

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 ±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)
500µs (max) recovery
Overvoltage Protection 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



AMERICAS

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EUROPE

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ASIA

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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°C.
3. All specifications are typical at nominal line, full load and T_A = 25°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]. Ø = 0.060" for Pins 6&10, the rest are Ø = 0.040".
6. Technical Reference Notes should be consulted for detailed information when available.
7. Tuned model for specific application.
8. Warranty 1yr.

