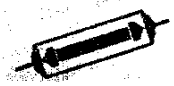
MEPCO PRODUCT CHECK LIST

MEPCO



FH HERMETIC SEAL METAL FILM RESISTORS

• MAN RATED-SPACE PROVEN DESIGN • TRUE HERMETIC SEAL • ULTIMATE MOISTURE PROTECTION • EXCEEDS ALL MIL-R-55182 ENVIRONMENTAL REQUIREMENTS • BETTER THAN "S" FAILURE RATE • EXCELLENT STABILITY • ESTABLISHED RELIABILITY

FE SERIES - MOLDED METAL FILM RESISTORS

• ESTABLISHED RELIABILITY — PER MIL-R-55182 • MEETS OTHER STANDARD MIL REQUIREMENTS • PRECISION NETWORKS AND MATCHED SETS • ABSOLUTE TOLERANCE AS LOW AS 1% • RATIO TOLERANCE AS LOW AS .05% • TC's TO 15PPM • AVAILABLE FROM FACTORY STOCK FOR IMMEDIATE DELIVERY

MR SERIES - METAL FILM RESISTORS • HI REL DEVICES AT LOW REL PRICES • 100% SCREENING • IMMEDIATE DELIVERY FROM FACTORY INVENTORY

MR 25 and 30 - COMMERCIAL LEVEL • CONFORMAL COATED • COLOR CODING • MEETS ENVIRONMENTAL REQUIREMENTS OF MIL-R-22684 and 10509* • TC ±100PPM • TOLERANCES TO 1%

MR 24 and 34 - MILITARY INDUSTRIAL LEVEL • CONFORMAL COATED • MIL-R-10509 CHARACTERISTIC D • TC's ±100PPM • TOLERANCES TO 1%

MR 31 and 39 - MILITARY RELIABILITY LEVEL • MOLDED ENCLOSURE • MIL-R-10509 CHARACTERISTIC C • TX RELIABILITY LEVEL • ±50PPM • TOLERANCE TO 1%

*EXCEPT POLARIZED MOISTURE TEST

HERMETICALLY SEALED CARBON FILM RESISTORS

• TRUE HERMETIC SEAL — PROVIDES ABSOLUTE ENVIRONMENTAL PROTECTION • PERFORMANCE PROVEN RELIABILITY • TOLERANCES AS LOW AS ±1% • TC's ±200 TO-500PPM • MIL-R-10509 — CHARACTERISTIC G • RESISTANCE RANGES 50Ω THRU 20 MEG

GE SERIES - THICK FILM DISCRETE RESISTORS

• RESISTANCE RANGE TO 50 MEG OHMS • MIL CONFIGURATIONS 1/20W. TO 1/4W • TC's ±150PPM • TOLERANCE TO 1% • MOLDED ENCLOSURE

"TINYCHIP" THICK FILM RESISTOR CHIPS

• MINIATURE SIZE — .050" x .050" TYPICAL • TOLERANCES TO 1% AVAILABLE • CUSTOM DESIGN AVAILABLE • SUPERIOR STABILITY • BONDABLE TERMINATIONS

PRECISION WIREWOUND RESISTORS

• TOLERANCES AS LOW AS .005% • TEMPERATURE COEFFICIENTS TO ±3PPM • HIGH STABILITY • CHOICE OF CONFIGURATIONS (AXIAL LEAD, RADIAL LEAD, PC, CERAMIC, BOBBIN)

WIREWOUND POWER RESISTORS

• HIGH POWER HANDLING CAPABILITIES IN SMALL SIZE • EXCELLENT PROTECTION AGAINST MOISTURE AND ENVIRONMENTAL HAZARDS • TOLERANCES TO ±.05%, TC's AS LOW AS 5PPM • BROAD RANGE OF STYLES • LOW THERMAL EMF

MINIATURE CERAMIC CAPACITORS

• THIN PLATE DESIGN (SMALLER THAN DISC CAPACITORS) • PRICED LOWER THAN OTHER THIN PLATE OR MONOLITHIC CAPACITORS • NON-MIGRATORY ELECTRODE SYSTEM FOR HIGH RELIABILITY • MEETS OR EXCEEDS MIL-C-11015 (CK 41, 42 and 43) • 100% FINAL TEST • HIGH TEMPERATURE SOLDER — ELIMINATES REFLOW PROBLEMS • FAST DELIVERY—LARGE INVENTORY MAINTAINED • HIGH VOLUME PRODUCTION CAPABILITY

HYBRID MICROCIRCUITS

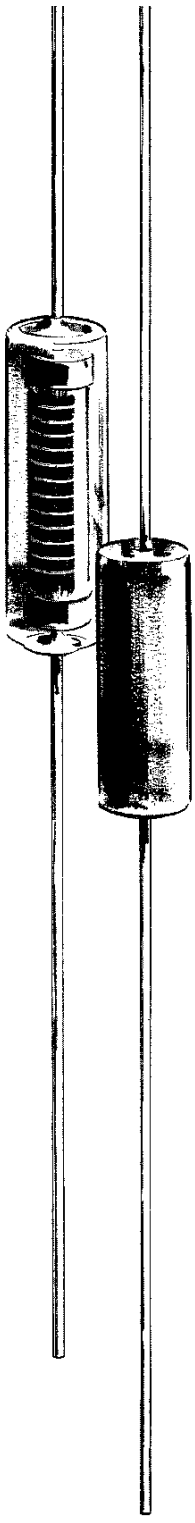
• THICK FILM SUBSTRATES — PASSIVE AND ACTIVE CIRCUITS • HIGH STABILITY • LOW TC • PRECISION CIRCUIT CALIBRATION • CHIP AND WIRE ATTACHMENT OF ACTIVE DEVICES • LOWEST COST PROVEN TECHNOLOGY • DIGITAL AND LINEAR DEVICES • CUSTOM AND STANDARD CIRCUITS — 6 STANDARD DEVICES AVAILABLE FOR "OFF THE SHELF" DELIVERY — DESIGN, PROTOTYPING AND PRODUCTION OF CUSTOM CIRCUITS TO MEET INDIVIDUAL CUSTOMER REQUIREMENTS • EXPERIENCED, FLEXIBLE, COMPETITIVE — OVER 6 YEARS OF CONTINUOUS MANUFACTURING OF BOTH MILITARY (PER MIL-STD 883) AND INDUSTRIAL AND COMMERCIAL PRODUCTS

PRINTED CIRCUIT EDGE CONNECTORS

• EDGE CONNECTORS, INTERCONNECTORS, HIGH DENSITY CONNECTORS • COMBINATION CONNECTORS • COMPETITIVE PRICING • STATE OF THE ART TECHNOLOGY — HIGH DENSITY — BIFURCATED SPRINGS — STANDARD CONTACT SPACINGS — 4 TERMINATION STYLES • CUSTOM CAPABILITIES — COMPLETE DESIGN AND PRODUCTION CAPABILITIES TO PRODUCE CONFIGURATIONS TO MEET CUSTOMER REQUIREMENTS • ON TIME DELIVERY — FROM FACTORY STOCK • INTERCHANGEABLE WITH COMPETITIVE CONNECTORS

MEPCO, INC. 71 E. Columbia Road, Morristown, N.J. 07960
A NORTH AMERICAN PHILIPS COMPANY

Estimated date 1969



MEPCO

CROSS REFERENCE
SELECTOR CHART

Military Established Reliability Specification

MIL-R-55182-C

Fixed Film Resistors

MIL-R-55182, the Established Reliability (ER) specification for fixed film resistors, includes a wide variety of part types from which a selection can be made. The choice of the appropriate resistors for a particular application should result from a careful evaluation of the reliability requirements, physical characteristics and performance capabilities necessary to meet the conditions of use. When decisions have been made regarding each of these areas, care must then be taken in specifying the military type designations to preclude calling out improper parts.

To accomplish this, a thorough understanding of the contents of the specification in all of its' detail is essential. MEPCO has therefore drawn upon its' long experience with the document to prepare a cross reference selector chart that makes the necessary information more readily available.

This chart depicts what is included in the document in terms of physical characteristics and performance capabilities. Furthermore, specific recommendations are made as to part types most readily available and best likely to fulfill the need in each part type category.

We know you will find this chart useful, and welcome your comments.

MEPCO INC. COLUMBIA ROAD,
MORRISTOWN, N.J.

Date-Before 1972. Mepco became Mepco/Electra in 1972

Military Established Reliability Specification

CROSS REFERENCE

MIL-R-55182-C

Fixed Film Resistors

SELECTOR CHART

MEPCO

HERMETIC SEAL TYPES (LEVEL AA)

CHARACTERISTIC

C (± 50 ppm) | E (± 25 ppm)

FAILURE RATE LEVEL — PER CENT/1000 HOURS

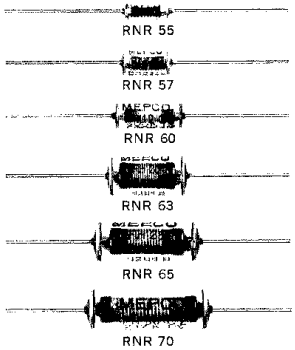
M 1.0% | P 0.1% | R 0.01% | S 0.001%

RESISTANCE TOLERANCE**

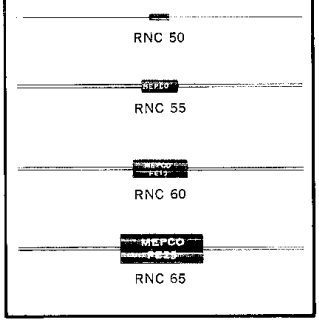
STYLE AND TERMINAL	WATTS	VOLTS	RESISTANCE RANGE	MEPCO NUMBER	C D	C F	C D	C F	C D	C F	C D	C F	E B	E D	E F	E B	E D	E F	E B	E D	E F
RNR 55	1/10	200	49.9Ω/100K	FH-10		M		M		M		▲			M			M			M			▲
RND 55																							
RNN 55						M		M		M		M			M			M			M			M
RNR 57	1/8	250	10Ω/200K	FH-11		M		M		M		▲			M			M			M			▲
RND 57																							
RNN 57						M		M		M		M			M			M			M			M
RNR 60	1/8	250	49.9Ω/499K	FH-12	M	M	M	M	M	M	▲	▲	M	M	M	M	M	M	M	M	M	▲	▲	▲
RND 60																							
RNN 60					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
RNR 63	1/4	300	49.9Ω/1 Meg	FH-20	M	M	M	M	M	M	▲	▲	M	M	M	M	M	M	M	M	M	▲	▲	▲
RND 63																							
RNN 63					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
RNR 65	1/4	300	49.9Ω/1 Meg	FH-25	M	M	M	M	M	M	▲	▲	M	M	M	M	M	M	M	M	M	▲	▲	▲
RND 65																							
RNN 65					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
RNR 70	1/2	350	24.9Ω/1 Meg	FH-50	M	M	M	M	M	M	▲	▲	M	M	M	M	M	M	M	M	M	▲	▲	▲
RND 70																							
RNN 70					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Not available per MIL specification — Available per MIL specification — M Available from Mepco — ▲ Mepco recommendation

HERMETIC SEAL TYPES
(ACTUAL SIZE)



NON-HERMETIC SEAL TYPES
(ACTUAL SIZE)



Typical Military Type Designation for Hermetic Seal Type

RNR 55 (Style and terminal) — C (Characteristic) — 49R9 (resistance) — F (tolerance) — S (failure rate)

MEPCO

MOLDED (Non-Hermetic Seal) TYPES (LEVELS A and B)

CHARACTERISTIC

STYLE AND TERMINAL	WATTS	VOLTS	RESISTANCE RANGE	MEPCO NUMBER	H (± 50 ppm) FAILURE RATE LEVEL — PER CENT/1000 HOURS								J (± 25 ppm) FAILURE RATE LEVEL — PER CENT/1000 HOURS										K (± 100 ppm) FAILURE RATE LEVEL — PER CENT/1000 HOURS							
					M 1.0%		P 0.1%		R 0.01%		S 0.001%		M 1.0%			P 0.1%			R 0.01%			S 0.001%	M 1.0%		P 0.1%		R 0.01%		S 0.001%	
					RESISTANCE TOLERANCE**								RESISTANCE TOLERANCE**										RESISTANCE TOLERANCE**							
					D	F	D	F	D	F	D	F	B	D	F	B	D	F	B	D	F	B	D	F	D	F	D	F	D	F	D	F
RNC 50	1/20	200	Char. H, J 49.9Ω/100K Char. K 10Ω/200K	FE-5	■	■		M	■	■			■	■	■	M	M	M	■	■	■				■	■	M	M	M	M		
RNR 50					M	M		M	M	M			M	M	M	M	M	M	M	M	M				M	M	M	M	M	M		
RNR 54	1/10	200	49.9Ω/200K	FE-10		M		M		■					M			M			■										
RNC 55	1/10	200	Char. H, J 49.9Ω/100K Char. K 49.9Ω/301K	FE-10		■		M		■					■			M			■					■		M		M		
RNR 55						M		M		M					M			M			M					M		M		M		
RNC 60	1/8	250	Char. H, J 49.9Ω/499K Char. K 24.9Ω/1.5 Meg.	FE-12	■	■	M	M	■	■			■	■	■	M	M	M	■	■	■				■	■	M	M	M	M		
RNR 60					M	M	M	M	M	M			M	M	M	M	M	M	M	M	M				M	M	M	M	M	M		
RNC 65	1/4	300	Char. H, J 49.9Ω/1 Meg. Char. K 24.9Ω/3 Meg.	FE-25	■	■	M	M	■	■			■	■	■	M	M	M	■	■	■				■	■	M	M	M	M		
RNR 65					M	M	M	M	M	M			M	M	M	M	M	M	M	M	M				M	M	M	M	M	M		
RNC 70	1/2	350	24.9Ω/4.02 Meg.																													
RNR 70																																

Not available per MIL specification — Available per MIL specification — M Available from Mepco — ■ Mepco recommendation

Typical Military Type Designation for Non-Hermetic Seal Types

RNC 55 (Style and terminal) — H (Characteristic) — 49R9 (Resistance) — F (Tolerance) — R (Failure Rate)

**RESISTANCE TOLERANCE TABLE

F =	±1.0%
D =	±0.5%
B =	±0.1%

LEAD DIAMETERS

RNR 50	AWG No. 26	.016 ± .002″	RNR 60	AWG No. 22	.025 ± .002″
RNR 54	AWG No. 22	.025 ± .002″	RNR 63	AWG No. 20	.033 ± .002″
RNR 55	AWG No. 22	.025 ± .002″	RNR 65	AWG No. 22	.025 ± .002″
RNR 57	AWG No. 24	.020 ± .002″	RNR 70	AWG No. 20	.032 ± .002″

Lead diameters for RNC, RND and RNN identical to those above.

FAILURE RATE (Established at 60% confidence)

M	1.0	per cent per 1000 hours
P	0.1	per cent per 1000 hours
R	0.01	per cent per 1000 hours
S	0.001	per cent per 1000 hours

TERMINAL TYPE

Symbol	Terminal Type
RNR	Solderable
RNC	Solderable/Weldable (Type C of MIL-STD-1276)
RND	Weldable (Type D of MIL-STD-1276)
RNN	Weldable (Type N-2 of MIL-STD-1276)

MEPCO, INC. • COLUMBIA ROAD • MORRISTOWN, NEW JERSEY 07960

ERWC-1068-MCL

FE3-1168-MCL

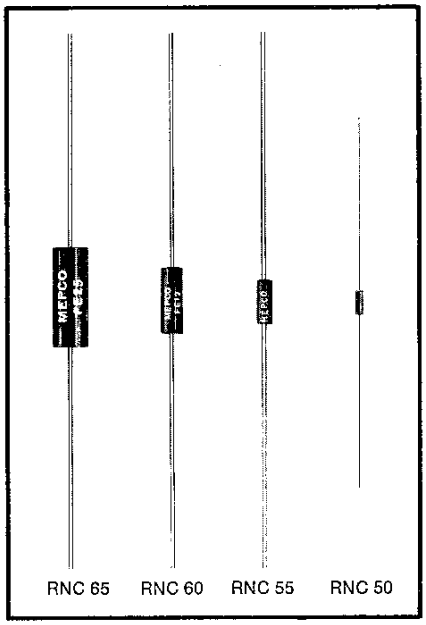
Estimated date 1969

MEPCO

MANUFACTURERS OF **PRECISION ELECTRONIC DEVICES**

RELIABILITY LEVELS A & B

MOLDED METAL FILM RESISTORS



MIL-R-55182, STYLE RNC CHARACTERISTICS H, J, and K FE SERIES

Wattage Ratings = 1/20, 1/10, 1/8 and 1/4 watt. @ 125° C
MIL-R-55182 Types: RNC50, 55, 60, 65
Temperature Coefficient: characteristic H = 50 ppm
characteristic J = 25 ppm
characteristic K = 100 ppm

Failure Rate:
Level A-.01%/1000 Hrs. (R)
Level B-1%/1000 Hrs. (M)

MEPCO FE Series resistors withstand the conditions of MIL-R-55182 environmental tests with wide margins of safety, and are well suited for stringent end use applications. Design, construction, material selection and in-process controls result in unmatched freedom from degradation.

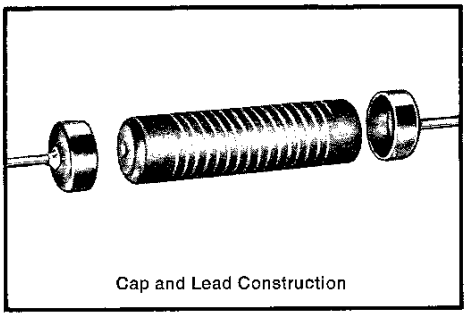
MEPCO FE Series Resistors Feature:

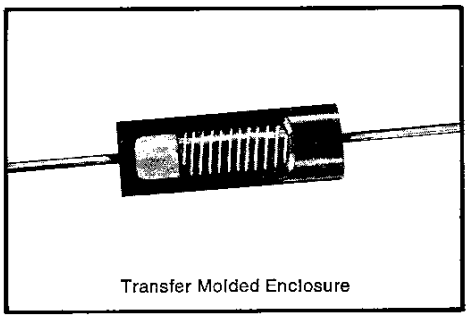
CAP AND LEAD CONSTRUCTION: The mechanical termination to the resistance element and the maintenance of positive electrical contact is accomplished through the use of cap and lead construction. Caps are designed to mate with the resistance element over a full 360 degrees. Cap material has been carefully selected to be compatible with substrate material in terms of expansion coefficient.

TRANSFER MOLDED ENCLOSURE: MEPCO's transfer encapsulation process provides uniform wall thickness around the resistance element. Holes and voids are eliminated. Damaging moisture and other environmental hazards cannot penetrate.

MEETS REQUIREMENTS OF MIL-STD-790: In-process controls are rigidly maintained in all phases of production. Frequent sampling and testing assures full compliance with established design standards and parameters. Failure analysis, corrective action, traceability and all the requirements of MIL-STD-790 are important elements of MEPCO's program.

MEPCO's FE series high reliability molded metal film resistors have gained wide acceptance on numerous major programs both as MIL types supplied to MIL-R-55182 and as parts made to specific customer specifications.


Cap and Lead Construction


Transfer Molded Enclosure

MEPCO, INC. - MORRISTOWN, NEW JERSEY 07960
Telephone: (201) 539-2000 TWX: 710-986-7437

MIL-R-55182-C CROSS REFERENCE SELECTOR CHART

MEPCO

MOLDED (Non-Hermetic Seal) TYPES (LEVELS A and B)

STYLE AND TERMINAL	WATTS	VOLTS	RESISTANCE RANGE *	MEPCO NUMBER	CHARACTERISTIC H (±50 ppm) — FAILURE RATE LEVEL — PER CENT/1000 HOURS								CHARACTERISTIC J = +/-25ppM — Failure Rate-- Percent/1000 hours									CHARACTERISTIC K = +/-100ppM — FAILURE RATE LEVEL — PER CENT/1000 HOURS							
					M 1.0%		P 0.1%		R 0.01%		S 0.001%		M 1.0%		P 0.1%		R 0.01%		S 0.001%			M 1.0%		P 0.1%		R 0.01%		S 0.001%	
					RESISTANCE TOLERANCE **								Resistance Tolerance**									Resistance Tolerance							
					D	F	D	F	D	F	D	F	B	D	F	B	D	F	B	D	F	D	F	D	F	D	F	D	F
RNC 50	1/20	200	Char. H, J 49.9Ω/100K Char. K 10Ω/200K	FE-5	SM	SM		M	SM	SM			SM	SM	SM	M	M	M	SM	SM	SM	SM	SM	M	M	M	M		
RNR 50					M	M		M	M	M			M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
RNR 54	1/10	200	49.9Ω/200K	FE-10		M		M		SM					M			M			SM								
RNC 55	1/10	200	Char. H, J 49.9Ω/100K Char. K 49.9Ω/301K	FE-10		SM		M		SM					SM			M			SM		SM		M		M		
RNR 55						M		M		M					M			M			M		M		M		M		
RNC 60	1/8	250	Char. H, J 49.9Ω/499K Char. K 24.9Ω/1.5 Meg.	FE-12	SM	SM	M	M	SM	SM			SM	SM	SM	M	M	M	SM	SM	SM	SM	SM	M	M	M	M		
RNR 60					M	M	M	M	M	M			M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
RNC 65	1/4	300	Char. H, J 49.9Ω/1 Meg. Char. K 24.9Ω/3 Meg.	FE-25	SM	SM	M	M	SM	SM			SM	SM	SM	M	M	M	SM	SM	SM	SM	SM	M	M	M	M		
RNR 65					M	M	M	M	M	M			M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
RNC 70	1/2	350	24.9Ω/4.02 Meg.																										
RNR 70																													

Not available per MIL specification — Available per MIL specification — M Available from Mepco — SM Mepco recommendation

*See table below for Mepco resistance ranges.

Typical Military Type Designation for Non-Hermetic Seal Types

RNC 55	H	49R9	F	R
STYLE AND TERMINAL TYPE	CHARACTERISTIC	RESISTANCE	TOLERANCE	LIFE FAILURE RATE

**RESISTANCE TOLERANCE TABLE
F = ±1.0%
D = ±0.5%
B = ±0.1%

TERMINAL TYPE

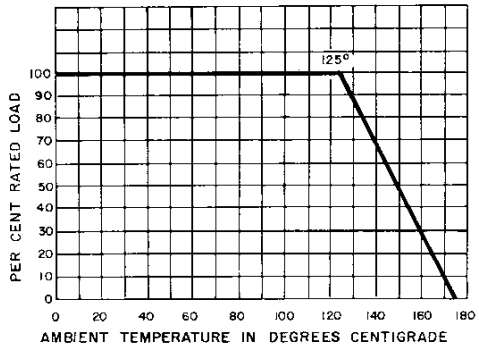
Symbol	Terminal Type
RNC	Solderable/Weldable (Type C of MIL-STD-1276)
RNR	Solderable

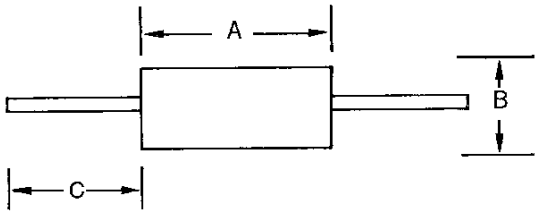
MEPCO PART SPECIFICATIONS

MODEL	WATTAGE RATING @ 125°C	MEPCO RESISTANCE RANGE	TOLERANCES	MAXIMUM VOLTAGE	DIMENSIONS A LENGTH	B DIAMETER	C LEADS	*CL to CL
FE 5 RNC50	1/20 WATT	100PPM 100Ω –100K 50PPM 100Ω –100K 25PPM 100Ω –100K	1%, .5% 1%, .5% 1%, .5%, .1%	200V	.149 ± .005	.062 ± .003	1″ No. 26 AWG	.216
FE 10 RNC55	1/10 WATT	100PPM 49.9Ω–100K 50PPM 49.9Ω–100K 25PPM 49.9Ω–100K	1.0% 1.0% 1.0%	200V	.265 ± .005	.095 ± .003	1½″ No. 22 AWG	.332
FE 12 RNC60	1/8 WATT	100PPM 49.9Ω–499K 50PPM 49.9Ω–499K 25PPM 49.9Ω–499K	1%, .5% 1%, .5% 1%, .5%, .1%	250V	.395 ± .005	.133 ± .003	1½″ No. 22 AWG	.524
FE 25 RNC65	1/4 WATT	100PPM 49.9Ω–1 MEG 50PPM 49.9Ω–1 MEG 25PPM 49.9Ω–1 MEG	1%, .5% 1%, .5% 1%, .5%, .1%	300V	.590 ± .010	.216 ± .004	1½″ No. 22 AWG	.724

*Clean lead to clean lead.

DERATING CURVE





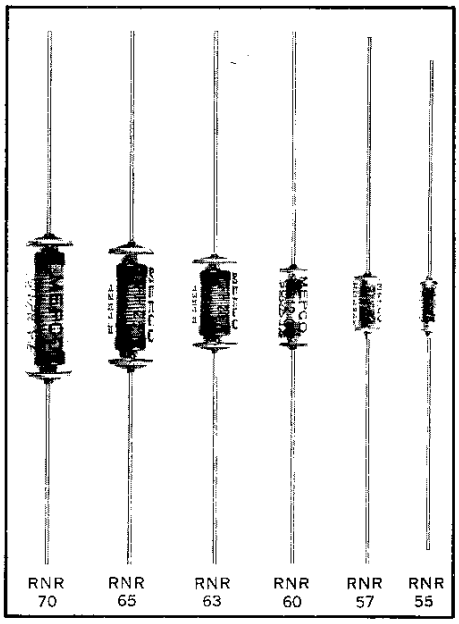
FH2-1168-MCL

MEPCO

MANUFACTURERS OF **PRECISION ELECTRONIC DEVICES**

RELIABILITY LEVEL AA

HERMETIC SEAL METAL FILM RESISTORS



MIL-R-55182, STYLE RNR
CHARACTERISTICS C and E
FH SERIES

- Wattage Ratings: 1/10, 1/8, 1/4, and 1/2 watt @ 125° C
- MIL-R-55182 Types: RNR55, 57, 60, 63, 65, 70
- Temperature Coefficient: Characteristic C = 50 ppm
  Characteristic E = 25 ppm
- Failure Rate: 0.001%/1000 Hrs. (S)

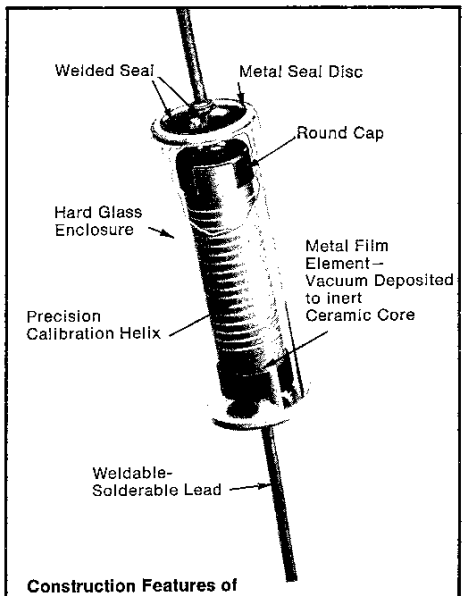
MEPCO FH series resistors conform to the stringent requirements of Established Reliability specification MIL-R-55182. At every stage of manufacture, rigid in-process control and testing techniques guarantee the highest possible performance levels and the utmost in reliability.

TRUE HERMETIC SEAL ENCLOSURE: The enclosure of FH Series Resistors is a true hermetic seal made by fusing glass to metal. The glass enclosure provides isolation of the resistance element from the surrounding environment. The case is helium filled to assure the essential operating environment for stable performance and long life. Each finished resistor is tested for leak rate of $>10^{-8}$ cc/sec. to prove the effectiveness of the hermetic seal.

ABSOLUTE UNIFORMITY: All possible steps are taken to assure absolute uniformity in the quality of FH Resistors. Cores are made of pure, inert, carefully selected ceramics. Close control results in cores that comply with tight dimensional requirements and are free from surface imperfections.

Advanced manufacturing methods assure the basic characteristics and features essential to long life and stable performance. The utmost care is taken to provide a homogeneous and uniform metallic film. The film is terminated by a cap and lead assembly that provides 360° of metal-to-metal contact. Gold-plated nickel leads facilitate soldering or welding.

MEPCO FH Series Resistors have been space-proven in every major missile, satellite and aerospace project. MEPCO has established screening and quality assurance programs to meet the special needs of these projects. Positive lot identification can be provided, as well as complete traceability for every part.



Construction Features of Hermetic Sealed Metal Film Resistor—Series FH

MEPCO, INC. - MORRISTOWN, NEW JERSEY 07960

Telephone: (201) 539-2000 TWX: 710-986-7437

Mepco Hermetic Seal
Metal Film Resistors

Date-before 1971

MIL-R-55182-C CROSS REFERENCE SELECTOR CHART

MEPCO

HERMETIC SEAL TYPES (LEVEL AA)

STYLE AND TERMINAL	WATTS	VOLTS	RESISTANCE RANGE *	MEPCO NUMBER	CHARACTERISTIC C (±50 ppm) — FAILURE RATE LEVEL — PER CENT/1000 HOURS								CHARACTERISTIC E = +/-25/ppM — Failure Rate percent/1000hrs								
					M 1.0%		P 0.1%		R 0.01%		S 0.001%		M 1.0%		P 0.1%		R 0.01%		S 0.001%		
					RESISTANCE TOLERANCE**								Resistance Tolerance								
					D	F	D	F	D	F	D	F	B	D	F	B	D	F	B	D	F
RNR 55						M		M		M		■			M			M			■
RND 55	1/10	200	49.9Ω/100K	FH-10																	
RNN 55						M		M		M		M			M			M			M
RNR 57						M		M		M		■			M			M			■
RND 57	1/8	250	10Ω/200K	FH-11																	
RNN 57						M		M		M		M			M			M			M
RNR 60					M	M	M	M	M	M	■	■	M	M	M	M	M	M	M	M	M	■	■	■
RND 60	1/8	250	49.9Ω/499K	FH-12																			
RNN 60					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
RNR 63					M	M	M	M	M	M	■	■	M	M	M	M	M	M	M	M	M	■	■	■
RND 63	1/4	300	49.9Ω/1 Meg	FH-20																			
RNN 63					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
RNR 65					M	M	M	M	M	M	■	■	M	M	M	M	M	M	M	M	M	■	■	■
RND 65	1/4	300	49.9Ω/1 Meg	FH-25																			
RNN 65					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
RNR 70					M	M	M	M	M	M	■	■	M	M	M	M	M	M	M	M	M	■	■	■
RND 70	1/2	350	24.9Ω/1 Meg	FH-50																			
RNN 70					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

**RESISTANCE TOLERANCE TABLE

F = ±1.0%
D = ±0.5%
B = ±0.1%

TERMINAL TYPE

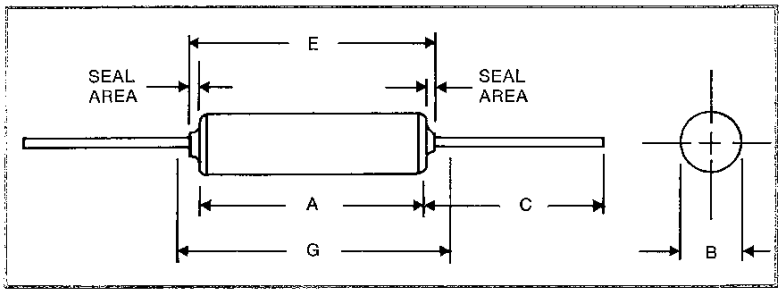
Symbol	Terminal Type
RNR	Solderable
RND	Weldable (Type D of MIL-STD-1276)
RNN	Weldable (Type N-2 of MIL-STD-1276)

□ Not available per Mil specification Available per Mil specification M Available from Mepco ■ Mepco recommendation

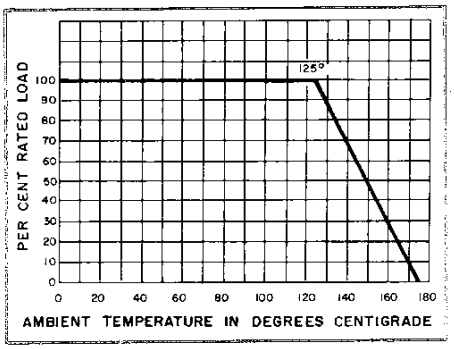
*See table below for Mepco resistance ranges.

Typical Military Type Designation for Hermetic Seal Type

RNR 55 — STYLE AND TERMINAL TYPE
C — CHARACTERISTIC
49R9 — RESISTANCE
F — TOLERANCE
S — LIFE FAILURE RATE



DERATING CURVE



MEPCO PART SPECIFICATIONS

MODEL	WATTAGE RATING @ 125°C	MEPCO RESISTANCE RANGE	TOLERANCES	MAXIMUM VOLTAGE	DIMENSIONS A LENGTH	B DIAMETER	C LEADS	E MAX. CASE LENGTH PLUS SEAL AREA	G *CL to CL	AVG. WT. GMS.
FH10 RNR55	1/10 WATT	50PPM 49.9Ω–100K 25PPM 49.9Ω–100K	1% 1%	200V	.272 ± .009	.110 ± .010	1½" ± ⅛ #22 AWG	—	.345	.3141
FH11 RNR57	1/8 WATT	50PPM 10Ω –200K 25PPM 49.9Ω–200K	1% 1%	250V	.301 ± .010	.147 ± .003	1¼" ± ⅛ #24 AWG	.362	.426	.3171
FH12 RNR60	1/8 WATT	50PPM 49.9Ω–499K 25PPM 49.9Ω–499K	1%, .5% 1%, .5%, .1%	250V	.422 ± .015	.147 ± .003	1½" ± ⅛ #22 AWG	.500	.561	.4848
FH20 RNR63	1/4 WATT	50PPM 49.9Ω–1 MEG 25PPM 49.9Ω–1 MEG	1%, .5% 1%, .5%, .1%	300V	.545 ± .015	.235 ± .005	1½" ± ⅛ #20 AWG	—	.624	1.2162
FH25 RNR65	1/4 WATT	50PPM 49.9Ω–1 MEG 25PPM 49.9Ω–1 MEG	1%, .5% 1%, .5%, .1%	300V	.641 ± .015	.243 ± .008	1½" ± ⅛ #22 AWG	.740	.780	1.2597
FH50 RNR70	1/2 WATT	50PPM 24.9Ω–1 MEG 25PPM 24.9Ω–1 MEG	1%, .5% 1%, .5%, .1%	350V	.781 ± .015	.243 ± .008	1½" ± ⅛ #20 AWG	.875	.939	1.5753

*Clean Lead to Clean Lead.