. Technical Reference Notes should be consulted for detailed information when available.
7. Tuned model for specific application.
8. Warranty 1yr.



Astec Industry Standard

Astec reserves the right to make changes to the information contained herein without notice and assumes no liability as a result of its use and application. (REV 02: OCTOBER 28, 2004)