3EEA1 Product Details

3EEA1

TE Internal Number: 6609000-4

Active

EMI/RFI Filters and Accessories

Always EU RoHS/ELV Compliant (Statement of Compliance)

Product Highlights:

- Filter - EMI/RFI
- Filter Type = Power Line
- EEA (1-15 Amp) Series
- General Purpose Application
- Mount Style = Flanged

Documentation & Additional Information

Product Drawings:
- CUSTOMER DRAWING 3EEA1 (PDF, English)

Catalog Pages/Data Sheets:
- 1654001_CORCOM_PRODUCT_GUIDE_EEA_EEB (PDF, English)

Product Specifications:
- None Available

Application Specifications:
- None Available

Instruction Sheets:
- None Available

CAD Files: (CAD Format & Compression Information)
- 2D Drawing (DXF, Version A)
- 3D Model (IGES, Version A)
- 3D Model (STEP, Version A)

Additional Information:
- Product Line Information

Additional Product Images:
- Insertion Loss/Specifications

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 = EEA (1-15 Amp)
- Filtered = Yes
- Type of Connector = IEC 320/C-14

Electrical Characteristics:
- Current Rating (A) = 3
- Voltage ≤ (VAC) = 250
- Leakage Current (Line-to-Ground) Max. @ 250 VAC 50 Hz (mA) = 0.38
- Leakage Current (Line-to-Ground) Max. @ 120 VAC 60 Hz (mA) = 0.22

Termination Features:
- Terminal Input - Output Combination = IEC - 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 = SEV Approved, VDE Approved, UL Recognized, CSA Certified

Conditions for Usage:
- Facility Installation = No
- Need Min Size With IEC Connector = Yes
- Need Optional Switch, Fusing, Or Voltage Selector = No

Operation/Application:
- Application = General Purpose

Other:
- Brand = Corcom

EEA & EEB Series

Including the EAS/EBS and EAH/EBH Models

UL Recognized
CSA Certified
VDE Approved

EEA2 / EEB2 — EEA1 / EEB1 — EEAP / EEBP

EEA Series

- Compact single stage EMI filter with IEC 60320-1 C14 inlet
- Two element circuit provides basic attenuation
- Same performance as the EF Series
- Available in three terminal configurations
- Supersedes EF Series

EEB Series

- Compact EMI filter with IEC 60320-1 C14 inlet
- Two element circuit provides extended attenuation
- Extended differential mode performance
- Available in three terminal configurations

EAS & EBS Models

- Same performance as EEA and EEB Series
- Snap–in mounting
- Spade terminals

EAH & EBH Models

- Same size as EEA and EEB
- Minimal leakage current suitable for medical applications
- Flange mounted
- Spade terminals

Specifications

Maximum leakage current each Line to Ground:

	EEA/EEB EAS/EBS	EAH/EBH
@ 120 VAC 60 Hz:	.22 mA	2 µA
@ 250 VAC 50 Hz:	.38 mA	5 µA

Hipot rating (one minute):

Line to Ground:	2250 VDC
Line to Line:	1450 VDC

Rated Voltage (max.): 250 VAC

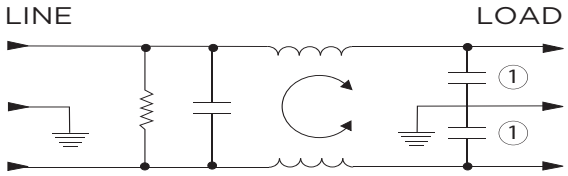
Operating Frequency: 50/60 Hz

Rated Current: 1 to 10A

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: $I_o = I_r \sqrt{(85-Ta)/45}$

Electrical Schematic



Note 1: Not present in EAH / EBH versions

EEA & EEB Series

Ordering Information

3 EEB 1

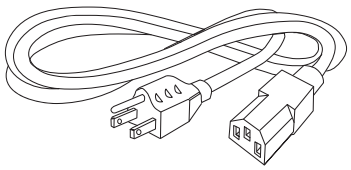
Output Styles
1 – .250 [*6.3*] spade terminals *(back)*
2 – .250 [*6.3*] spade terminals *(bottom)*
P – PC board pins

Series
EEA – Basic Inlet Filter
EAS – Snap-in EEA Filter
EAH – Medical EEA Filter
EEB – Extended EMI Performance
EBS – Snap-in EEB Filter
EBH – Medical EEB Filter

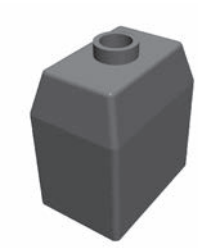
Current Rating
1, 3, 6, or 10A

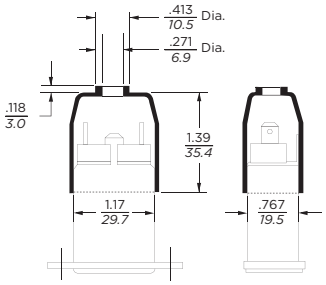
Accessories

GA400: NEMA 5-15P to IEC 60320-1 C-13 line cord



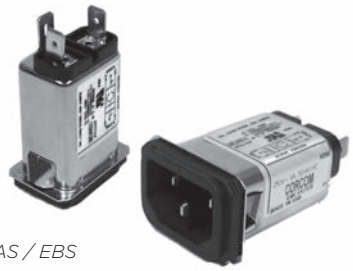
FA601: Insulating Shroud





Available Part Numbers

EEA Models	EEB Models
1EEA1	1EEB1
1EEA2	1EEB2
1EEAP	1EEBP
3EEA1	3EEB1
3EEA2	3EEB2
3EEAP	3EEBP
6EEA1	6EEB1
6EEA2	6EEB2
6EEAP	6EEBP
10EEA1	10EEB1
10EEA2	10EEB2
10EEAP	10EEBP
EAS Models	**EBS Models**
1EAS1	1EBS1
3EAS1	3EBS1
6EAS1	6EBS1
10EAS1	10EBS1
EAH Models	**EBH Models**
1EAH1	1EBH1
3EAH1	3EBH1
6EAH1	6EBH1
10EAH1	10EBH1



EAS / EBS

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

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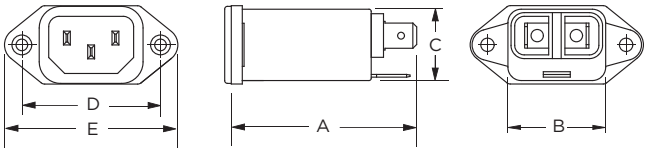
EEA & EEB Series

Case Styles

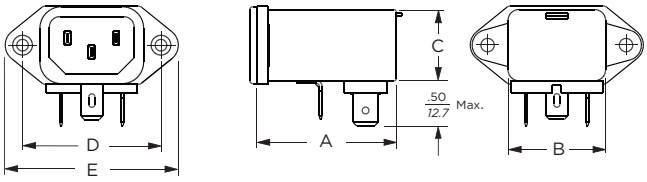
EEA1, EEB1, EAH1 & EBH1



Typical Dimensions:

Mounting holes (2):	.132 [*3.35*] Dia. with .236 [*5.99*] Dia. x 90° countersink for #4 flathead screw
Line Inlet (1):	IEC 60320-1 C14
Load Terminals (2):	.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

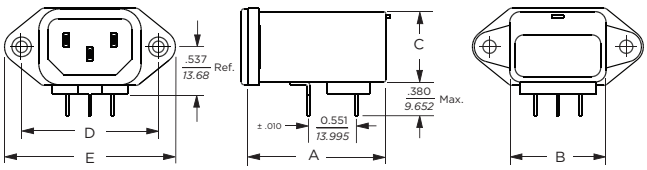
EEA2 & EEB2



Typical Dimensions:

Mounting holes (2):	.132 [*3.35*] Dia. with .236 [*5.99*] Dia. x 90° countersink for #4 flathead screw
Line Inlet (1):	IEC 60320-1 C14
Load Terminals (2):	.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

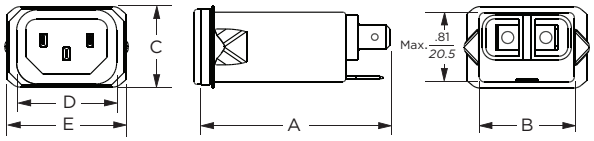
EEAP & EEBP



Typical Dimensions:

Mounting holes (2):	.132 [*3.35*] Dia. with .236 [*5.99*] Dia. x 90° countersink for #4 flathead screw
Line Inlet (1):	IEC 60320-1 C14
PC board pins (3):	.031 [*.07*] square, ± .003 [*.07*]

EAS1 & EBS1



Typical Dimensions:

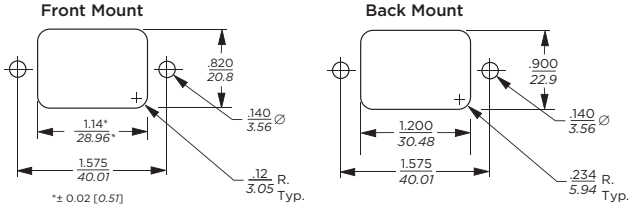
Line Inlet (1):	IEC 60320-1 C14
Load Terminals (2):	.250 [*6.3*] with .07 [*1.8*] Dia. hole
Ground Terminal (1):	.250 [*6.3*] with .07 x .16 [*1.8 x 3.8*] slot

Case Dimensions

Part No.	A (max.)	B (max.)	C (max.)	D ± .010 / ± .25	E (max.)
EEA1, EEB1, EAH1, EBH1	**2.15** *54.6*	**1.12** *28.4*	**0.81** *20.6*	**1.575** *40.01*	**1.98** *50.3*
EEA2, EEB2	**1.54** *39.1*	**1.12** *28.4*	**0.81** *20.6*	**1.575** *40.01*	**1.98** *50.3*
EEAP, EEBP	**1.54** *39.1*	**1.12** *28.4*	**0.81** *20.6*	**1.575** *40.01*	**1.98** *50.3*
EAS1, EBS1	**2.20** *55.88*	**1.15** *29.2*	**.96** *24.38*	**1.185** *30.10*	**1.41** *35.81*

Recommended Panel Cutouts

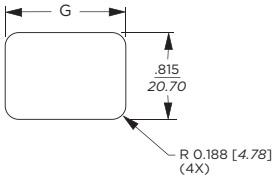
EEA, EEB, EAH, EBH



Tolerances ± .005 [*0.13*] unless otherwise noted

Note 1: EEA1, EEB1, EAH1, EBH1 can be front or back mounted
Note 2: EEA2, EEB2, EEAP and EEBP can be back mounted only

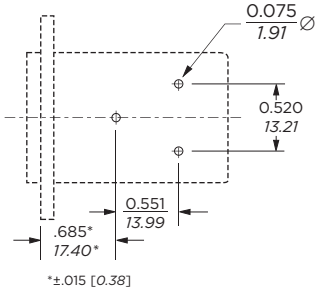
EAS, EBS



Front Mount only

Panel Thickness	G Dim. ± .002 [*.05*]
0.031 - 0.052 [*0.79 - 1.32*]	1.260 [*32.00*]
0.046 - 0.068 [*1.17 - 1.73*]	1.350 [*34.29*]

PC Board Layout



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EEA & EEB Series

Performance Data

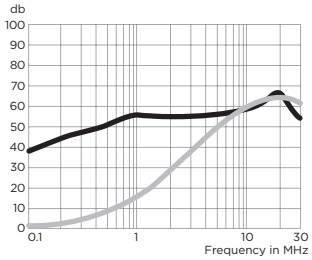
Typical Insertion Loss

Measured in closed 50 Ohm system

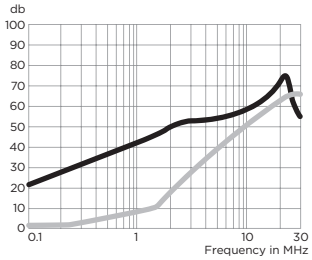
Common Mode / Asymmetrical (L-G)
Differential Mode / Symmetrical (L-L)

EEA, EAS Models

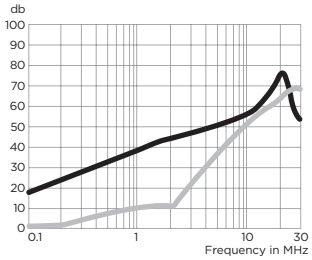
1A



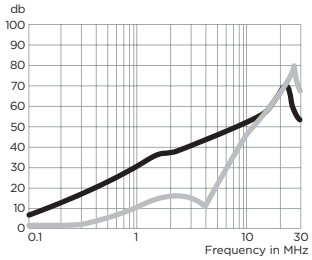
3A



6A

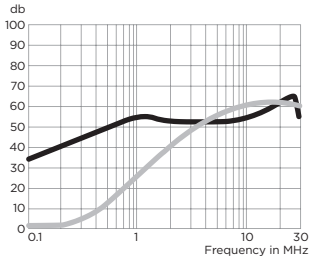


10A

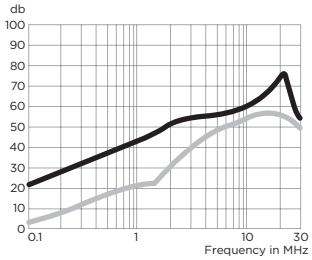


EEB, EBS Models

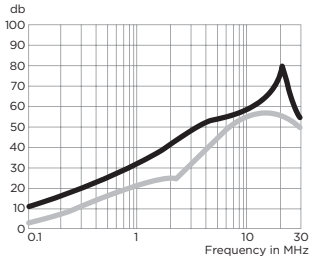
1A



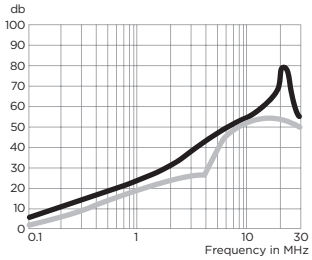
3A



6A

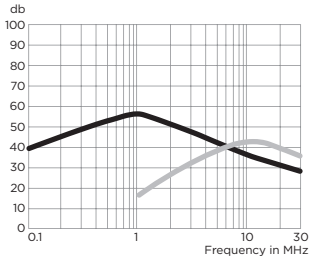


10A

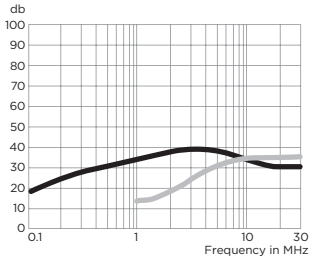


EAH Models

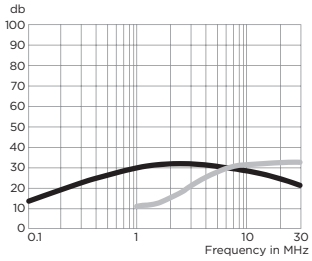
1A



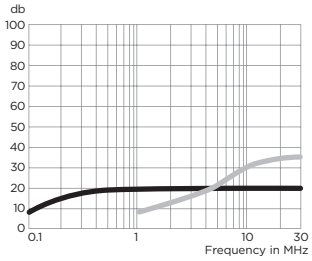
3A



6A

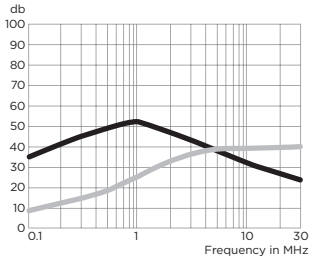


10A

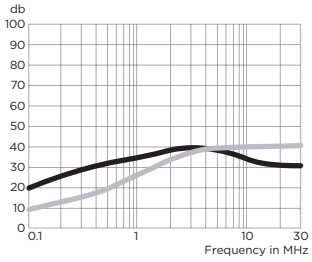


EBH Models

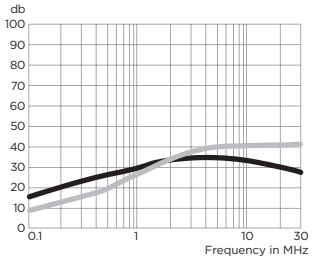
1A



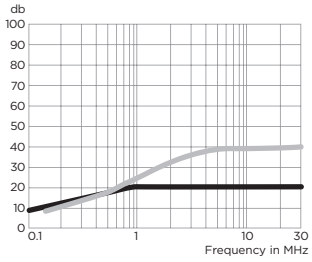
3A



6A



10A



EEA & EEB Series

Performance Data *(continued)*

Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

Current Rating	Frequency – MHz .01	.05	.1	.15	.5	1	5	10	30
EEA / EAS Models									
1A	12	23	29	32	41	47	47	47	40
3A	-	10	15	19	30	36	48	50	47
6A	-	1	4	10	22	28	42	48	47
10A	-	1	3	5	14	20	32	38	47
EEB / EBS Models									
1A	12	23	29	32	41	47	47	47	40
3A	-	10	14	18	30	36	48	50	47
6A	-	1	4	10	22	28	42	48	47
10A	-	1	3	5	14	20	32	38	47
EAH Models									
1A	8	21	29	32	42	45	32	30	19
3A	-	5	10	15	25	27	30	27	22
6A	-	-	5	6	19	21	24	20	15
10A	-	-	1	5	9	12	12	12	12
EBH Models									
1A	8	21	29	32	42	45	32	25	19
3A	-	5	10	15	25	27	30	27	22
6A	-	-	5	8	17	20	24	23	18
10A	-	-	-	3	8	12	12	12	12

Differential Mode / Symmetrical (Line to Line)

Current Rating	Frequency – MHz .5	1	1.5	3	5	10	30
EEA / EAS Models							
1A	1	9	19	32	42	45	40
3A	2	4	6	20	35	45	40
6A	2	4	6	6	24	40	40
10A	1	4	5	5	5	30	40

	Frequency – MHz .01	.15	.5	1	3	5	10	30
EEB / EBS Models								
1A	1	3	14	23	41	47	50	44
3A	1	2	11	14	25	38	44	40
6A	1	2	10	14	20	33	42	40
10A	1	2	10	16	19	19	39	40

	Frequency – MHz 1	1.5	5	10	30
EAH Models					
1A	5	13	28	32	25
3A	4	6	20	27	28
6A	2	5	19	25	27
10A	1	5	15	22	27

	Frequency – MHz .15	.5	1	10	10	30
EBH Models						
1A	1	10	18	30	31	31
3A	1	10	18	30	31	31
6A	1	10	18	30	31	31
10A	1	10	18	30	31	31

CATALOG # 3EEA1		
ECN #	APPRVD.	DATE

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 — SEV APPROVED: IEC 939
CSA CERTIFIED: CSA 22.2, # 8 — SEMKO APPROVED: SEN 432901
VDE APPROVED: VDE 565-3

OPERATING SPECIFICATIONS

LINE CURRENT/VOLTAGE: 3 AMP, 120/250 VAC, 3 AMP/40°C, 250 VAC

LINE FREQUENCY: 50-60Hz

MAXIMUM LEAKAGE CURRENT, EACH LINE TO GROUND: 0.22 mA @ 120V 60Hz, 0.38 mA @ 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:

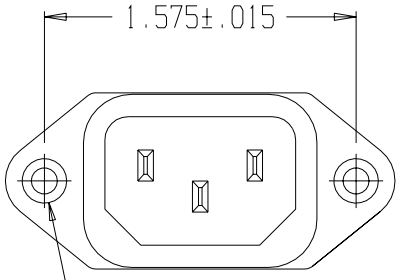
INDUCTANCE: 1.45 mH NOMINAL
CAPACITANCE: (MEASURED @ 1KHz, 0.250VAC MAX., 25°C±1°C)
LINE TO GROUND: 0.0053 µF ±20%
LINE TO LINE: 0.0105 µF ±20%
DISCHARGE RESISTOR: 1.5 MΩ
L/G AND L/L I.R.
NO DISCHARGE RESISTOR: 6000MΩ (MIN.) @ 100VDC, 20°C AND 50% RH

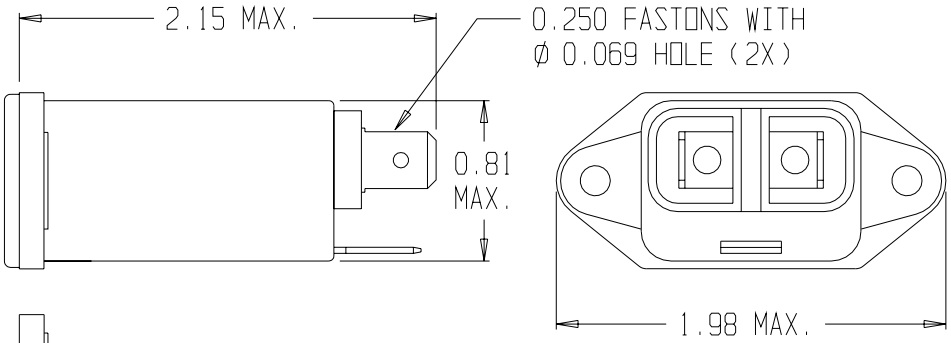
RECOMMENDED RECEIVING INSPECTION HIPOT:

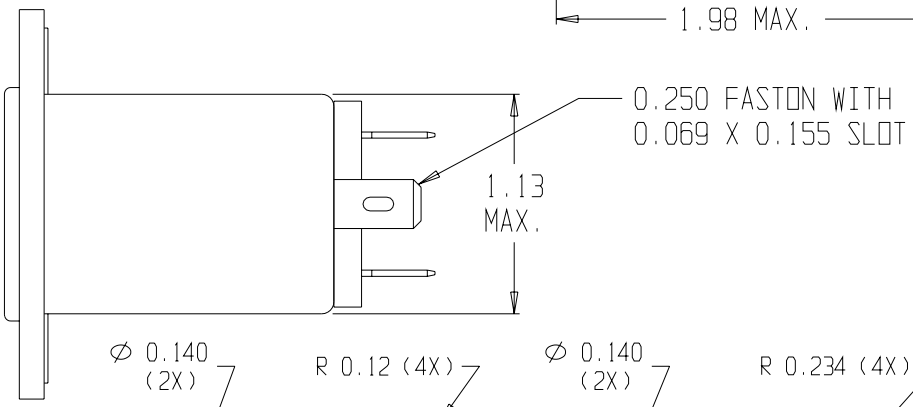
LINE TO GROUND: 1500VAC OR 2250VDC FOR 1 MINUTE
LINE TO LINE: 1450VDC FOR 1 MINUTE

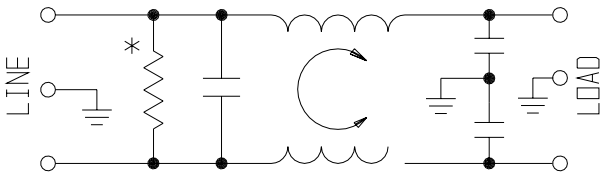
FILTER APPROVAL:

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

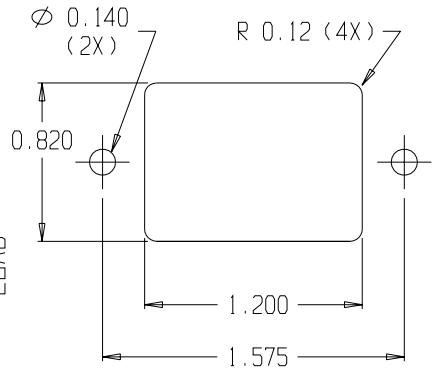




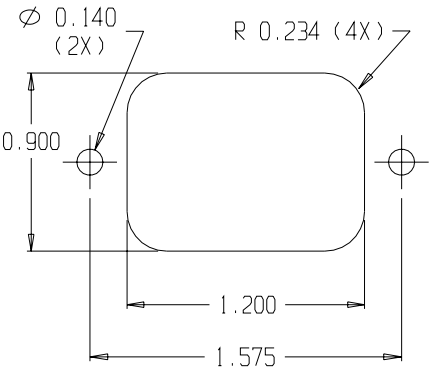




* RESISTOR ADDED TO PRODUCT BUILT AFTER 3-30-92 (9212).



PANEL CUTOUT (FRONT MOUNT)
TOLERANCE ±.005



PANEL CUTOUT (BACK MOUNT)
TOLERANCE ±.005

50Ω- 50Ω(MINIMUM) INSERTION LOSS

FREQUENCY MHz	.05	.10	.15	.50	1	1.5	5	10	30		
COMMON dB	10	15	19	30	36	-	48	50	47		
DIFF. dB				2	4	6	35	45	40		

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED,
TOLERANCE TO BE ±.025
MATERIAL & FINISH: AS SUPPLIED

corcom
844 E. ROCKLAND RD. LIBERTYVILLE IL 60048

POWER LINE FILTER

CAD FILE: G:\CD\3EEA100			
SCALE: NTS	DATE: 3/24/97	CATALOG NO. 3EEA1	REV. 00
DRW. BY: JF	ORIG: KAW		