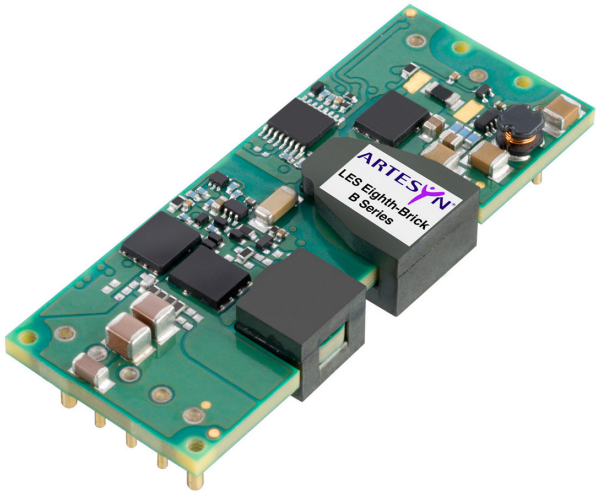
Eighth-Brick B Series

Total Power: Up to 80 Watts
Input Voltage: 36-75 Vdc
No. of Outputs: Single



RoHS 2002/95/EC

Special Features

- High efficiency topology
- Industry standard eighth-brick foot print (identical to quarter-brick pinout)
- Low profile through-hole and surface mount version
- 38% space savings over quarter-brick converters
- Wide ambient temperature range, -40 °C to +85 °C
- 90% to 110% output trim
- 100 V, 100 ms input voltage transient rated
- Meets basic insulation requirements of EN60950-1
- Industry standard feature sets: UVLO, OVP, OCP, OTP, O/P trim, remote sense
- Regulation to zero load
- Fixed frequency switching
- Fast transient switching
- EU directive 2002/95/EC compliant for RoHS

Safety

- UL/cUL60950-1 CAN/CSA 22.2
- TUV EN/IEC60950-1

Electrical Specifications*

Output		
Voltage adjustability:		90% to 110%
Minimum load:		0 A
Overshoot:	At turn-on and turn-off	None
Undershoot:	At turn-on and turn-off	None
Transient Response: (See Note 1)		5% Vout typ. deviation 40 µs recovery
Input		
Input voltage range:	48 V nominal	36-75 Vdc
Input current:	No load Remote OFF	100 mA 10 mA
Active high remote ON/OFF Logic compatibility: ON OFF		 TTL compatible ref to -input >2.4 Vdc <0.8 Vdc
Undervoltage Lockout:	Power up	35.5 V (typ.)
	Power up	35.5 V (typ.)
Start-up time: (See Note 2)	Power up Remote ON/OFF	25 ms (typ.) 5 ms (typ.)

*All specifications are typical at nominal input, full load at 25 °C ambient unless otherwise stated.

ARTESYN

EMERSON Network Power

Electrical Specifications

General		
Basic insulation:	Input/output	2250 V dc
Switching frequency:	Fixed	500 kHz
Approvals and standards:		EN60950-1 VDE UL/cUL60950-1
Material flammability:		UL94V-0
Weight:		20 g (0.70 oz)
MTBF:	Telcordia SR-332 Issue 1, 50% stress, 40 °C ambient	4.2 M hours

EMC Characteristics		
Immunity:		
ESD air enclosure:	EN1000-4-2 8 kV/6 kV	(O/P within spec.)
Radiated field enclosure:	EN1000-4-3 10 V/m	(O/P within spec.)
Conducted:	EN1000-4-6 10 V	(O/P within spec.)
Input transients:	100 V, 100 ms	

Environmental Characteristics		
Thermal performance:	Operating ambient temperature	-40 °C to +85 °C
	Non-operating	-40 °C to +125 °C

Protection	
Short-circuit:	115% with automatic recovery
Overvoltage:	125% Vo (typ) with automatic recovery
Thermal:	125 °C hot spot temperature with automatic recovery

Notes

1 di/dt = 1 A/µs, Vin = 48 Vdc, Tc = 25 °C, load change = 50% to 75% lo max. and 75% to 50% lo max. Deviation varies by model. For further details see Technical Reference Notes (TRN).
2 Start-up into resistive load.
3 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
4 Recommended input fusing is up to 10 A HRC 200 V rated fuse.
5 Warranty: 2 years.
6 through-hole version intended for wave soldering process.
7 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant.

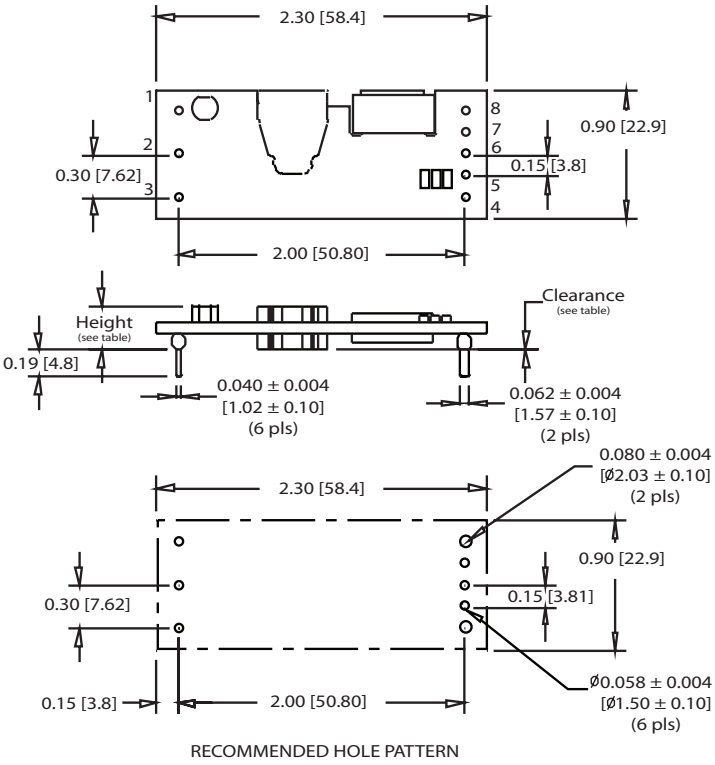
Ordering Information

			Regulation				
Output Voltage	Output Current (Max)	Efficiency (Typ)	Set Point Accuracy (Typ)	Line	Load	Ripple & Noise (Typ)	Model Number(7)
12.0 V	6.7	92%	±1%	±0.1%	±0.2%	70 mVp-p	LES06B48-12V0REJ
5.0 V	13	92%	±1%	±0.1%	±0.2%	30 mVp-p	LES13B48-5V0REJ
3.3 V	20	91%	±1%	±0.1%	±0.2%	30 mVp-p	LES20B48-3V3REJ
2.5 V	22	90%	±1%	±0.1%	±0.2%	30 mVp-p	LES22B48-2V5REJ
1.8 V	25	89%	±1%	±0.1%	±0.2%	30 mVp-p	LES25B48-1V8REJ
1.5 V	25	88%	±1%	±0.1%	±0.2%	25 mVp-p	LES25B48-1V5REJ
1.2 V	25	86%	±1%	±0.1%	±0.2%	25 mVp-p	LES25B48-1V2REJ
1.0 V	25	85%	±1%	±0.1%	±0.2%	20 mVp-p	LES25B48-1V0REJ

Part Number System with Options

Product Family	Rated Output Current	Vintage	Nominal Rated Input Voltage		Type of Output	Remote ON/OFF LOGIC	Body Height, Package Type and Pin Length	RoHS Compliance (7)
LES	22	B	48	-	2V5	R	E	J
L = Low Profile E = 1/8 Brick S = Single Output	22 = 22 Amps, 20 = 20 Amps, etc.	A = 1st generation B = 2nd generation	48 = 48 Volts (36 - 75 VDC range)		2V5 = 2.5 Volts 3V3 = 3.3 Volts	Blank = Positive R = Negative	A = 0.33 in (8.1 mm),Through Hole 0.19 in (4.8 mm), Pins E = 0.37 in (9.1 mm), Through Hole 0.19 in (4.8 mm), Pins S = 0.33 in (8.1 mm), Surface Mount	J = Pb free (RoHS 6/6 compliant)

Through-hole Mechanical Drawing (for 1.8, 1.5, 1.2 and 1.0 V)



RECOMMENDED HOLE PATTERN

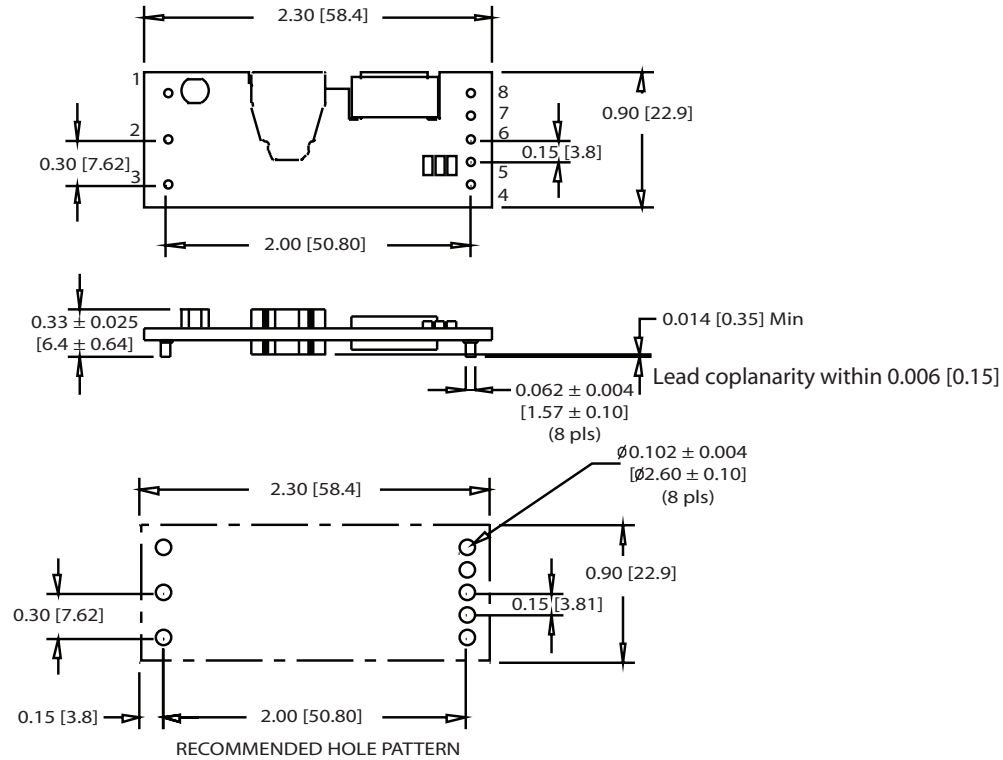
Suffix	Height	Clearance
	±0.025 [0.64]	Minimum
A	0.33 (8.4)	0.004 (0.10)
E	0.37 (9.4)	0.047 (1.20)

Pin Connections

Pin number	Function
1	Vin+
2	ON/OFF
3	Vin-
4	Vout-
5	Sense-
6	Trim
7	Sense+
8	Vout+

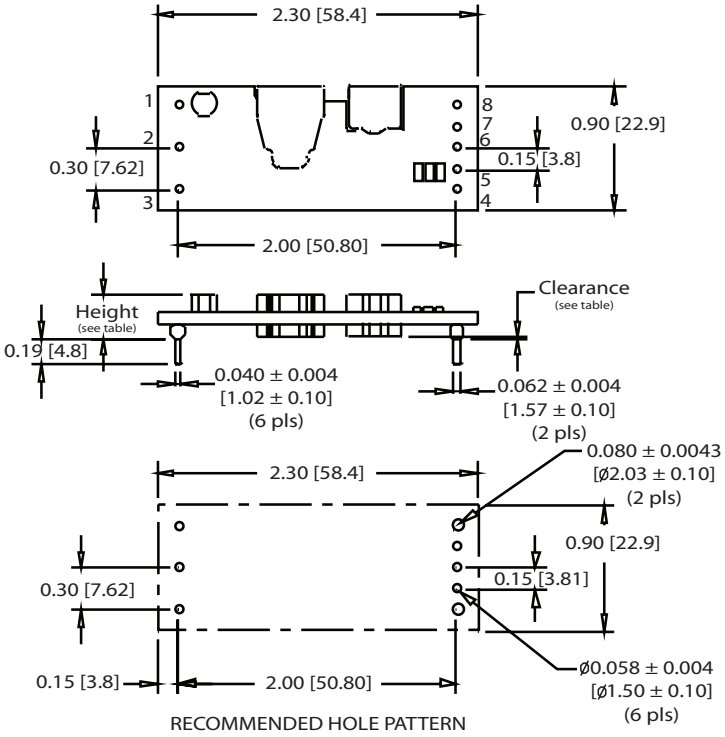
Dimensions are in inches (millimeter)
Tolerances (unless otherwise specified)
X.XX±0.02 (X.X±0.5)
X.XXX±0.010 (X.XX±0.25)

Surface-mount Mechanical Drawing (for 1.8, 1.5, 1.2 and 1.0 V)



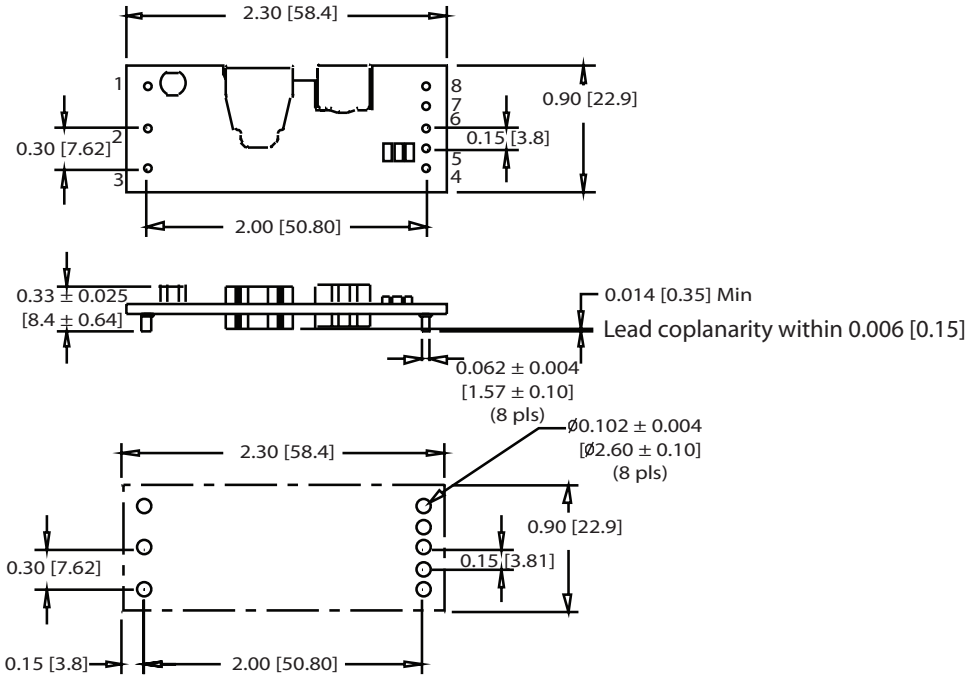
RECOMMENDED HOLE PATTERN

Through-hole Mechanical Drawing (for 2.5, 3.3, 6 and 12 V)



RECOMMENDED HOLE PATTERN

Surface-mount Mechanical Drawing (for 2.5, 3.3, 6 and 12 V)



RECOMMENDED HOLE PATTERN

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