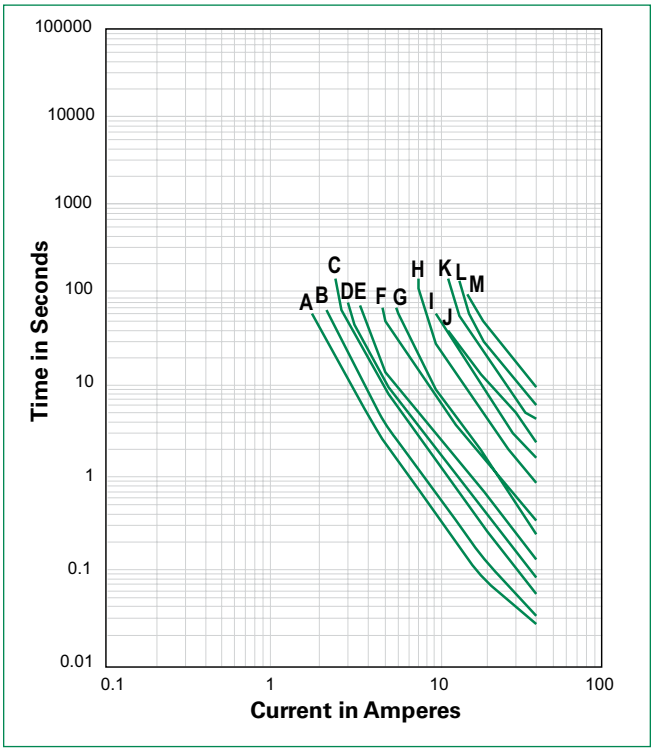
30R Series
Radial Leaded

Temperature Rerating

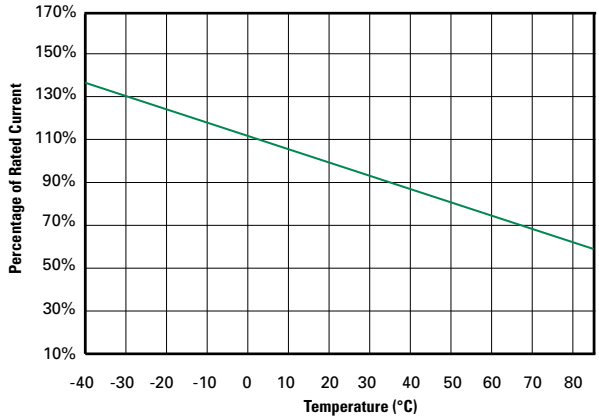
	Ambient Operation Temperature								
	-40°C	-20°C	0°C	20°C	40°C	50°C	60°C	70°C	85°C
Part Number	**Hold Current (A)**								
30R090U	1.31	1.17	1.04	0.90	0.75	0.69	0.61	0.55	0.47
30R110U	1.60	1.43	1.27	1.10	0.91	0.85	0.75	0.67	0.57
30R135U	1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.82	0.70
30R160U	2.32	2.08	1.84	1.60	1.33	1.23	1.09	0.98	0.83
30R185U	2.68	2.41	2.13	1.85	1.54	1.42	1.26	1.13	0.96
30R250U	3.63	3.25	2.88	2.50	2.08	1.93	1.70	1.53	1.30
30R300U	4.35	3.90	3.45	3.00	2.49	2.31	2.04	1.83	1.56
30R400U	5.80	5.20	4.60	4.00	3.32	3.08	2.72	2.44	2.08
30R500U	7.25	6.50	5.75	5.00	4.15	3.85	3.40	3.05	2.60
30R600U	8.70	7.80	6.90	6.00	4.98	4.62	4.08	3.66	3.12
30R700U	10.15	9.10	8.05	7.00	5.81	5.39	4.76	4.27	3.64
30R800U	11.60	10.40	9.20	8.00	6.64	6.16	5.44	4.88	4.16
30R900U	13.05	11.70	10.35	9.00	7.47	6.93	6.12	5.49	4.68

Average Time Current Curves



The average time current curves and Temperature Rerating curve performance is affected by a number or variables, and these curves provided as guidance only. Customer must verify the performance in their application.

Temperature Rerating Curve



Note: Typical Temperature rerating curve, refer to table for derating data

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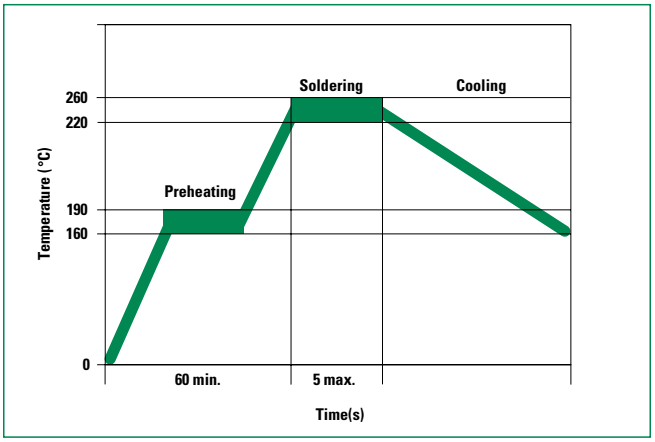
Soldering Parameters - Wave Soldering

Pre-Heating Zone	Refer to the condition recommended by the flux manufacturer. Max. ramping rate should not exceed 4°C/Sec.
Soldering Zone	Max. solder temperature should not exceed 260°C. Time within 5°C of actual Max. solder temperature within 3 - 5 seconds. Total time from 25°C room to Max. solder temperature within 5 minutes including Pre-Heating time.
Cooling Zone	Cooling by natural convection in air. Max. ramping down rate should not exceed 6°C/Sec.



Physical Specifications

Lead Material	0.90-1.85A: Tin-plated Copper clad steel 2.50-9.00A: Tin-plated Copper
Soldering Characteristics	Solderability per MIL–STD–202, Method 208
Insulating Material	Cured, flame retardant epoxy polymer meets UL94V-0 requirements.
Device Labeling	Marked with 'LF', voltage, current rating, and date code.

Environmental Specifications

Operating Temperature	-40°C to +85°C
Maximum Device Surface Temperature in Tripped State	125°C
Passive Aging	+85°C, 1000 hours -/+5% typical resistance change
Humidity Aging	+85°C, 85% R.H., 1000 hours -/+5% typical resistance change
Thermal Shock	+85°C to -40°C 10 times -/+5% typical resistance change
Solvent Resistance	MIL–STD–202, Method 215 No change
Moisture Resistance Level	Level 1, J–STD–020

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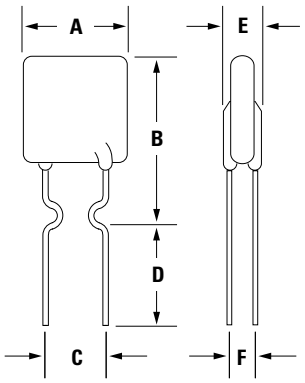
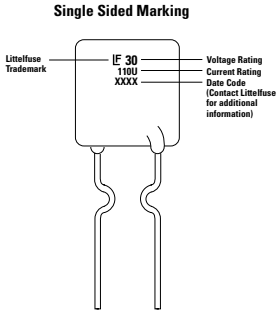
Dimensions & Part Marking System





Part Number	A		B		C		D		E		F		Physical Characteristics		
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Lead (dia)		Material
	Max.	Max.	Max.	Max.	Typ.	Typ.	Min.	Min.	Max.	Max.	Typ.	Typ.	Inches	mm	
30R090U	0.29	7.40	0.48	12.20	0.20	5.10	0.30	7.60	0.12	3.00	0.039	1.0	0.02	0.51	Sn/CuFe
30R110U	0.29	7.40	0.56	14.20	0.20	5.10	0.30	7.60	0.12	3.00	0.039	1.0	0.02	0.51	Sn/CuFe
30R135U	0.35	8.90	0.53	13.50	0.20	5.10	0.30	7.60	0.12	3.00	0.039	1.0	0.02	0.51	Sn/CuFe
30R160U	0.35	8.90	0.60	15.20	0.20	5.10	0.30	7.60	0.12	3.00	0.039	1.0	0.02	0.51	Sn/CuFe
30R185U	0.40	10.20	0.62	15.70	0.20	5.10	0.30	7.60	0.12	3.00	0.039	1.0	0.02	0.51	Sn/CuFe
30R250U	0.45	11.40	0.72	18.30	0.20	5.10	0.30	7.60	0.12	3.00	0.039	1.0	0.02	0.51	Sn/Cu
30R300U	0.45	11.40	0.76	19.20	0.20	5.10	0.30	7.60	0.12	3.00	0.047	1.2	0.03	0.81	Sn/Cu
30R400U	0.55	14.00	0.87	22.00	0.20	5.10	0.30	7.60	0.12	3.00	0.047	1.2	0.03	0.81	Sn/Cu
30R500U	0.55	14.00	1.01	25.60	0.40	10.20	0.30	7.60	0.12	3.00	0.047	1.2	0.03	0.81	Sn/Cu
30R600U	0.65	16.50	1.06	26.80	0.40	10.20	0.30	7.60	0.12	3.00	0.047	1.2	0.03	0.81	Sn/Cu
30R700U	0.75	19.10	1.13	28.60	0.40	10.20	0.30	7.60	0.12	3.00	0.047	1.2	0.03	0.81	Sn/Cu
30R800U	0.85	21.60	1.22	31.10	0.40	10.20	0.30	7.60	0.12	3.00	0.047	1.2	0.03	0.81	Sn/Cu
30R900U	0.95	24.10	1.24	31.60	0.40	10.20	0.30	7.60	0.12	3.00	0.047	1.2	0.03	0.81	Sn/Cu

Part Ordering Number System

30 R 250 U P R

- **Packaging Style**
  - **Blank:** Bulk
  - **R:** Tape & Ammo
- **Quantity Code:** F=200 H=100 M=1000 P=2000 U=500
- **Type:** U (30vdc)
- I_{Hold} **Current Code** (See Table Below)
- **R:** Radial
- **Series**
- **Voltage Rating (Vdc)**

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30R Series
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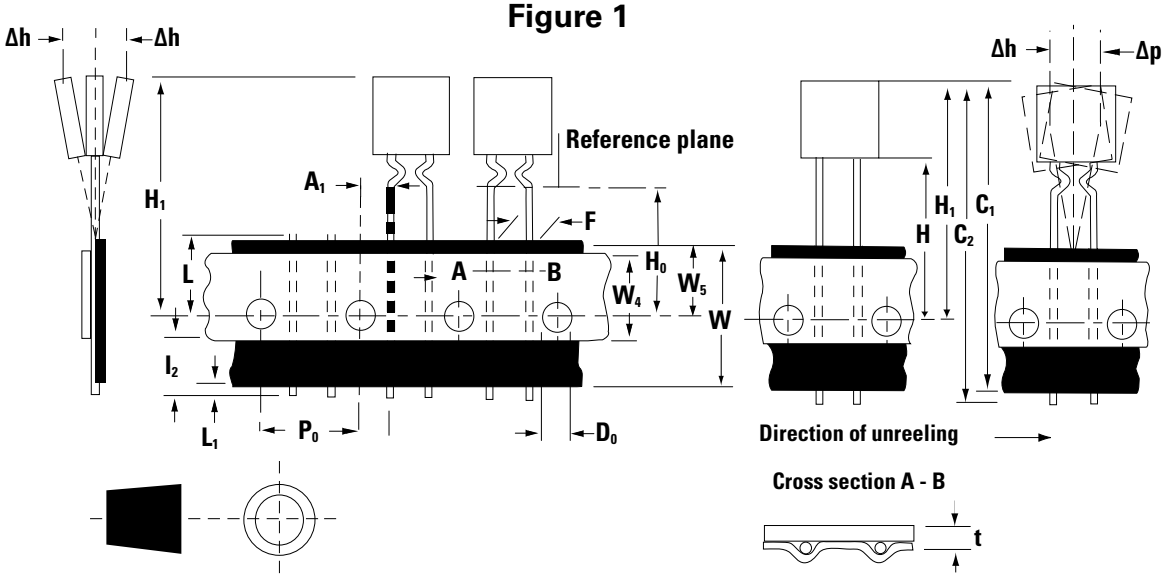
Packaging

Part Number	Ordering Number	I_{hold} (A)	I_{hold} Code	Packaging Option	Quantity	Quantity & Packaging Codes
30R090U	30R090UU	0.90	090	Bulk	500	U
	30R090UPR			Tape and Ammo	2000	PR
30R110U	30R110UU	1.10	110	Bulk	500	U
	30R110UPR			Tape and Ammo	2000	PR
30R135U	30R135UU	1.35	135	Bulk	500	U
	30R135UPR			Tape and Ammo	2000	PR
30R160U	30R160UU	1.60	160	Bulk	500	U
	30R160UPR			Tape and Ammo	2000	PR
30R185U	30R185UU	1.85	185	Bulk	500	U
	30R185UPR			Tape and Ammo	2000	PR
30R250U	30R250UU	2.50	250	Bulk	500	U
	30R250UPR			Tape and Ammo	2000	PR
30R300U	30R300UU	3.00	300	Bulk	500	U
	30R300UPR			Tape and Ammo	2000	PR
30R400U	30R400UF	4.00	400	Bulk	200	F
	30R400UMR			Tape and Ammo	1000	MR
30R500U	30R500UF	5.00	500	Bulk	200	F
	30R500UMR			Tape and Ammo	1000	MR
30R600U	30R600UF	6.00	600	Bulk	200	F
	30R600UMR			Tape and Ammo	1000	MR
30R700U	30R700UMR	7.00	700	Tape and Ammo	1000	MR
30R800U	30R800UH	8.00	800	Bulk	100	H
30R900U	30R900UH	9.00	900	Bulk	100	H
	30R900UMR	9.00	900	Tape and Ammo	1000	MR

Tape and Ammo Diagram

Figure 1



30R Series
Radial Leaded

Tape and Ammo Specifications

Devices taped using EIA468-B/IE286-2 standards. See table below and Figure 1 for details.

Dimension	EIA Mark	IEC Mark	Dimensions	
			Dim. (mm)	Tol. (mm)
Carrier tape width	**W**	**W**	18	-0.5 / +1.0
Hold down tape width:	**W_4**	**W_0**	11	min.
Top distance between tape edges	**W_6**	**W_2**	3	max.
Sprocket hole position	**W_5**	**W_1**	9	-0.5 / +0.75
Sprocket hole diameter*	**D_0**	**D_0**	4	-0.32 / +0.2
Abscissa to plane(straight lead)	**H**	**H**	18.5	-/+ 3.0
Abscissa to plane(kinked lead)	**H_0**	**H_0**	16	-/+ 0.5
Abscissa to top: 30R090-30R185	**H_1**	**H_1**	32.2	max.
Abscissa to top: 30R250-30R900	-	-	45.0	max.
Overall width w/o lead protrusion: 30R090-30R185	**C_1**	-	42.5	max.
Overall width w/o lead protrusion: 30R250-30R900	-	-	56	max.
Overall width w/ lead protrusion: 30R090-30R185	**C_2**	-	43.2	max.
Overall width w/ lead protrusion: 30R250-30R900	-	-	57	max.
Lead protrusion	**L_1**	**I_1**	1.0	max.
Protrusion of cut out	**L**	**L**	11	max.
Protrusion beyond hold–down tape	**I_2**	**I_2**	Not specified	-
Sprocket hole pitch: 30R090-30R300	**P_0**	**P_0**	12.7	-/+ 0.3
Sprocket hole pitch on: 30R400-30R900	**P_0**	**P_0**	25.4	-/+ 0.5
Device pitch: 30R090-30R300	-	-	12.7	-
Device pitch: 30R400-30R900	-	-	25.4	-
Pitch tolerance	-	-	20 consecutive.	-/+ 1
Tape thickness	**t**	**t**	0.9	max.
Tape thickness with splice: 30R090-30R250	**t_1**	-	1.5	max.
Tape thickness with splice: 30R300-30R900	**t_1**	-	2.0	max.
Splice sprocket hole alignment	-	-	0	-/+ 0.3
Body lateral deviation	**Δh**	**Δh**	0	-/+ 1.0
Body tape plane deviation	**Δp**	**Δp**	0	-/+ 1.3
Ordinate to adjacent component lead*	**P_1**	**P_1**	3.81	-/+ 0.7
Ordinate to adjacent component lead*	-	-	7.62	-/+ 0.7
Lead spacing: 30R090–30R400	**F**	**F**	5.08	-/+ 0.8
Lead spacing: 30R500-30R900	**F**	**F**	10.18	-/+ 0.8

Note: *Differs from EIA Specification

Warning
- Users shall independently assess the suitability of these devices for each of their applications
- Operation of these devices beyond the stated maximum ratings could result in damage to the devices and lead to electrical arcing and/or fire
- These devices are intended to protect against the effects of temporary over-current or over-temperature conditions and are not intended to perform as protective devices where such conditions are expected to be repetitive or prolonged in duration
- Exposure to silicon-based oils, solvents, electrolytes, acids, and similar materials can adversely affect the performance of these PPTC devices
- These devices undergo thermal expansion under fault conditions, and thus shall be provided with adequate space and be protected against mechanical stresses
- Circuits with inductance may generate a voltage (L di/dt) above the rated voltage of the PPTC device.

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Littelfuse:

30R400 30R090UPR 30R090UU 30R110UPR 30R110UU 30R135UPR 30R135UU 30R160UPR 30R160UU 30R185UPR 30R185UU 30R250UPR 30R250UU 30R300UPR 30R300UU 30R400UF 30R400UMR 30R500UF 30R500UMR 30R600UF 30R600UMR 30R700UF 30R700UMR 30R800UH 30R900UH R30R500 30R900UMR 30R400-PB 30R090-PB 30R110-PB 30R135-PB 30R500-PB 30R700-PB 30R800-PB 30R900-PB 30R600-PB 030R0135WR 030R0110WR 030R0400DR 030R0090WR 030R0300DR 30R160SUPR 30R400SUPR 30R400SUU 30R1000SUF 30R500SUPR 30R135SUU 30R135SUPR 30R185SUU 30R1200SUF 30R160SUU 30R800SUF 30R090SUPR 30R700SUF 30R1000SUMR 30R110SUU 30R500SUU 30R250SUU 30R300SUU 30R600SUU 30R900SUF 30R090SUU 30R900SUMR 30R800SUMR 30R600SUPR 30R300SUPR 30R185SUPR 30R110SUPR 30R1200SUMR 30R700SUMR 30R250SUPR