

# 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 $\mu$ 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%  $V_o$  (1.8 V)  
 80 to 110%  $V_o$  (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 <sup>2</sup>	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 <sup>7</sup>

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

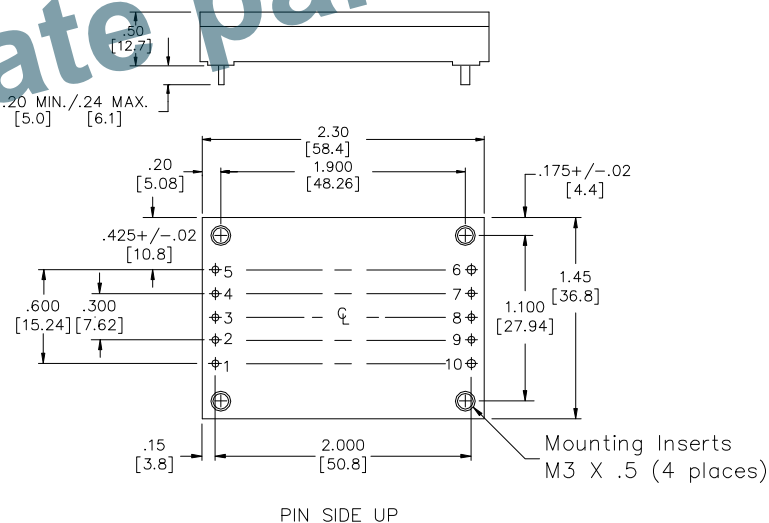
## Pin Assignments

Single Output

- +Vin
- No Pin
- Enable
- No Pin
- VIN
- Vout
- Sense
- Trim
- +Sense
- +Vout

Notes:

- 20 MHz bandwidth. External 10 uF tant. capacitor in parallel with 1 uF ceramic capacitor placed across the output and secondary return ground.
- Efficiency measurements are typical values taken at full load, nominal line and T<sub>A</sub> = 25°C.
- All specifications are typical at nominal line, full load and T<sub>A</sub> = 25°C unless otherwise noted.
- All specifications subject to change without notice.
- Mechanical drawings are for reference only. Dimensions are in inches [millimeters]. Pin placement tolerance ± 0.005 [0.127]. Mechanical Tolerance ± 0.02 [0.5]. ∅ = 0.060" for Pins 6&10, the rest are ∅ = 0.040".
- Technical Reference Notes should be consulted for detailed information when available.
- Tuned model for specific application.
- Warranty 1yr.



Astec Industry Standard

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