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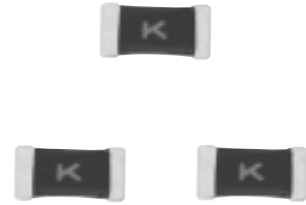
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**NEW**

# Circuit Protector (Micro Chip Fuse)

Type: **ERB**



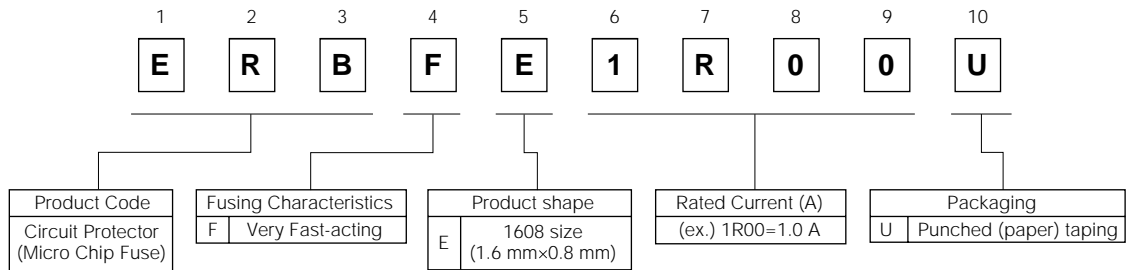
### ■ Features

- Small size (1608)
- Sharp fusing characteristics
- Pb free

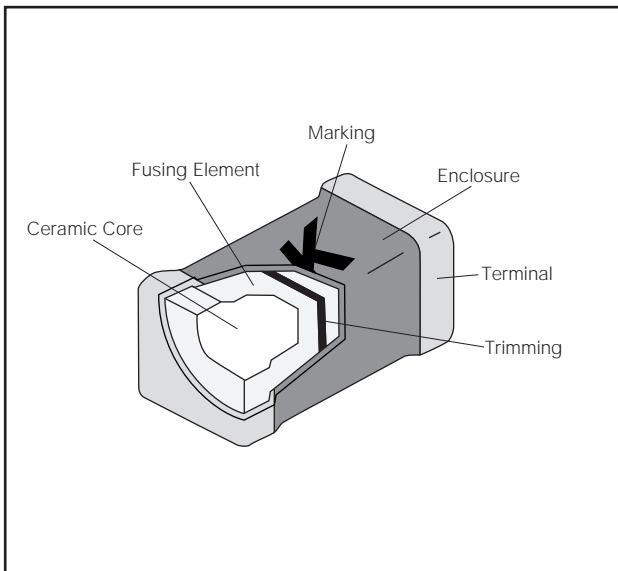
### ■ Approved Safety Standards

- UL248-14 : File No.E194052
- c-UL(CSA)C22.2 No.248-14 : File No. E194052

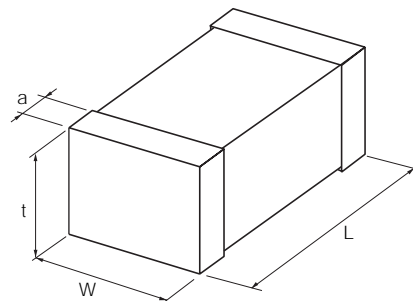
### ■ Explanation of Part Numbers



### ■ Construction



### ■ Dimensions in mm (not to scale)



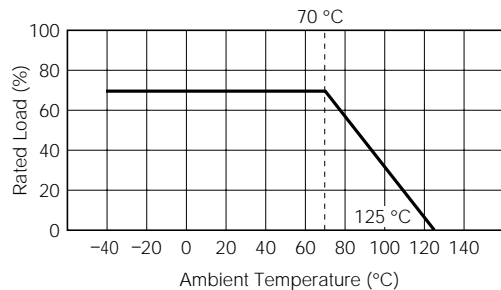
Type	Dimensions (mm)			
	L	W	a	t
ERBFE	1.60 <sup>+0.15</sup>	0.80 <sup>+0.15</sup>	0.30 <sup>+0.20</sup>	0.70 <sup>+0.15</sup> <sub>-0.10</sub>

■ Ratings

Part No.	ERBFE□R□□U									
	0R50	0R75	1R00	1R25	1R50	2R00	2R50	3R00	4R00	5R00
Rated Current (A)	0.5	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
Marking Code	F	G	H	J	K	N	O	P	S	T
Internal R (mΩ) at 25 °C max.	330	185	120	90	70	50	38	31	22	17
Fusing Current/Fusing Time (at 25 °C)	Rated Current × 100 % / 4 hours min.									
	Rated Current × 200 % / 1 second max.									
	Rated Current × 300 % / 0.2 seconds max.									
Rated Voltage (Open Circuit Voltage)	32 VDC							24 VDC		
Interrupting Rating (at Rated voltage)	50 A									
Category Temp. Range (Operating Temp. Range)	-40 °C to 125 °C									

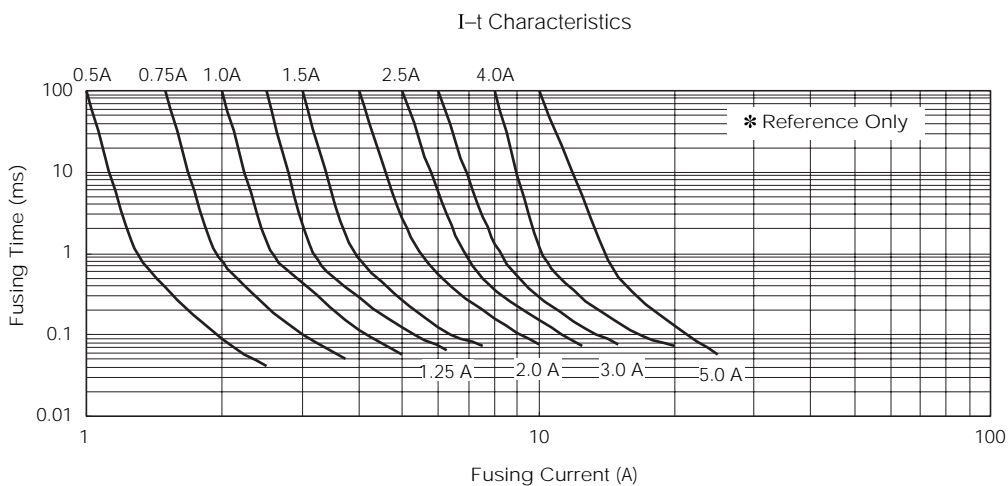
Power Derating Curve

- Current rating shall be derated in accordance with the figure on the right.
- This current derating curve is for fusing characteristics.



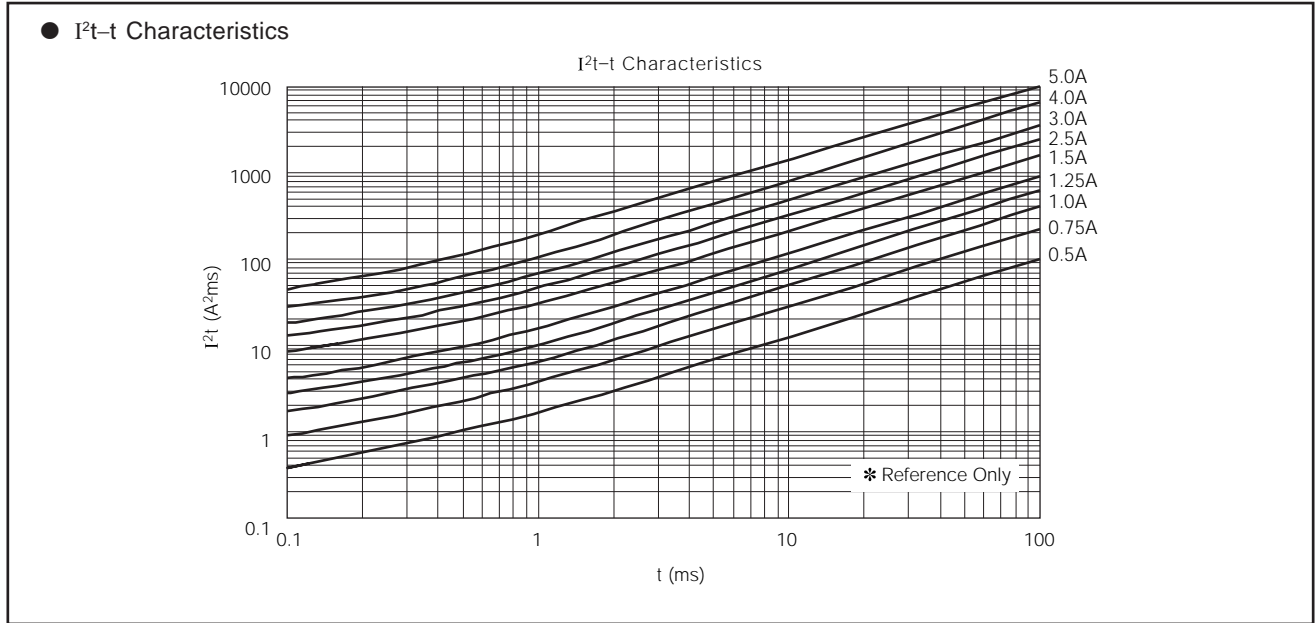
■ Fusing Characteristics (25 °C typical)

● I-t Characteristics



**NEW**

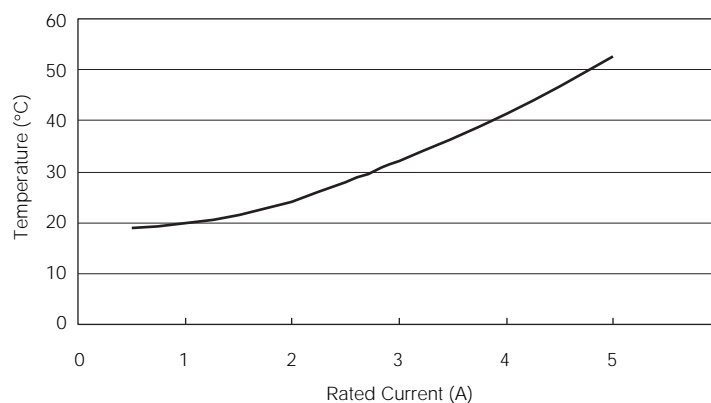
■ Fusing Characteristics (25 °C typical)



■ Performance Specifications

Characteristics	Limits	Test Methods
Resistance to Soldering Heat		260 °C × 10 sec
Temperature Cycling		-40 °C to 125 °C/30 min./5 cycles
Vibration Low Frequency	ΔR : within ±10 % No evidence of mechanical damage	Frequency range: 10 Hz→55Hz→10Hz/1 min. Amplitude 1.5 mm
Load Life		1000 hours (1.5 h ON, 0.5 OFF) Rated Power × 70 %, at 70 °C
Humidity		60 °C, 95 %RH, 1000 hours
Solderability	90 % coverage min.	235 °C × 5 sec
Resistance to Solvent	No evidence of protective coatings	IPA 10 min.

■ Hot Spot Temperature (Reference)

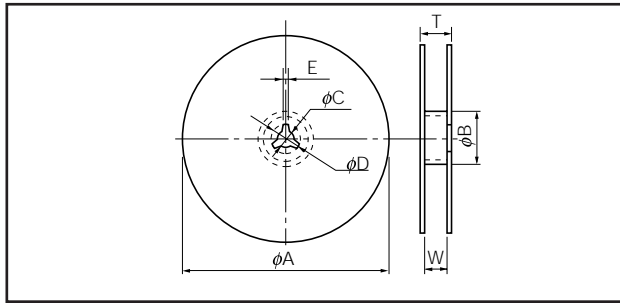


■ Packaging Specifications

● Standard Quantity

Type	Thickness (mm)	Punched (Paper) Taping
ERBFE	0.7	5000 pcs./ Reel

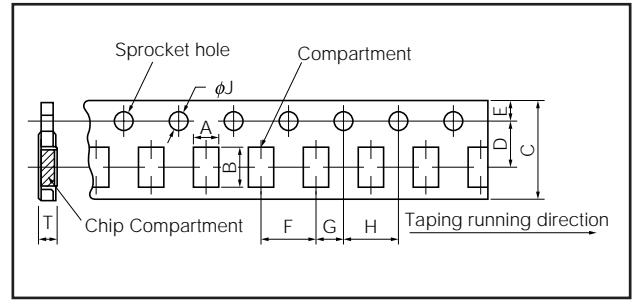
● Taping Reel



Dimensions (mm)	$\phi A$	$\phi B$	$\phi C$	$\phi D$	E
	178 <sup>-2</sup>	50 min.	13.0 <sup>+0.5</sup>	21.0 <sup>+0.5</sup>	2.0 <sup>+0.5</sup>

Dimensions (mm)	W	T
	9.0 <sup>+1.0</sup>	11.4 <sup>+2.0</sup>

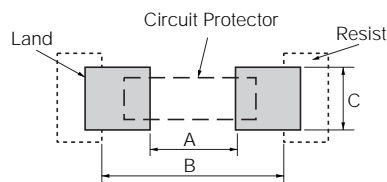
● Paper Taping



Dimensions (mm)	A	B	C	D	E
	1.00 <sup>+0.10</sup>	1.80 <sup>+0.20</sup>	8.00 <sup>+0.20</sup>	3.50 <sup>+0.05</sup>	1.75 <sup>+0.10</sup>

Dimensions (mm)	F	G	H	$\phi J$	T
	4.00 <sup>+0.10</sup>	2.00 <sup>+0.05</sup>	4.00 <sup>+0.10</sup>	1.50 <sup>+0.10</sup>	0.85 <sup>+0.07</sup>

■ Recommend Land Pattern

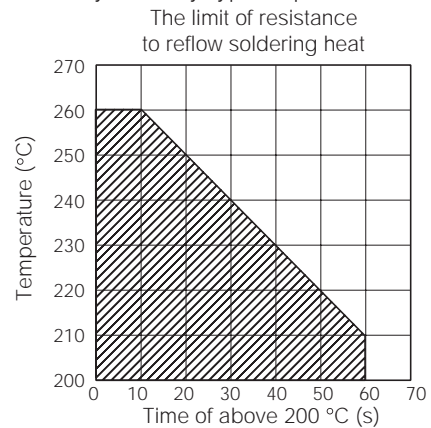
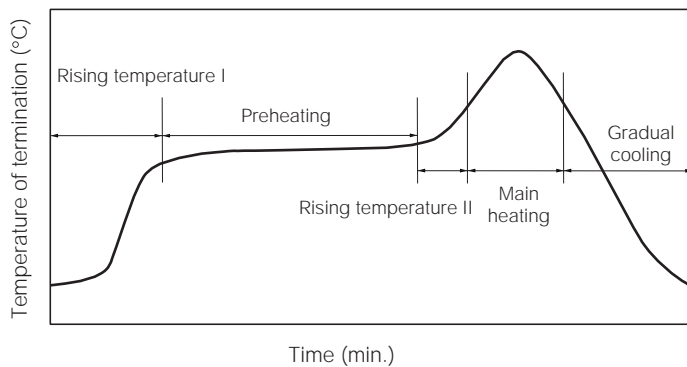


Type	Dimensions (mm)		
	A	B	C
ERBFE	0.8 to 1.0	2.1 to 2.3	0.7 to 0.9

■ Soldering Conditions

Precautions and recommendations are described below.

- Please contact us for additional information when using in conditions other than those specified.
  - Please measure the temperature of the terminations and confirm solderability of every type of printed circuit board, before actual use.
- <Recommended reflow soldering temperature>



Solder	Rising temperature I	Preheating	Rising temperature II	Main heating	Gradual cooling
For solder (Sn-37Pb)	The normal temperature to Preheating 30 s to 60 s	140 °C to 160 °C 60 s to 120 s	Preheating to 200 °C 20 s to 40 s	235±10 °C Peak	200 °C to 100 °C 1 °C to 4 °C/s
For lead-free solder (Sn-3Ag-0.5Cu)	The normal temperature to Preheating 30 s to 60 s	150 °C to 170 °C 60 s to 120 s	Preheating to 210 °C 20 s to 40 s	250 <sup>+10</sup> <sub>-5</sub> °C Peak	210 °C to 100 °C 1 °C to 4 °C/s

\* Reflow soldering shall be a maximum of two times

<Repair with hand soldering>

- Allow enough preheating with a blast of hot air or similar method. Use a soldering iron with tip temperature 350 °C or less. Solder for 3 seconds or less for each termination.
- Never touch this product with the tip of a soldering iron.