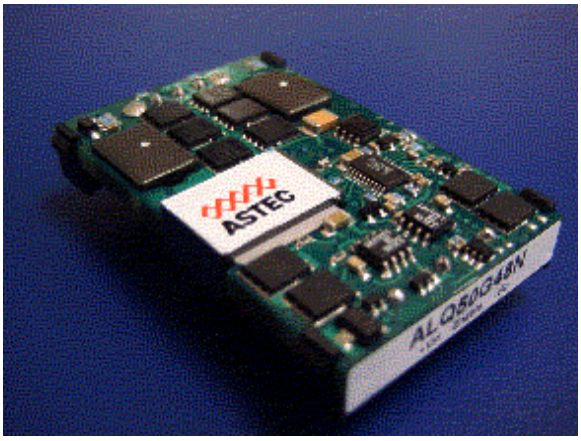
Astec Industry Standard

50 Amps
ALQ50

High Efficiency Quarter Brick

Total Power:	132W
Input Voltages:	48V
No. of Outputs:	Single



Special Features

- Industry standard Quarter Brick package 1.48" x 2.30" x 0.38"
- Openfrmae low profile construction
- High capacitive load start-up
- Regulation to zero load
- Fixed frequency switching for EMI predictability
- Industry Standard Features: Input UVLO with hysteresis, Enable, OCP, OCP, OTP, Output Voltage Trim, Differential Remote Sense
- Meets Basic Insulation

Environmental

Operating Ambient Temperature: -40°C to +85°C

Storage Temperature: -40°C to +125°C

MTBF: > 1 million hours

Safety

UL, cUL 60950

TUV EN60950

Electrical Specs

Input

Input Range	36 to 75 VDC
Input Surge	100V /100ms
Efficiency	3.3V @ 91% (typical)

Output

Line / Load Regulation	< 0.3% Vo (typical)
Output Current	up to 50A max (3.3V at 40A max)
Noise/Ripple[1]	40mV$_{PK-PK}$ (typical)
Remote sense	Up to 10% of Vo
Transient Response	100mV (typ) deviation 50% to 75% Load change 250µs (typ) recovery
Overvoltage Protection	130% typ for Vo < 3.3V 125% typ for 3.3V
Over Current Protection	120% Iout typ (autorecovery)
Over Temperature Protection	115C average PCB temperature (autorecovery)
Switching Frequency	480kHz 540kHz (2.5V output)
Isolation Voltage	1500Vdc

Control

Voltage Voltage Trim	±10% $V_{O,NOM}$
Enable	Postive or Negative Logic options

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Ordering Information

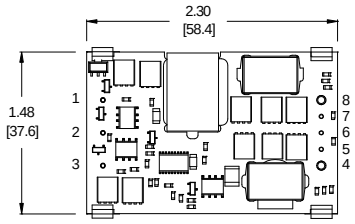
Input Voltage	Output Voltage	Output Current	Efficiency[2]	Model Number
36V to 75V	3.3V	40A	91% Typ	ALQ40F48 (N)
36V to 75V	2.5V	50A	90% Typ	ALQ50G48(N)
36V to 75V	1.8V	50A	89% Typ	ALQ50Y48 (N)
36V to 75V	1.2V	50A	86% Typ	ALQ50K48 (N)

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

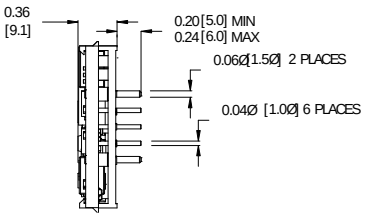
Pin Assignments

Single Output

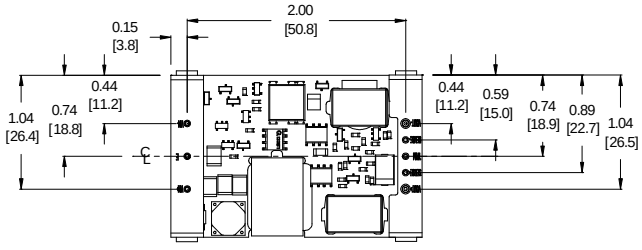
1. +Vin
2. Enable (On/Off)
3. -Vin
4. -Vout
5. -Sense
6. Trim
7. +Sense
8. +Vout



PIN SIDE DOWN



SIDE VIEW



PIN SIDE UP

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]. ∅ = 0.060” for Pins 4&8, the rest are ∅ = 0.40”.
6. Technical Reference Notes should be consulted for detailed information when available.
7. Warranty 1yr.