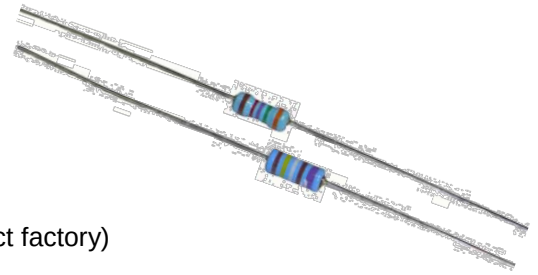
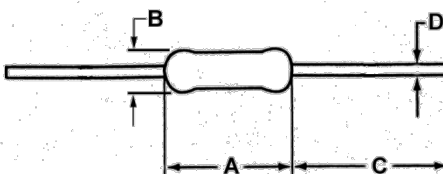


- Features:
- Precision metal film
 - Superior electrical, TCR performances
 - Flame-retardant coatings are standard
 - Panasert available (selected sizes: contact factory)
 - RNMF (mini) an ideal choice where size constraints apply
 - RNF 5% replaces MP series
 - RoHS compliant / lead-free
 - Lower or higher resistance values may be possible (contact factory)



Electrical Specifications												
Type / Code	Mil Ref	Power Rating (Watts) @ 70°C	Maximum Working Voltage (Vrms) (1)	Maximum Overload Voltage (Vrms)	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance						
						0.05%	0.1%	0.25%	0.5%	1%	2%	5%
RNF18	RN 50	0.125W	200V	400V	±10 ppm/°C	100 - 100K	100 - 100K	100 - 100K	100 - 100K	100 - 100K	-	-
					±25 ppm/°C	100 - 100K	100 - 100K	100 - 100K	30.1 - 499K	49.9 - 499K	-	-
					±50 ppm/°C	100 - 100K	100 - 100K	100 - 100K	10 - 1M	1 - 1M	-	-
					±100 ppm/°C	100 - 100K	51.1 - 100K	100 - 100K	10 - 1M	1 - 10M	1 - 22M	1 - 22M
RNF14	RN 55	0.25W	250V	500V	±10 ppm/°C	100 - 100K	100 - 100K	-	-	-	-	-
					±25 ppm/°C	100 - 100K	1 - 2.2M	1 - 2.2M	1 - 2.2M	10 - 1M	-	-
					±50 ppm/°C	100 - 100K	1 - 2.2M	1 - 2.2M	1 - 2.2M	1 - 5.11M	-	1.1M - 10M
					±100 ppm/°C	100 - 100K	1 - 2.2M	1 - 2.2M	1 - 2.2M	1 - 10M	5.6 - 10M	1 - 10M
RNF12	RN 60	0.5W	350V	700V	±25 ppm/°C	100 - 100K	100 - 100K	100 - 100K	49.9 - 499K	49.9 - 499K	-	-
					±50 ppm/°C	100 - 100K	100 - 100K	100 - 100K	10 - 1M	1 - 4.99M	-	-
					±100 ppm/°C	100 - 100K	100 - 100K	100 - 100K	10 - 1M	1 - 10M	1 - 10M	1 - 10M
RNF1	RN 65	1W	350V	700V	±25 ppm/°C	-	-	-	-	-	-	-
					±50 ppm/°C	-	-	-	10 - 1M	10 - 470K	-	-
					±100 ppm/°C	-	-	-	10 - 1M	1 - 1M	-	-
RNF2	-	2W	350V	800V	±25 ppm/°C	-	-	-	-	-	-	-
					±50 ppm/°C	-	-	-	-	10 - 1M	-	-
					±100 ppm/°C	-	-	-	-	10 - 1M	-	10 - 1M
RNMF14	-	0.25W	200V	400V	±25 ppm/°C	-	100 - 100K	100 - 100K	30.1 - 499K	30.1 - 499K	-	-
					±50 ppm/°C	-	100 - 100K	100 - 100K	10 - 1M	1 - 1M	-	-
					±100 ppm/°C	-	100 - 100K	100 - 100K	10 - 1M	1 - 2.15M	1 - 2.2M	1 - 2.2M
RNMF12	RL 07	0.5W	350V	600V	±25 ppm/°C	-	30.1 - 294K	30.1 - 294K	49.9 - 1M	49.9 - 1M	-	-
					±50 ppm/°C	-	30.1 - 1M	30.1 - 1M	10 - 1M	1 - 1M	-	-
					±100 ppm/°C	-	30.1 - 1M	30.1 - 1M	10 - 1M	1 - 10M	1 - 10M	1 - 10M

(1) Lesser of $\sqrt{PR}$ or maximum working voltage



Mechanical Specifications					
Type / Code	A Body Length	B Body Diameter	C Lead Length (Bulk)	D Lead Diameter	Unit
RNF18	0.130 ± 0.012	0.071 ± 0.012	1.102 ± 0.118	0.018 ± 0.003	inches
	3.30 ± 0.30	1.80 ± 0.30	28.00 ± 3.00	0.45 ± 0.07	mm
RNF14	0.250 ± 0.026	0.093 ± 0.010	1.102 ± 0.118	0.022 ± 0.003	inches
	6.35 ± 0.65	2.35 ± 0.25	28.00 ± 3.00	0.56 ± 0.08	mm
RNF12	0.344 ± 0.030	0.108 ± 0.039	1.102 ± 0.197	0.026 ± 0.004	inches
	8.75 ± 0.75	2.75 ± 1.00	28.00 ± 5.00	0.65 ± 0.10	mm
RNF1	0.433 ± 0.039	0.177 ± 0.020	1.181 ± 0.118	0.030 ± 0.002	inches
	11.00 ± 1.00	4.50 ± 0.50	30.00 ± 3.00	0.75 ± 0.05	mm
RNF2	0.591 ± 0.039	0.197 ± 0.020	1.339 ± 0.157	0.028 ± 0.004	inches
	15.00 ± 1.00	5.00 ± 0.50	34.00 ± 4.00	0.70 ± 0.10	mm
RNMF14	0.130 ± 0.012	0.070 ± 0.003	1.102 ± 0.118	0.017 ± 0.002	inches
	3.30 ± 0.30	1.78 ± 0.08	28.00 ± 3.00	0.44 ± 0.05	mm
RNMF12	0.250 ± 0.026	0.093 ± 0.010	1.102 ± 0.118	0.022 ± 0.003	inches
	6.35 ± 0.65	2.35 ± 0.25	28.00 ± 3.00	0.56 ± 0.08	mm

Performance Characteristics		
Test	Standard / Method	Requirement
Biased Humidity	MIL-STD 202, Method 103	± 1.5%
Resistance to Solder Heat	MIL-STD 202, Method 210	± 0.5%
Insulation Resistance	JIS C 5202 5.6	± 0.5%
Load Life	MIL-STD 202, Method 108	± 1%
Terminal Strength	MIL-STD 202, Method 211	± 0.2%
Temperature Cycling	JESD22 Method JA-104	± 1%
Moisture Resistance	MIL-STD 202, Method 106	± 0.5%

Operating Temperature Range: -55°C to +155°C

Power Derating Curve:

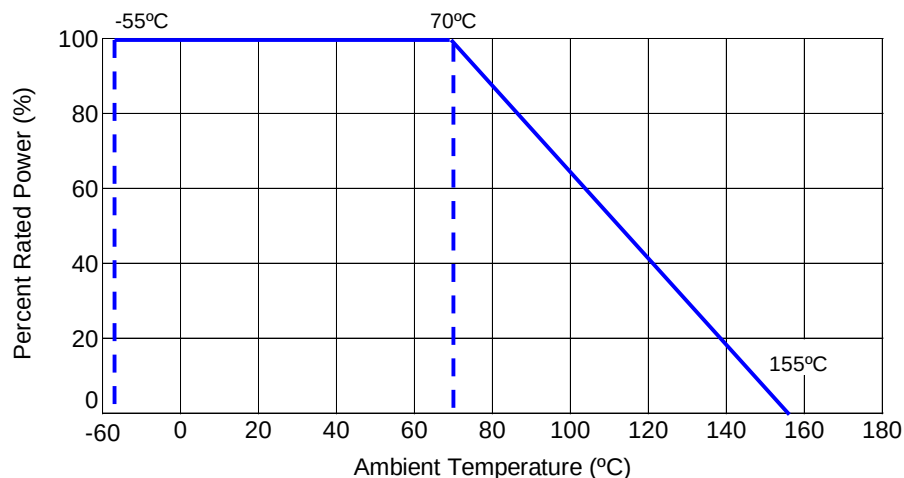


Figure 10 is a line graph showing the relationship between Surface Temperature Rise (°C) and Percent Rated Power (%) for five different transformer models: RNMf12, RNF12, RNMf14, RNF14, and RNF18. The x-axis represents Percent Rated Power (%) from 0 to 100, and the y-axis represents Surface Temperature Rise (°C) from 0 to 70. All models show a linear increase in temperature rise with increasing power. RNMf12 has the highest temperature rise, followed by RNF12, RNMf14, RNF14, and RNF18 has the lowest.

Percent Rated Power (%)	RNMf12 (°C)	RNF12 (°C)	RNMf14 (°C)	RNF14 (°C)	RNF18 (°C)
0	2	2	2	2	2
20	12	10	8	6	4
40	22	18	14	10	7
60	32	26	20	14	10
80	42	34	26	18	13
100	52	42	32	22	16

Product Series		Size	Power	Tolerance			Packaging				TCR		Resistance Value
Code	Description			Code	Tol	Value	Code	Description	Size	Quantity	Code	ppm	
RNF	Standard	18	0.125W	A	0.05%	E96, E24	T	Tape and Reel	RNF18, RNF14 RNMF14, RNMF12	5,000	T	10	Four characters with the multiplier used as the decimal holder. 10 ohm = 10R0 10.2 Kohm = 10K2 1 Mohm = 1M00
RNMF	Mini	14	0.25W	B	0.1%		RNF12, RNF1		2,500	E	25		
PRNF	Panaset RoHS	12	0.5W	C	0.25%		RNF2		1,000	C	50		
		1	1W	D	0.5%					D	100		
		2	2W	F	1%	E24	A	Ammo	RNF18, RNF14 RNMF14, RNMF12	5,000 (*)			
			G	2%	RNF12		2,000						
			J	5%	RNF1, RNF2		1,000						
							B	Bulk	RNF18, RNF14, RNF12, RNF2 RNMF12, RNMF14	1,000			

Legacy Part Number (before January 3, 2011):

SEI Type	Code	TCR	Nominal Resistance	Tolerance		Packaging				
RNF	1/4	T1	4.75K	1%		R				
Type	Description	Code	TCR	Tol	Values	SEI Types		Pkg Qty	Code	Description
RNF	Standard	1/8	T1 100ppm	0.05%	E96, E24	RNF18, RNF14, RNMF14, RNMF12		5,000	R	Tape and Reel
RNMF	Mini	1/4	T2 50ppm	0.1%		RNF12, RNF1		2,500		
PRN	Panasert	1/2	T9 25ppm	0.25%		RNF2		1,000		
PRNF	Pana - RoHS	1	TB 10ppm	0.5%		RNF18, RNF14, RNFM14, RNMF12		5,000 (*)		
		2		1%		RNF12		2,000	T	Ammo
				5%	E24	RNF1, RNF2		1,000		
						RNF18, RNF14, RNF12, RNF2, RNF1, RNMF14, RNMF12		1,000	A	Bulk

Rev Date: 01/24/2014