

3-1609037-3 Product Details



3-1609037-3
(30EHZ6)

TE Internal Number: 3-1609037-3

 Active

EMI/RFI Filters and Accessories

 Always EU RoHS/ELV Compliant (Statement of Compliance)

Product Highlights:

- Filter - EMI/RFI
- Filter Type = Power Line
- HZ Series
- Medical Application
- Mount Style = Flanged

Documentation & Additional Information

Product Drawings:

- [CUSTOMER DRAWING 30EHZ6](#) (PDF, English)

Catalog Pages/Data Sheets:

- [1654001_CORCOM_PRODUCT_GUIDE_HZ_SERIES](#) (PDF, English)

Product Specifications:

- None Available

Application Specifications:

- None Available

Instruction Sheets:

- None Available

CAD Files:

- None Available

Additional Information:

- [Product Line Information](#)

Related Products:

- [Tooling](#)

Product Features (Please use the Product Drawing for all design activity)

Product Type Features:

- [Product Type](#) = Filter - EMI/RFI
- [Filter Type](#) = Power Line
- [Series](#) = HZ
- [Ground Choke Option](#) = Without
- [Filtered](#) = Yes
- [Ground Option](#) = None

Electrical Characteristics:

- [Current Rating \(A\)](#) = 30
- [Voltage ≤ \(VAC\)](#) = 250
- [Leakage Current \(Line-to-Ground\) Max. @ 120 VAC 60 Hz \(µA\)](#) = 2
- [Leakage Current \(Line-to-Ground\) Max. @ 250 VAC 50 Hz \(µA\)](#) = 5

Termination Features:

- [Terminal Input - Output Combination](#) = 1/4" Faston - 1/4" Faston

Body Features:

- [Mount Style](#) = Flanged
- [Terminal Style Output](#) = Straight

Industry Standards:

- [RoHS/ELV Compliance](#) = RoHS compliant, ELV compliant
- [Lead Free Solder Processes](#) = Not relevant for lead free process
- [RoHS/ELV Compliance History](#) = Always was RoHS compliant
- [Approved Standards](#) = VDE Approved, UL Recognized, CSA Certified

Conditions for Usage:

- [Facility Installation](#) = No
- [Need Min Size With IEC Connector](#) = No
- [Need Optional Switch, Fusing, Or Voltage Selector](#) = No

Operation/Application:

- [Application](#) = Medical

Other:

- [Brand](#) = Corcom

High Performance Power Line Filter for Medical Applications

HZ Series



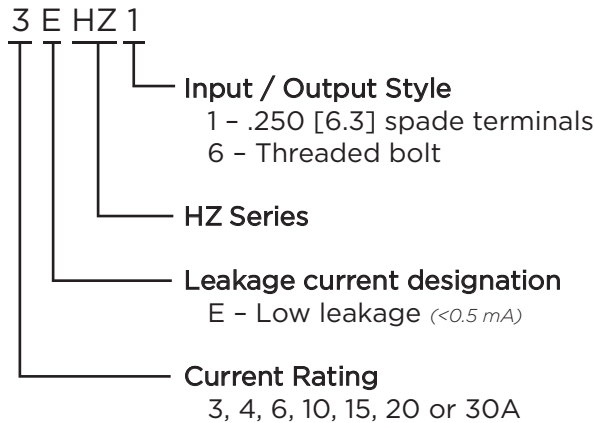
UL Recognized
CSA Certified
VDE Approved



HZ Series

- Designed to provide good attenuation to RFI noise in the frequency range from 10kHz to 30MHz
- Size and cost-effective
- Low leakage current
- New versions up to 30A

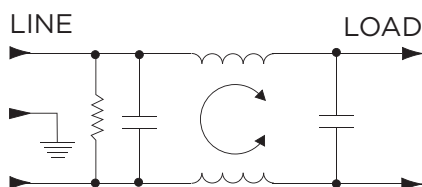
Ordering Information



Available Part Numbers

3EHZ1	4EHZ1
6EHZ1	10EHZ1
15EHZ1	20EHZ1
30EHZ6	

Electrical Schematic

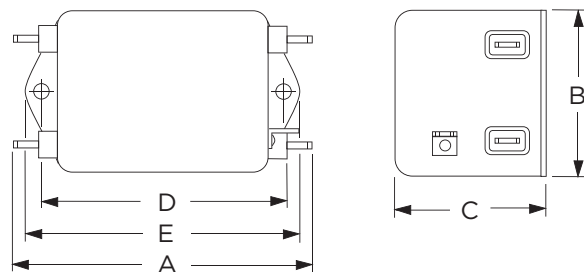


Specifications

- Maximum leakage current each Line to Ground:**
 @ 120 VAC 60 Hz: 2 µA
 @ 250 VAC 50 Hz: 5 µA
- Hipot rating (one minute):**
 Line to Ground: 2250 VDC
 Line to Line: 1450 VDC
- Rated Voltage (max):** 250 VAC
- Operating Frequency:** 50/60 Hz
- Rated Current:** 3 to 30A
- Operating Ambient Temperature Range (at rated current I_r):** -10°C to +40°C
 In an ambient temperature (T_a) higher than +40°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-T_a)/45}$

Case Styles

3EHZ1



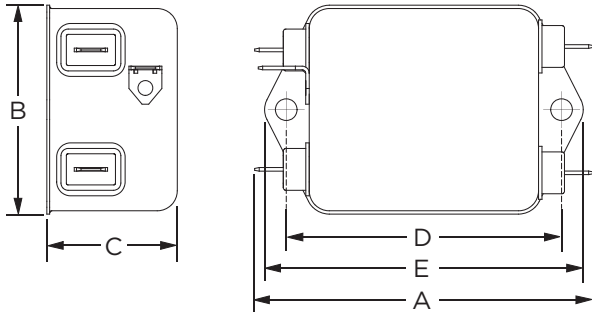
- Typical Dimensions:
- Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole
 - Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
 - Mounting Holes (2): .188 [4.78] Dia.

High Performance Power Line Filter for Medical Applications *(continued)*

HZ Series

Case Styles *(continued)*

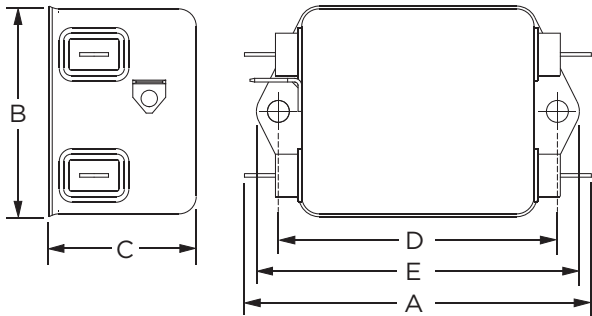
4EHZ1



Typical Dimensions:

- Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole
- Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
- Mounting Holes (2): .188 [4.78] Dia.

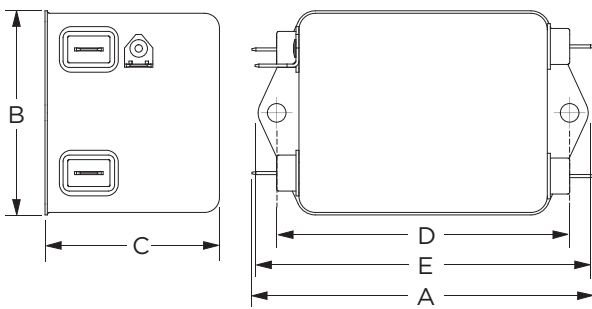
6EHZ1



Typical Dimensions:

- Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole
- Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
- Mounting Holes (2): .188 [4.78] Dia.

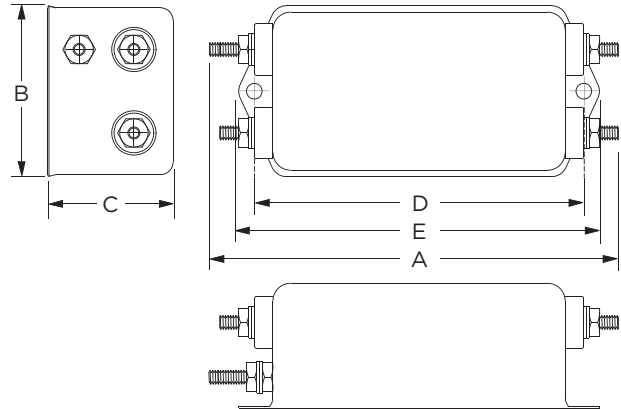
10, 15 & 20EHZ1



Typical Dimensions:

- Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole
- Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
- Mounting Holes (2): .188 [4.78] Dia.

30EHZ6



Typical Dimensions:

- Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [2.2]
- Mounting Holes (4): .188 [4.75] Dia.

Case Dimensions

Part No.	A (max)	B (max)	C (max)	D $\pm .015$ $\pm .38$	E (max)
3EHZ1	<i>3.54</i> 89.91	<i>2.08</i> 52.8	<i>1.31</i> 33.3	<i>2.938</i> 74.63	<i>3.35</i> 85.1
4EHZ1	<i>3.07</i> 77.98	<i>1.82</i> 46.23	<i>1.16</i> 29.46	<i>2.375</i> 60.33	<i>2.78</i> 70.61
6EHZ1	<i>3.07</i> 77.98	<i>1.82</i> 46.23	<i>1.28</i> 32.51	<i>2.375</i> 60.33	<i>2.78</i> 70.61
10EHZ1 15EHZ1 20EHZ1	<i>3.54</i> 89.92	<i>2.047</i> 51.99	<i>1.805</i> 45.85	<i>2.938</i> 74.63	<i>3.54</i> 89.92
30EHZ6	<i>4.92</i> 124.97	<i>2.07</i> 52.58	<i>1.53</i> 38.86	<i>3.947</i> 100.25	<i>4.33</i> 109.98

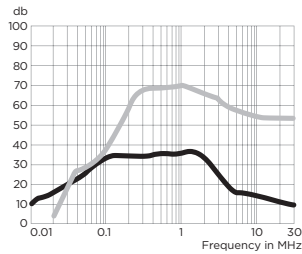
High Performance Power Line Filter for Medical Applications *(continued)*

Performance Data

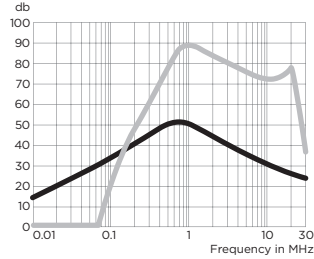
Typical Insertion Loss

Measured in closed 50 Ohm system

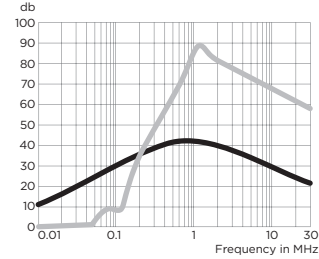
3EHZ1



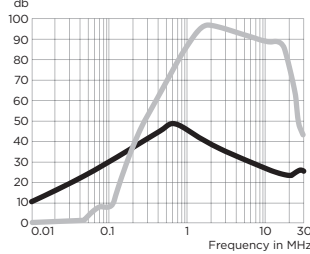
4EHZ1



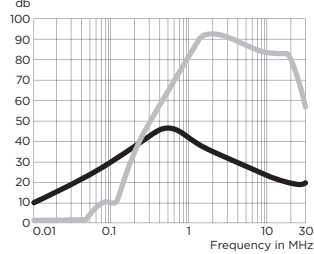
6EHZ1



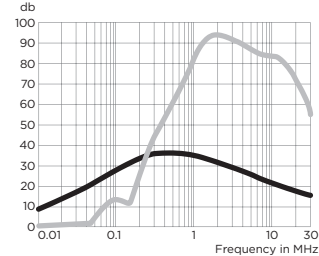
10EHZ1



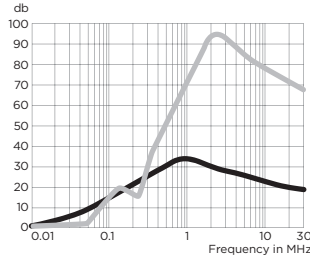
15EHZ1



20EHZ1



30EHZ6



— Common Mode / Asymmetrical (L-G)
— Differential Mode / Symmetrical (L-L)

Minimum Insertion Loss

Common Mode / Asymmetrical (Line to Ground)

Differential Mode / Symmetrical (Line to Line)

Part No.	Frequency – MHz								
	.01	.05	.1	.15	.5	1	5	10	30
3EHZ1	10	24	30	34	34	35	15	10	5
4EHZ1	12	24	31	35	47	47	30	25	18
6EHZ1	9	21	27	30	36	34	27	22	16
10EHZ1	7	21	25	31	43	40	26	21	14
15EHZ1	7	27	27	30	43	37	24	17	12
20EHZ1	5	19	24	28	31	29	14	9	4
30EHZ6	-	5	11	14	27	30	20	17	14

Part No.	Frequency – MHz								
	.01	.05	.1	.15	.5	1	5	10	30
3EHZ1	10	25	30	54	70	70	65	55	55
4EHZ1	-	-	14	32	72	83	68	63	30
6EHZ1	-	-	7	17	59	80	67	60	52
10EHZ1	-	-	4	21	63	80	80	74	36
15EHZ1	-	-	7	15	51	77	80	74	48
20EHZ1	-	-	11	9	54	77	74	69	47
30EHZ6	-	-	13	14	47	67	76	70	58

SAFETY ORGANIZATIONS

THIS FILTER HAS BEEN FORMALLY RECOGNIZED, CERTIFIED OR APPROVED BY THE LISTED AGENCY. THEREFORE, ALL TEST/REQUIREMENTS SPECIFIED IN THE LATEST REVISION OF THE FOLLOWING AGENCY STANDARDS HAVE BEEN MET:

UL RECOGNIZED: UL 1283
 CSA CERTIFIED: CSA C22.2 No. 8
 VDE APPROVED: EN 60939-2

OPERATING SPECIFICATIONS

LINE CURRENT/VOLTAGE: 30 AMP/40°C, 120/250 VAC, 50-60Hz

LINE FREQUENCY: 50-60Hz

MAXIMUM LEAKAGE CURRENT, EACH LINE TO GROUND:
 2µA @ 120V 60Hz
 5µA @ 250V 50Hz

OPERATING AMBIENT TEMP. RANGE: -10°C TO +40°C @ RATED CURRENT, I_r.

IN AN AMBIENT, T_a, HIGHER THAN 40°C, THE MAXIMUM OPERATING CURRENT, I_o, IS AS FOLLOWS:

$$I_o = I_r \sqrt{\frac{85 - T_a}{45}}$$

RELIABILITY SPECIFICATIONS:

STORAGE TEMPERATURE: -40°C TO +85°C
 HUMIDITY: 21 DAYS @ 40°C 95% RH.
 CURRENT OVERLOAD TEST: 6 TIMES I_r FOR 8 SECONDS

TEST SPECIFICATIONS:

INDUCTANCE: 0.9 mH NOMINAL
 CAPACITANCE: (MEASURED @ 1KHz, 0.250VAC MAX., 25°C±1°C)

LINE TO LINE: 0.74 µF±20%
 DISCHARGE RESISTOR: 470K Ω
 L/G AND L/L I.R.
 NO DISCHARGE RESISTOR: 6000MΩ (MIN.) @ 100VDC, 20°C AND 50% RH

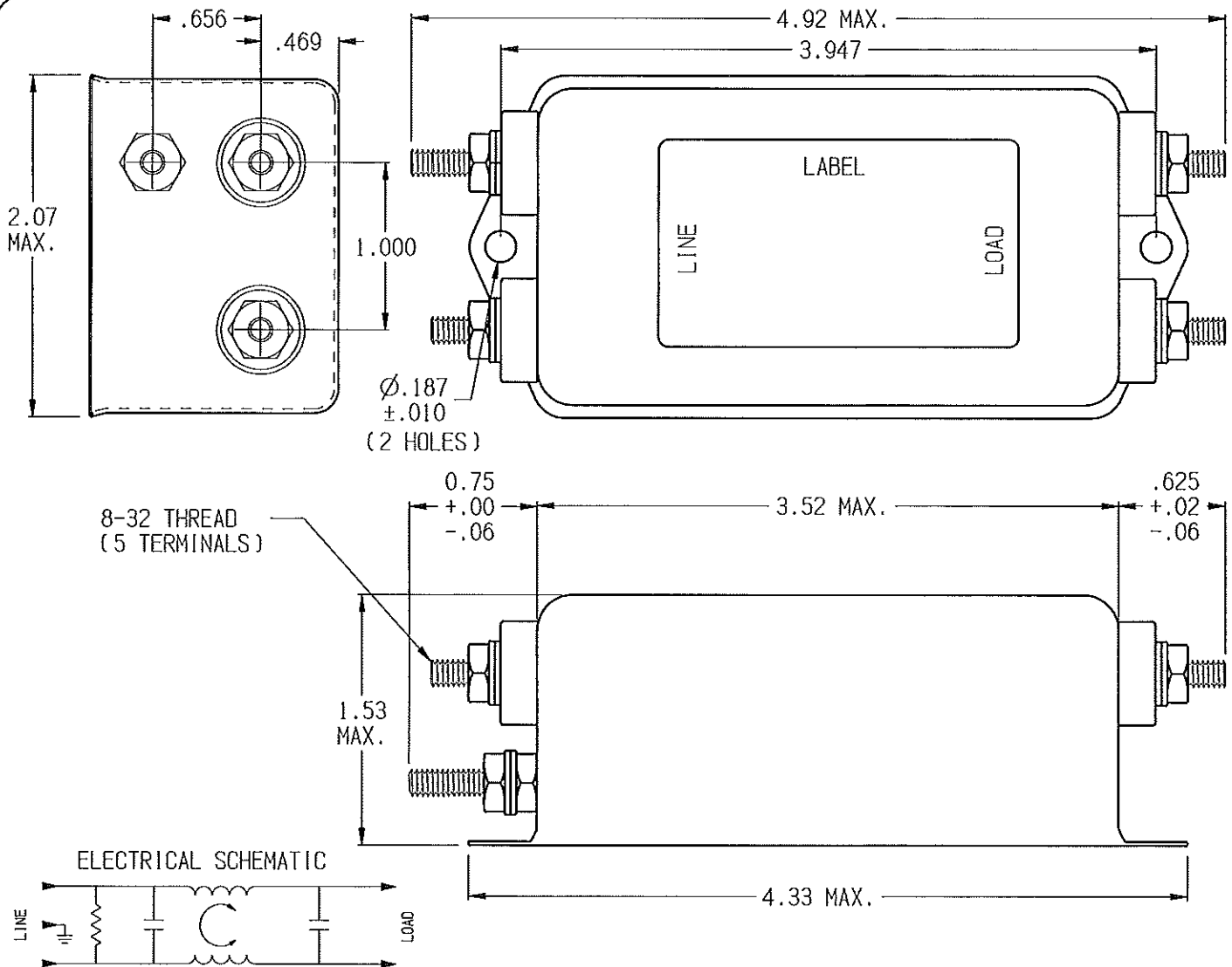
RECOMMENDED RECEIVING INSPECTION HIPOT:

LINE TO GROUND: 1500 VAC FOR 1 MINUTE
 LINE TO LINE: 1450 VDC FOR 1 MINUTE

FILTER APPROVAL:

THE BEST WAY TO SELECT AND QUALIFY A FILTER IS FOR YOUR ENGINEERING TO TEST THE UNIT IN YOUR EQUIPMENT.

CUSTOMER DRAWING		
CATALOG #		30EHZ6
ECN#	APPRVD	DATE
10-023669	PJD	B



50 Ω - 50 Ω (MINIMUM) INSERTION LOSS

FREQUENCY MHz	.01	.03	.05	.1	.15	.5	1.0	2.0	5.0	10.0	20.0	30.0
COMPLN dB	-	3	5	11	14	27	30	24	20	17	13	14
DIFF. dB	-	-	-	13	14	47	67	80	76	70	60	58

SHEET SIZE: **A** THIRD ANGLE PROJECTION

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PARTS SHALL COMPLY WITH TYCO ELECTRONICS 138-702 SPECIFICATION FOR HAZARDOUS SUBSTANCES

UNLESS OTHERWISE SPECIFIED
 TOLERANCE TO BE ±0.025
 MATERIAL & FINISH: AS SUPPLIED

NOTES:

TE TE Connectivity

POWER LINE FILTER

TYCO ELECTRONICS PART NO. 3-1609037-3

SCALE: 1:1	DATE: 31AUG10	DRAWING NUMBER: 30EHZ6	REV. B
DRW. BY: LJD	ORIG: PJD		

30EHZ6-B.cxd