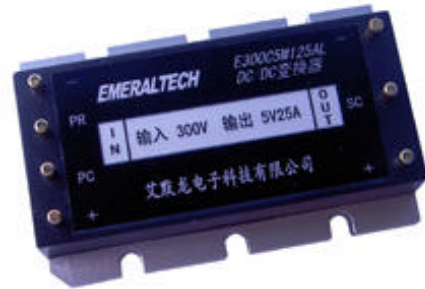


# EMERAL TECH

## EQ150 Series 150W High Efficiency Quarter Bricks

### Description

The EQ150 series 24V, 48V, 150V and 300V DC-DC converters are rated up to 150 Watts output power over a -55° to +100° C temperature range with a 16-38Vdc, 36-72Vdc, 100-200Vdc, 180-372Vdc nominal input. Current sharing allows the units to be paralleled for total power of up to 750 Watts. The welded, hermetically sealed package is only 2.28x 1.45 x 0.50 inches, giving the series an overall power density of up to 150 watts per cubic inch. With a wide input voltage range of 16-38Vdc, 36-75Vdc, 100-200Vdc, 180-375Vdc. they are available with an output voltage of either 5V, 12V, 15V, 24V, 28V, 36V, 48V. All models feature an input filter, input undervoltage lockout, output overvoltage and overtemperature protection, output current limiting and short circuit protection. The fully enclosed, encapsulated construction with aluminum heat spreader design achieves efficient heat transfer with no hot spots. The use of Patent-pending Hybrid Planar Transformer technology and other patent-pending design concepts facilitate maximum power delivery with the highest efficiency up to 91% - 94%. The converters combine creative design concepts with highly derated power devices to achieve very high reliability, high performance and offer a low cost solution to systems designers that are challenged to maximize power and minimize board space.



(Approval Pending)

### Features

- Full Isolated
- Magnetic coupling
- Fixed frequency, 200KHz typical
- High efficiency patented topology
- Low profile of only 0.50 inch
- Sync function
- -55°C to +100 ° C ambient operation
- Inhibit function – Input and Output
- Output trim on single output models
- Indefinite short circuit protection
- Remote sense on single output models
- Current Sharing-Parallelable up to 1000 Watts

### Applications

- Telecommunications, Data Communications
- Wireless Communications, Networking Gear
- Servers, Switches and Data Storage
- Distributed Power Architecture
- Aerospace, Aircraft
- Complex power system
- Portable weaponry

### Specification Summary

- Input Voltage: 24V, 48V, 150V, 300V
- Output Voltage: 5V, 12V, 15V, 24V, 28V, 36V, 48V
- Tightly output regulation, typical  $\pm 0.1\%$
- No minimum load required
- Ripple & Noise (20Mhz BW) 100 mV (pk-pk)
- Wide input operating range 18-40V, 36-72V, 200V, 180-375V
- On/Off pin and remote sense
- Output adjustment +/-10% range
- 1500V, 10M $\Omega$  input-to-output isolation
- Full enclosed, encapsulated construction with heat spreader for low temperature rise
- Output overcurrent and overvoltage protection
- Over Temperature protection
- Input Under voltage protection
- MTBF of 1,600,000 hours @ 50°C ( Bellcore )

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## Part Number and Selection Information

Product Number	Input Voltage	Input Voltage range	Output Voltage	Max. Current/Power
E24C5M125B	24	18-36	5V	25A/125W
E24C12M15OB	24	18-36	12V	12.5A/150W
E24C15M15OB	24	18-36	15V	10A/150W
E24C24M15OB	24	18-36	24V	6.25A/150W
E24C28M15OB	24	18-36	28V	5.45A/150W
E24C36M15OB	24	18-36	36V	4.2A/150W
E24C48M15OB	24	18-36	48V	3.1A/150W
E48C5M125B	48	36-75	5V	25A/125W
E48C12M15OB	48	36-75	12V	12.5A/150W
E48C15M15OB	48	36-75	15V	10A/150W
E48C24M15OB	48	36-75	24V	6.25A/150W
E48C28M15OB	48	36-75	28V	5.45A/150W
E48C36M15OB	48	36-75	36V	4.2A/150W
E48C48M15OB	48	36-75	48V	3.1A/150W
E150C5M125B	150	100-200	5V	25A/125W
E150C12M15OB	150	100-200	12V	12.5A/150W
E150C15M15OB	150	100-200	15V	10A/150W
E150C24M15OB	150	100-200	24V	6.25A/150W
E150C28M15OB	150	100-200	28V	5.45A/150W
E150C36M15OB	150	100-200	36V	4.2A/150W
E150C48M15OB	150	100-200	48V	3.1A/150W
E300C5M125B	300	180-375	5V	25A/125W
E300C12M15OB	300	180-375	12V	12.5A/150W
E300C15M15OB	300	180-375	15V	10A/150W
E300C24M15OB	300	180-375	24V	6.25A/150W
E300C28M15OB	300	180-375	28V	5.45A/150W
E300C36M15OB	300	180-375	36V	4.2A/150W
E300C48M15OB	300	180-375	48V	3.1A/150W
E110A14C15OB	110	45-150	13.8V	10.7/150W
E110C28M15OB	110	88-132	28V	5.3A/150W
E110B24C10OB	110	66-160	24V	4.2A/100W

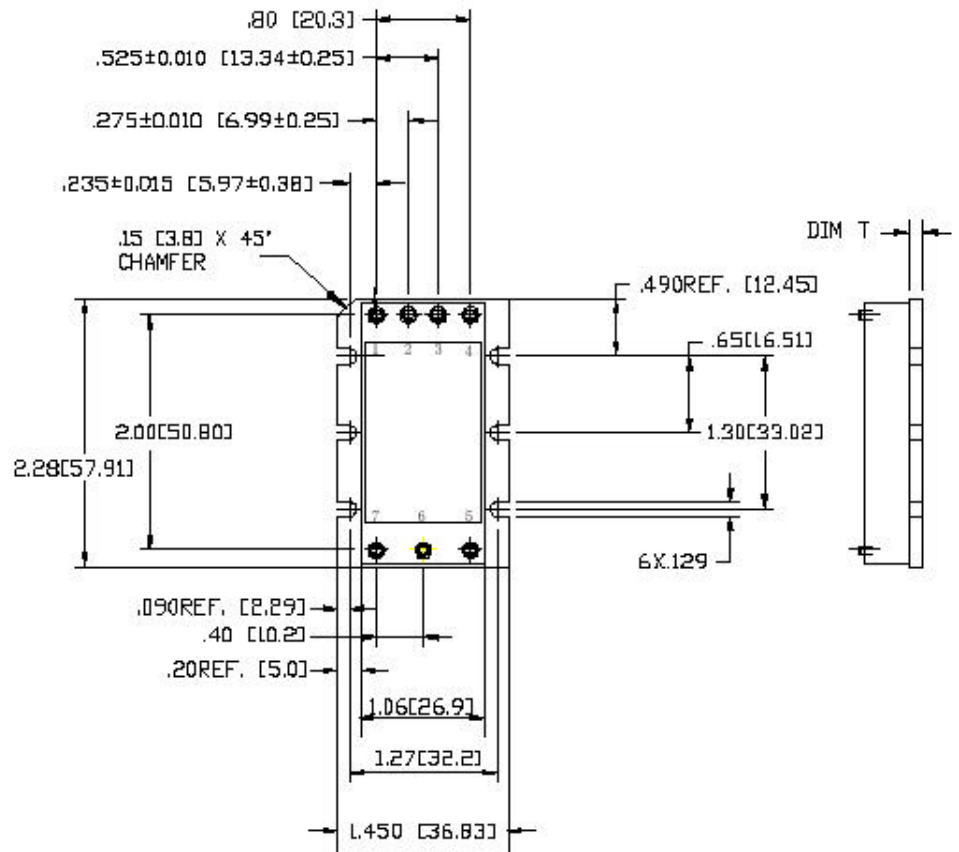
Typical at Ta= +25 °C under nominal line voltage and 75% load conditions, unless noted.

Consult factory for other output voltage configurations and optional accessories such as heatsinks and filters.

## Outline Information and Pin-out

## PIN CONNECTIONS

Pin#	Function	Function
1	Vin +	Positive input voltage
2	On/Off	TTL input to turn converter on and off, referenced to Vin(-), with internal pull up
3	Vin -	Negative input voltage
4	LSHR	Current Share
5	Vout -	Negative output voltage
6	Trim	Output voltage trim2
7	Vout +	Positive output voltage



## Notes:

- 1). All dimensions are in inches [mm]
- 2). All other pins are all dia. 0.080 [2.03]
- 4). Pin material: Brass
- 5). Pin finish: Tin/Lead plated
- 6). Heat spreader (baseplate) material: Aluminum
- 7). Weight: 19g..

The information and specifications contained in this brief are believed to be accurate and reliable at the time of publication. Specifications are subject to change without notice. Refer to product specification sheet for performance characteristics and application guidelines.