

RHEF Series

Radial Leaded



Description

Littelfuse PolySwitch radial-leaded devices represent the most comprehensive and complete set of PPTC products available in the industry today. RHEF series offers flatter thermal derating and operating temperatures up to 125°C.

Features & Benefits

- Resettable and single-use overcurrent devices
- Wide range of form factor and termination methods
- Devices compatible with high-volume electronics assembly
- RoHS compliant, Lead-Free and Halogen-Free

Additional Information



Resources



Accessories



Samples

Agency Approvals

Agency	Agency File Number
	E74889
	78165
	72161789

Applications

- Satellite video receivers
- Industrial controls
- Transformers
- Computer motherboards
- Modems
- USB hubs, ports and peripherals
- IEEE 1394 ports
- CD-ROMs
- Game machines
- Battery packs
- Phones
- Fax machines
- Analog and digital line cards
- Printers

Electrical Characteristics

Part Number	Ordering Part Number	I_H	I_T	V_{MAX}		I_{MAX}		$P_{D\ Typ}$	Max Time-to-trip		R_{MIN}	R_{MAX}	R_{1MAX}	Lead Size (mm ² /AWG)
		(A)	(A)	(V _{DC})	(V _{AC RMS})	(DC _{ADC})	(AC _{ARMS})	(W)	(A)	(s)	(Ω)	(Ω)	(Ω)	
RHEF* – 30V - High Temperature														
RHEF050	RF3295-000	0.5	0.9	30	—	40	—	0.9	2.5	2.5	0.480	0.780	1.10	0.205/24
RHEF070	RF3208-000	0.7	1.4	30	—	40	—	1.4	3.5	3.2	0.300	0.540	0.80	0.205/24
RHEF100	RF3300-000	1.0	1.8	30	—	40	—	1.4	5.0	5.2	0.180	0.300	0.43	0.205/24

Notes:

I_H : Hold current: maximum current device will pass without interruption in 20°C still air.
 I_T : Trip current: minimum current that will switch the device from low resistance to high resistance in 20°C still air.
 V_{MAX} : Maximum continuous voltage device can withstand without damage at rated current.
 I_{MAX} : Maximum fault current device can withstand without damage at rated voltage.
 P_D : Power dissipated from device when in the tripped state in 20°C still air.

R_{MIN} : Minimum resistance of device as supplied at 20°C unless otherwise specified.
 R_{MAX} : Maximum resistance of device as supplied at 20°C unless otherwise specified.
 R_{1MAX} : Maximum resistance of device when measured one hour post reflow (surface-mount device) or one hour post trip (radial-leaded device) at 20°C unless otherwise specified.

* Electrical characteristics determined at 25°C.

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Electrical Characteristics (Cont'd)

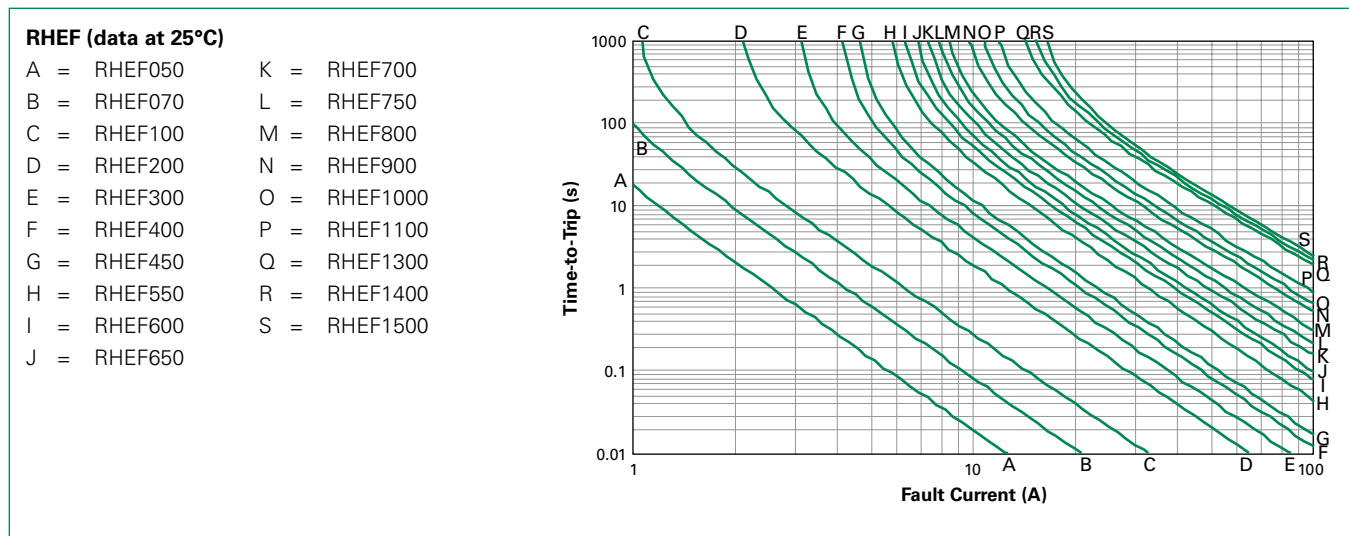
Part Number	Ordering Part Number	I_H	I_T	V_{MAX}		I_{MAX}		$P_{D\ TYP}$	Max Time-to-trip		R_{MIN}	R_{MAX}	R_{1MAX}	Lead Size (mm ² /AWG)
		(A)	(A)	(V _{DC})	(V _{AC RMS})	(DC _{ADC})	(AC _{ARMS})	(W)	(A)	(s)	(Ω)	(Ω)	(Ω)	
RHEF* – 16V - High Temperature														
RHEF200	RF3209-000	2.0	3.8	16	—	100	—	1.4	10.0	4.3	0.0450	0.07400	0.1100	0.205/24
RHEF300	RF3304-000	3.0	6.0	16	—	100	—	3.0	15.0	5.0	0.0330	0.05300	0.0790	0.520/20
RHEF400	RF3305-000	4.0	7.5	16	—	100	—	3.3	20.0	5.0	0.0240	0.04000	0.0600	0.520/20
RHEF450	RF3210-000	4.5	7.8	16	—	100	—	3.6	22.5	3.0	0.0220	0.03600	0.0540	0.520/20
RHEF550	RF3309-000	5.5	10.0	16	—	100	—	3.5	27.5	6.0	0.0150	0.02500	0.0370	0.520/20
RHEF600	RF3311-000	6.0	10.8	16	—	100	—	4.1	30.0	5.0	0.0130	0.02150	0.0320	0.520/20
RHEF650	RF3313-000	6.5	12.0	16	—	100	—	4.1	32.5	5.5	0.0110	0.01750	0.0260	0.520/20
RHEF700	RF3316-000	7.0	13.0	16	—	100	—	4.0	35.0	7.0	0.0100	0.01640	0.0250	0.520/20
RHEF750	RF3211-000	7.5	13.1	16	—	100	—	4.5	37.5	7.0	0.0094	0.01530	0.0220	0.520/20
RHEF800	RF3319-000	8.0	15.0	16	—	100	—	4.2	40.0	8.0	0.0080	0.01350	0.0200	0.520/20
RHEF900	RF3320-000	9.0	16.5	16	—	100	—	5.0	45.0	10.0	0.0074	0.01200	0.0170	0.520/20
RHEF1000	RF3321-000	10.0	18.5	16	—	100	—	5.3	50.0	9.0	0.0062	0.01050	0.0150	0.520/20
RHEF1100	RF3323-000	11.0	20.0	16	—	100	—	5.5	55.0	11.0	0.0055	0.00900	0.0130	0.520/20
RHEF1300	RF3324-000	13.0	24.0	16	—	100	—	6.9	65.0	13.0	0.0041	0.00690	0.0100	0.823/18
RHEF1400	RF3326-000	14.0	27.0	16	—	100	—	6.9	70.0	13.0	0.0030	0.00600	0.0090	0.823/18
RHEF1500	RF3060-000	15.0	28.0	16	—	100	—	7.0	75.0	20.0	0.0032	0.00613	0.0092	0.823/18

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 * Electrical characteristics determined at 25°C.

Typical Time-to-Trip Curves at 20°C



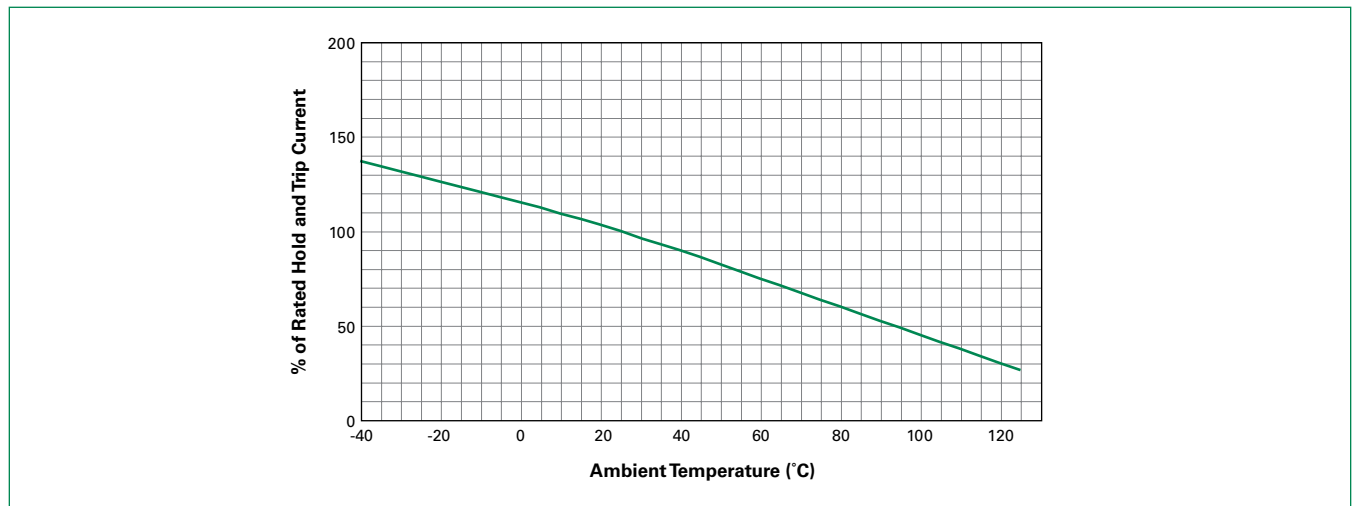
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Temperature Derating

Maximum Ambient Temperature											
	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	85°C	125°C
Hold Current (A)											
RHEF – 30V - High Temperature											
RHEF050	0.68	0.62	0.56	0.51	0.50	0.44	0.40	0.36	0.34	0.28	0.12
RHEF070	0.95	0.87	0.79	0.72	0.70	0.62	0.56	0.51	0.47	0.39	0.17
RHEF100	1.36	1.24	1.13	1.03	1.00	0.89	0.80	0.73	0.67	0.56	0.24
RHEF – 16V - High Temperature											
RHEF200	2.71	2.49	2.26	2.06	2.00	1.77	1.60	1.46	1.34	1.11	0.49
RHEF300	4.07	3.74	3.41	3.09	3.00	2.65	2.40	2.21	2.00	1.66	0.74
RHEF400	5.57	5.11	4.65	4.22	4.00	3.62	3.29	3.01	2.73	2.27	1.01
RHEF450	6.10	5.60	5.10	4.60	4.50	4.00	3.60	3.30	3.00	2.50	1.10
RHEF550	7.47	6.86	6.24	5.66	5.50	4.85	4.41	4.04	3.66	3.05	1.36
RHEF600	8.20	7.50	6.80	6.20	6.00	5.30	4.90	4.40	4.00	3.30	1.50
RHEF650	8.80	8.10	7.40	6.70	6.50	5.70	5.30	4.80	4.30	3.60	1.60
RHEF700	9.51	8.73	7.95	7.20	7.00	6.17	5.61	5.15	4.66	3.88	1.73
RHEF750	10.20	9.40	8.60	7.70	7.50	6.60	6.10	5.60	5.00	4.10	1.90
RHEF800	10.87	9.98	9.08	8.23	8.00	7.06	6.41	5.88	5.33	4.43	1.97
RHEF900	12.21	11.19	10.16	9.26	9.00	7.97	7.20	6.56	6.04	5.01	2.19
RHEF1000	13.60	12.50	11.40	10.30	10.00	8.80	8.10	7.40	6.60	5.50	2.50
RHEF1100	14.94	13.72	12.49	11.31	11.00	9.70	8.82	8.09	7.32	6.09	2.71
RHEF1300	17.70	16.30	14.80	13.40	13.00	11.40	10.50	9.60	8.60	7.20	3.30
RHEF1400	19.01	17.46	15.89	14.40	14.00	12.35	11.22	10.29	9.32	7.76	3.45
RHEF1500	20.40	18.80	17.10	15.50	15.00	13.20	12.10	11.10	9.90	8.30	3.80

Temperature Derating Curve



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Physical Specifications

Lead Material	RHEF050 to RHEF200 : Tin-plated Copper-clad Steel, 0.205mm ² (24AWG), ø0.51mm/0.020in RHEF300 to RHEF1100 : Tin-plated Copper, 0.52mm ² (20AWG), ø0.81mm/0.032in RHEF1300 to RHEF1500 : Tin-plated Copper, 0.82mm ² (18AWG), ø1.0mm/0.04in
Soldering Characteristics	Solderability per ANSI/J-STD-002 Category 3
Solder Heat Withstand	per IEC 60068-2-20, Test Tb, Method 1; Can withstand 10s at 260°C ±5°C
Insulating Material	Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0
Operation Temperature	-40°C~125°C

Note: Devices are not designed to be placed through a reflow process.

Environmental Specifications

Test	Conditions	Resistance Change
Passive Aging	70°C, 1000 hrs	±5%
	85°C, 1000 hrs	±5%
Humidity Aging	85°C, 85% R.H., 1000 hrs	±5%
Thermal Shock	125°C, -40°C (10 Times)	±5%
Solvent Resistance	MIL-STD-202, Method 215F	No change
Moisture Resistance Level	Level 1, J-STD-020	
Storage Conditions	40°C max, 70% RH max; devices should remain in original sealed bags prior to use. Devices may not meet specified values if these storage conditions are exceeded.	

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Dimension Figures

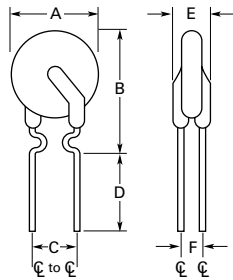


Figure 1

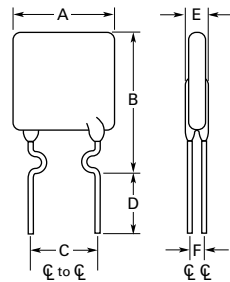


Figure 2

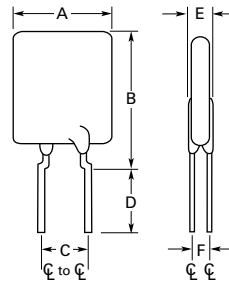


Figure 3

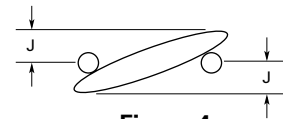


Figure 4

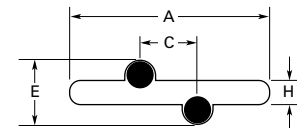


Figure 5

Dimensions and Weights

Part Number	Dimensions in Millimeters (Inches)													Figure	Device Mass (g) (Only for Reference)
	A		B		C		D		E		F	H	J		
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Typ	Typ	Typ		
RHEF – 30V - High Temperature															
RHEF050	—	7.4 (0.29)	—	12.7 (0.50)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	1,4,5	0.177
RHEF070	—	6.9 (0.27)	—	10.8 (0.43)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	1.24 (0.049)	1.2 (0.05)	2,4,5	0.259
RHEF100	—	9.7 (0.38)	—	13.6 (0.54)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	—	—	—	1,4,5	0.312
RHEF – 16V - High Temperature															
RHEF200	—	9.4 (0.37)	—	14.4 (0.57)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.1 (0.12)	—	—	—	1,4,5	0.278
RHEF300	—	8.8 (0.35)	—	13.8 (0.55)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	3,4,5	0.433
RHEF400	—	10.0 (0.39)	—	15.0 (0.59)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	1.24 (0.049)	1.6 (0.06)	3,4,5	0.509
RHEF450	—	10.4 (0.41)	—	15.6 (0.61)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	1.24 (0.049)	1.6 (0.06)	3,4,5	0.605
RHEF550	—	11.2 (0.44)	—	18.9 (0.74)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	3,4,5	0.704
RHEF600	—	11.2 (0.44)	—	21.0 (0.83)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	1.24 (0.049)	1.7 (0.067)	3,4,5	0.792
RHEF650	—	12.7 (0.50)	—	22.2 (0.88)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	1.24 (0.049)	1.8 (0.07)	3,4,5	0.952
RHEF700	—	14.0 (0.55)	—	21.9 (0.86)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	3,4,5	0.850

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Dimension Figures

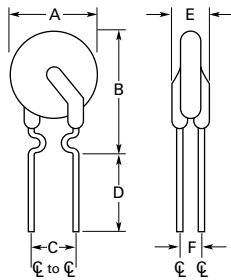


Figure 1

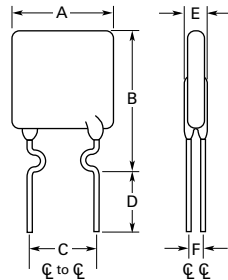


Figure 2

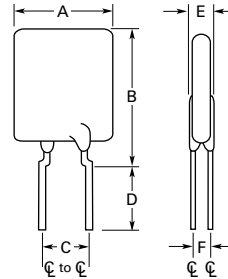


Figure 3

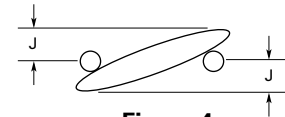


Figure 4

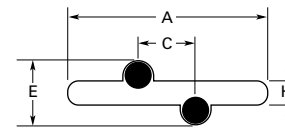


Figure 5

Dimensions and Weights (Cont'd)

Part Number	Dimensions in Millimeters (Inches)													Figure	Device Mass (g) (Only for Reference)
	A		B		C		D		E		F	H	J		
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Typ	Typ	Typ		
RHEF - 16V - High Temperature															
RHEF750	—	14.0 (0.55)	—	23.5 (0.93)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	1.24 (0.049)	2.0 (0.08)	3,4,5	1.054
RHEF800	—	16.5 (0.65)	—	22.5 (0.88)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	3,4,5	1.073
RHEF900	—	16.5 (0.65)	—	25.7 (1.01)	4.3 (0.17)	5.8 (0.23)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	3,4,5	1.516
RHEF1000	—	17.5 (0.69)	—	26.5 (1.04)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	1.24 (0.049)	1.5 (0.06)	3,4,5	1.791
RHEF1100	—	21.0 (0.83)	—	26.1 (1.03)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.0 (0.12)	1.2 (0.05)	—	—	3,4,5	1.570
RHEF1300	—	23.5 (0.925)	—	28.7 (1.13)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.6 (0.14)	1.4 (0.06)	1.45 (0.057)	1.9 (0.084)	3,4,5	2.257
RHEF1400	—	23.5 (0.925)	—	28.6 (1.13)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.6 (0.14)	1.4 (0.06)	—	—	3,4,5	2.051
RHEF1500	—	23.5 (0.925)	—	28.7 (1.13)	9.4 (0.37)	10.9 (0.43)	7.6 (0.30)	—	—	3.6 (0.14)	1.4 (0.06)	1.45 (0.057)	1.9 (0.084)	3,4,5	2.257

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Packaging and Marking Information

Part Number	Bag Quantity	Tape and Reel Quantity	Ammo Pack Quantity	Standard Package Quantity	Part Marking	Agency Recognition
RHEF – 30V - High Temperature						
RHEF050	500	—	—	10,000	H0.5	UL, CSA, TÜV
RHEF050-2	—	2,500	—	12,500	H0.5	UL, CSA, TÜV
RHEF070	500	—	—	10,000	H0.7	UL, CSA, TÜV
RHEF070-2	—	2,500	—	12,500	H0.7	UL, CSA, TÜV
RHEF100	500	—	—	10,000	H1	UL, CSA, TÜV
RHEF100-2	—	2,500	—	12,500	H1	UL, CSA, TÜV
RHEF – 16V - High Temperature						
RHEF200	500	—	—	10,000	H2	UL, CSA, TÜV
RHEF200-2	—	2,500	—	12,500	H2	UL, CSA, TÜV
RHEF200-AP	—	—	2,500	12,500	H2	UL, CSA, TÜV
RHEF300	500	—	—	10,000	H3	UL, CSA, TÜV
RHEF300-2	—	2,000	—	10,000	H3	UL, CSA, TÜV
RHEF300-AP	—	—	2,000	10,000	H3	UL, CSA, TÜV
RHEF400	500	—	—	10,000	H4	UL, CSA, TÜV
RHEF400-2	—	1,500	—	7,500	H4	UL, CSA, TÜV
RHEF400-AP	—	—	1,500	7,500	H4	UL, CSA, TÜV
RHEF450	500	—	—	10,000	H4.5	UL, CSA, TÜV
RHEF450-2	—	1,500	—	7,500	H4.5	UL, CSA, TÜV
RHEF450-AP	—	—	1,500	7,500	H4.5	UL, CSA, TÜV
RHEF550	500	—	—	10,000	H5.5	UL, CSA, TÜV
RHEF550-2	—	2,000	—	10,000	H5.5	UL, CSA, TÜV
RHEF550-AP	—	—	2,000	10,000	H5.5	UL, CSA, TÜV
RHEF600	500	—	—	10,000	H6	UL, CSA, TÜV
RHEF600-2	—	2,000	—	10,000	H6	UL, CSA, TÜV
RHEF600-AP	—	—	2,000	10,000	H6	UL, CSA, TÜV
RHEF650	500	—	—	10,000	H6.5	UL, CSA, TÜV
RHEF650-2	—	1,500	—	7,500	H6.5	UL, CSA, TÜV
RHEF650-AP	—	—	1,500	7,500	H6.5	UL, CSA, TÜV
RHEF700	500	—	—	10,000	H7	UL, CSA, TÜV
RHEF700-2	—	1,500	—	7,500	H7	UL, CSA, TÜV
RHEF700-AP	—	—	1,500	7,500	H7	UL, CSA, TÜV
RHEF750	500	—	—	10,000	H7.5	UL, CSA, TÜV
RHEF750-2	—	1,000	—	5,000	H7.5	UL, CSA, TÜV
RHEF750-AP	—	—	1,000	5,000	H7.5	UL, CSA, TÜV
RHEF800	500	—	—	10,000	H8	UL, CSA, TÜV
RHEF800-2	—	1,000	—	5,000	H8	UL, CSA, TÜV
RHEF800-AP	—	—	1,000	5,000	H8	UL, CSA, TÜV

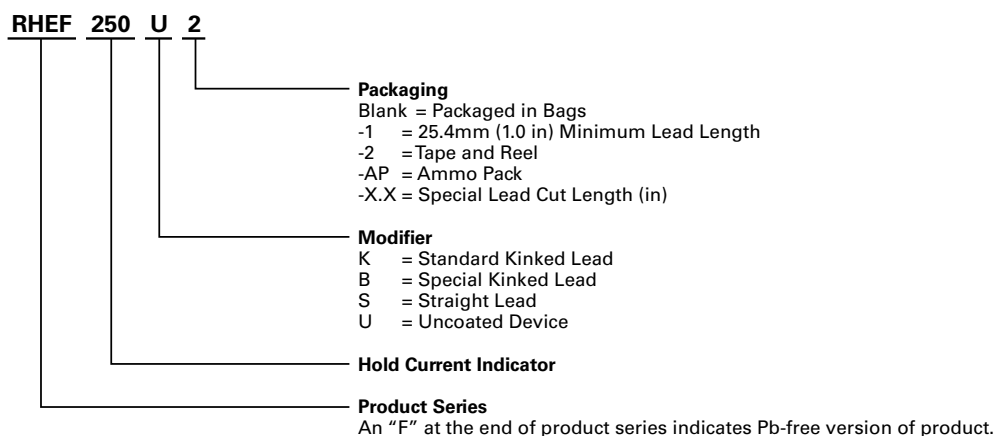
RHEF Series

Radial Leaded

Packaging and Marking Information (Cont'd)

Part Number	Bag Quantity	Tape and Reel Quantity	Ammo Pack Quantity	Standard Package Quantity	Part Marking	Agency Recognition
RHEF – 16V - High Temperature						
RHEF900	250	—	—	5,000	H9	UL, CSA, TÜV
RHEF900-2	—	1,000	—	5,000	H9	UL, CSA, TÜV
RHEF900-AP	—	—	1,000	5,000	H9	UL, CSA, TÜV
RHEF1000	250	—	—	5,000	H10	UL, CSA, TÜV
RHEF1000-2	—	1,000	—	5,000	H10	UL, CSA, TÜV
RHEF1000-AP	—	—	1,000	5,000	H10	UL, CSA, TÜV
RHEF1100	250	—	—	5,000	H11	UL, CSA, TÜV
RHEF1100-2	—	1,000	—	5,000	H11	UL, CSA, TÜV
RHEF1100-AP	—	—	1,000	5,000	H11	UL, CSA, TÜV
RHEF1300	250	—	—	5,000	H13	UL, CSA, TÜV
RHEF1300-2	—	1,000	—	5,000	H13	UL, CSA, TÜV
RHEF1300-AP	—	—	1,000	5,000	H13	UL, CSA, TÜV
RHEF1400	250	—	—	5,000	H14	UL, CSA, TÜV
RHEF1400-2	—	1,000	—	5,000	H14	UL, CSA, TÜV
RHEF1400-AP	—	—	1,000	5,000	H14	UL, CSA, TÜV
RHEF1500	250	—	—	5,000	H15	UL, CSA, TÜV
RHEF1500-2	—	1,000	—	5,000	H15	UL, CSA, TÜV
RHEF1500-AP	—	—	1,000	5,000	H15	UL, CSA, TÜV

Part Ordering Number System



Note: Kinked parts are recommended to control the height of the part on the PCB in non-auto PCB applications.

RHEF Series

Radial Ledged

Tape and Reel Specifications

RHEF devices are available in tape and reel packaging per EIA468-B/IEC60286-2 standards. See Figures 1 and 2 for details.

Description	EIA Mark	Dimension (mm)	Tolerance
Carrier Tape Width	W	18	-0.5/+1.0
Hold-Down Tape Width	W ₄	11	Minimum
Top Distance between Tape Edges	W ₆	3	Maximum
Sprocket Hole Position	W ₅	9	-0.5/+0.75
Sprocket Hole Diameter	D ₀	4	± 0.2
Abscissa to Plane (Straight Lead)	H	18.5	± 2.5
Abscissa to Plane (Kinked Lead) (RHEF050 to RHEF1500)	H ₀	16.0	± 0.5
Abscissa to Top (RHEF050 to RHEF450)	H ₁	32.2	Maximum
Abscissa to Top* (RHEF550 to RHEF1500)	H ₁	45.0	Maximum
Overall Width with Lead Protrusion (RHEF050 to RHEF450)	C ₁	43.2	Maximum
Overall Width with Lead Protrusion (RHEF550 to RHEF1500)	C ₁	55	Maximum
Overall Width without Lead Protrusion (RHEF050 to RHEF450)	C ₂	42.5	Maximum
Overall Width without Lead Protrusion (RHEF550 to RHEF1500)	C ₂	54	Maximum
Lead Protrusion	L ₁	1.0	Maximum
Protrusion of Cut-out	L	11	Maximum
Protrusion beyond Hold-down Tape	I ₂	Not Specified	—
Sprocket Hole Pitch	P ₀	12.7	± 0.3
Device Pitch (RHEF050 to RHEF600)	—	25.4	± 0.61
Device Pitch (RHEF650 to RHEF1500)	—	25.4	± 0.6
Pitch Tolerance	—	20 Consecutive	± 1
Tape Thickness	T	0.9	Maximum
Overall Tape and Lead Thickness* (RHEF050 to RHEF1100)	T ₁	2.0	Maximum
Overall Tape and Lead Thickness* (RHEF1300 to RHEF1500)	T ₁	2.3	Maximum
Splice Sprocket Hole Alignment	—	0	± 0.3
Body Lateral Deviation	Δh	0	± 1.0
Body Tape Plane Deviation	Δp	0	± 1.3
Ordinate to Adjacent Component Lead (RHEF050 to RHEF900)	P ₁	3.81	± 0.7
Ordinate to Adjacent Component Lead (RHEF1000 to RHEF1500)	P ₁	7.62	± 0.7
Lead Spacing* (RHEF050 to RHEF900)	F	5.05	± 0.75
Lead Spacing* (RHEF1000 to RHEF1500)	F	10.15	± 0.75
Reel Width (RHEF050 to RHEF450)	W ₂	56.0	Maximum
Reel Width* (RHEF550 to RHEF1500)	W ₂	63.5	Maximum
Reel Diameter	A	370.0	Maximum
Space between Flanges* (RHEF050 to RHEF450)	W ₁	48.0	Maximum
Space between Flanges* (RHEF550 to RHEF1500)	W ₁	55.0	Maximum
Arbor Hold Diameter	C	26.0	± 12.0
Core Diameter*	N	91.0	Maximum
Box	—	64/372/362	Maximum
Consecutive Missing Places	—	None	—
Empty Places per Reel	—	0.1%	Maximum

*Differs from EIA specification.

RHEF Series

Radial Leaded

Tape and Reel Diagrams

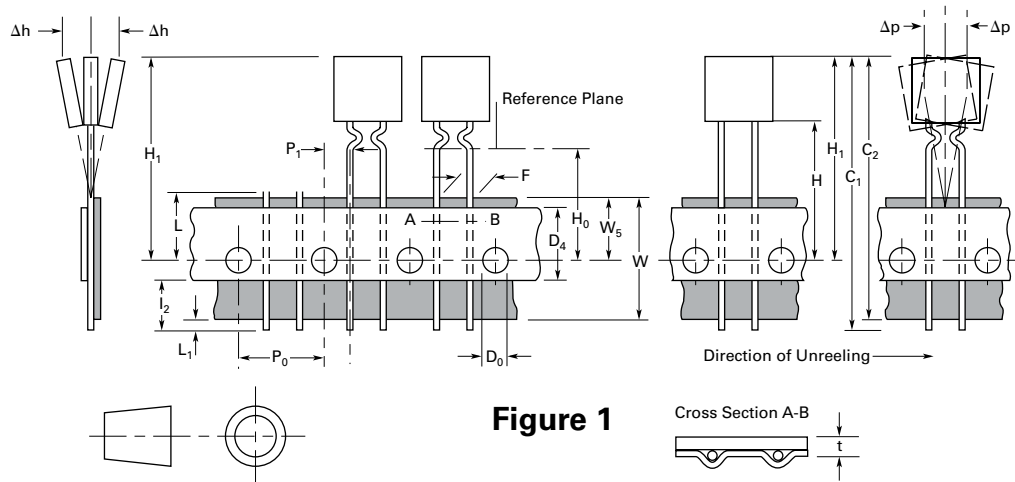


Figure 1

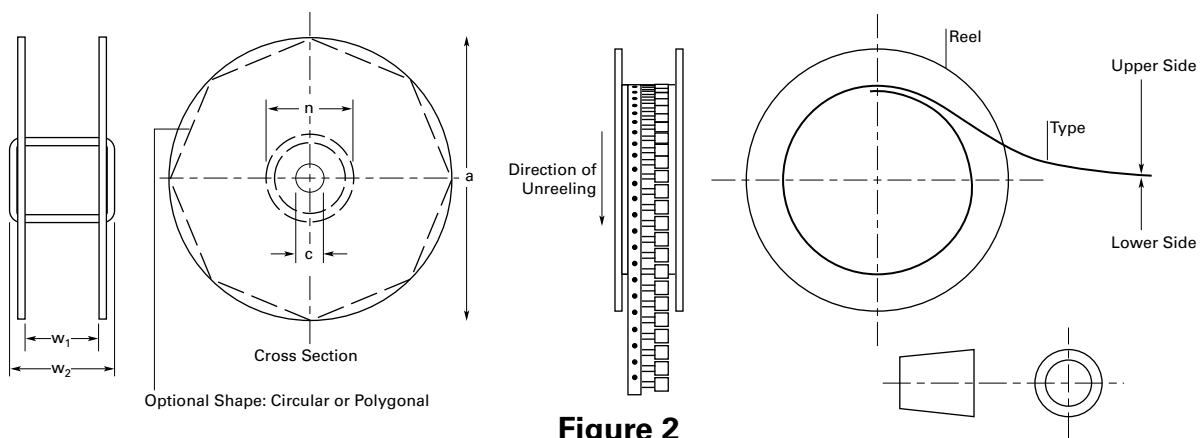


Figure 2

Warning

- Users should independently evaluate the suitability of and test each product selected for their own application.
- Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- These devices are intended for protection against damage caused by occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Contamination of the PPTC material with certain silicone-based oils or some aggressive solvents can adversely impact the performance of the devices.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- PPTC devices are not recommended for installation in applications where the device is constrained such that its PTC properties are inhibited, for example in rigid potting materials or in rigid housings, which lack adequate clearance to accommodate device expansion.
- Operation in circuits with a large inductance can generate a circuit voltage ($L di/dt$) above the rated voltage of the device.

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