

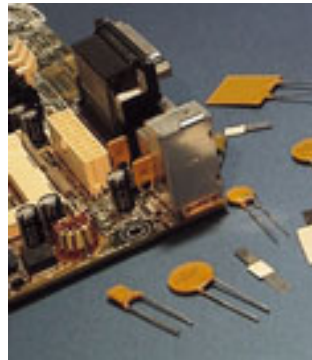
Resettable Fuses

ERF SERIES

U.S. Electronics Inc

Ph: (314) 423 7550

Fax: (314) 423 0585



OVERVIEW

TECHNOLOGY BASIC

Polymeric PTC resettable fuse devices synergistically integrate the advance polymer material technologies, conductive material science and novel processing engineering. Electrical resistance of such material and devices increases with increasing temperatures. When experiencing “overcurrent and/or over voltage”, the device generates thermal energy ($\text{Energy} = I \cdot V$) and heats up itself. This makes its polymer matrix morphology change from crystalline to amorphous phase and results in a resistance increase of thousand orders of magnitude such that “trip” the electricity. The device will remain hot and stay “tripped” until the fault is cleared and power is removed. (Figure 1)

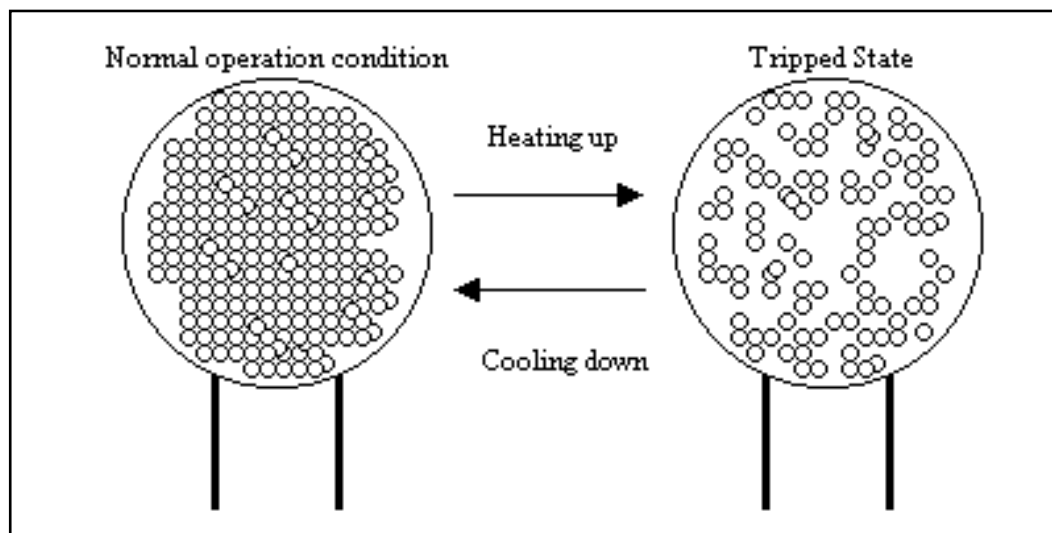
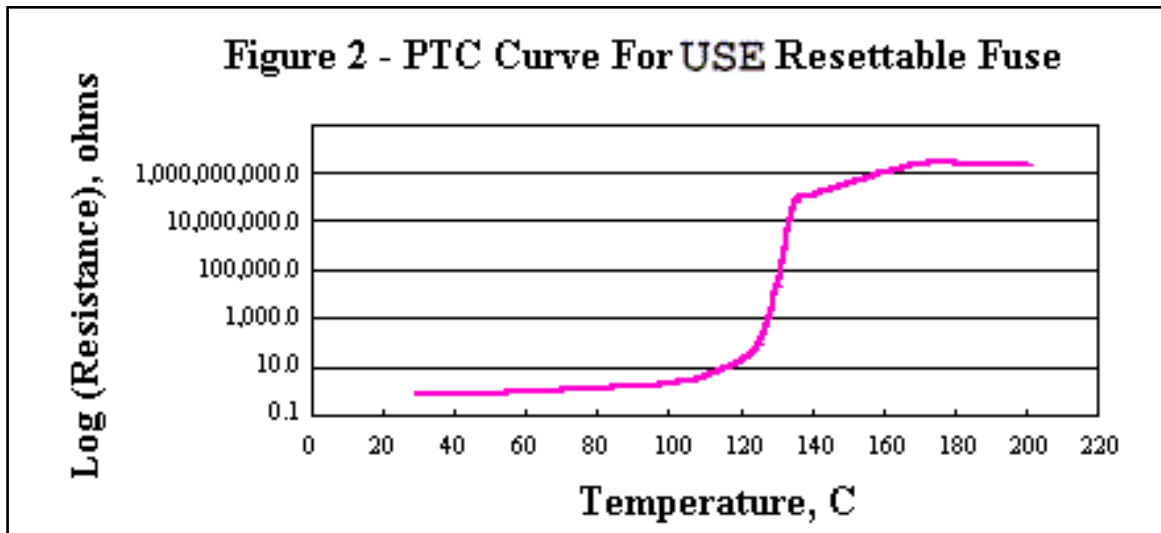


Figure 1

● WHAT IS *USE* RESETTABLE FUSE

The *USE* resettable fuses are made of patented novel polymeric PTC material in thin sheet form. With electrodes and leads attached on both sides, it is placed in series to protect a circuit. At “normal operating condition” the device remains at an extremely low resistance (mini-ohms) and allows the electrical current flow through it without any restriction. When overcurrent condition occurs, the Polymeric PTC material heats up and its resistance increases sharply. Such a sharp resistance increase (to an insulated status) cuts off the current in the circuit, and consequently protects the element and device in the circuit. Upon the fault current being removed, the resettable fuse will be cooled and its resistance will drop to the original extremely low value. The *USE* resettable fuse was “resetted” and allows the current through the circuit again.



● HOLD CURRENT, TRIP CURRENT AND THERMAL DERATING

Hold Current (I_H) and Trip Current (I_T) of *USE* resettable fuse are rated at 23°C. Typically its Trip Current is twice as much as its Hold Current. *USE* device will not trip at its Hold Current or blow and will trip at or above its Trip Current. However, due to the PTC effect both I_T and I_H reduces with ambient temperature increase and vice versa. As shown on Figure 3, the currents are reduced nearly 50% at 85°C and increased to 150% at -40°C.

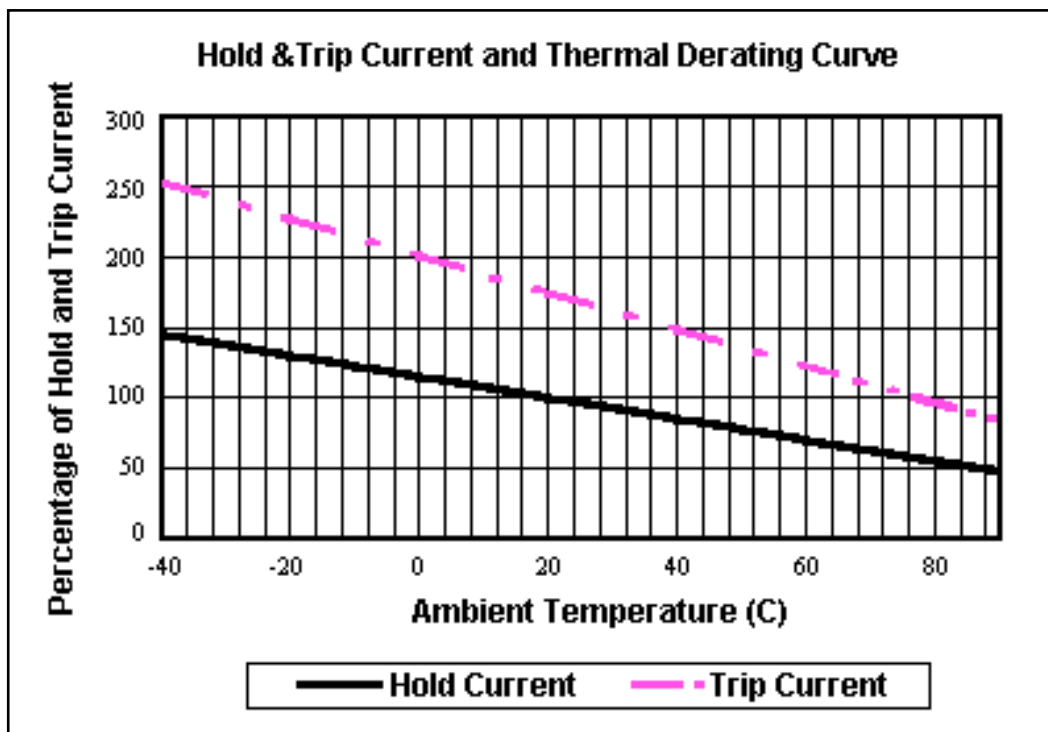


Figure 3

PRODUCTS

- ▶ [RADIAL LEADED PTC LOW HOLD CURRENT: RA MODEL](#)
- ▶ [RADIAL LEADED PTC HIGH HOLD CURRENT: RB MODEL](#)
- ▶ [RADIAL LEADED PTC LOW RESISTANCE: BX/BU MODEL](#)
- ▶ [AXIAL LEADED PTC: AN/AS MODEL](#)
- ▶ [SURFACE MOUNT PTC: SD MODEL](#)

RADIAL LEADED PTC

U.S.Electronics Inc**-- RA MODEL --**

Ph: (314)423 7550

Fax:(314) 423 0585

Features

- Radial Leaded Devices being lower hold current, solid state
- Operation current 100mA~3.75A
- Maximum Voltage 60V
- Temperature range -40°C to 85°C
- Cured, flame retardant epoxy polymer insulating material meets UL 94V-0 requirement
- Bulk packaging, tape and reel available on most models

Applications

Ideal for low voltage power supply with a load to be protected:

- Computers & peripherals
- Security and fire alarm system
- General electronics
- Loud speakers
- Automotive applications
- Power transformers

Part Numbering system

<u>ERF</u>	<u>XX</u>	<u>XXX</u>	<u>XX</u>	<u>X</u>	<u>X</u>	
						+----- Special number:
						0:Standard product
						+----- Packing type:
						0.bulk
						1.tape packing
						2.tape & reel
						+----- Voltage rating: 60:60V
						+----- Current rating: 010:0.1A
						+-- Model:
						RA:Radial leaded devices, low hold current
						+-- Product Name: Resettable Fuse

Electrical characteristics (23°C)

Part Number	Hold Current	Trip Current	Max.Time to trip	Maximum Current	Rated Voltage	Pd	Resistance Tolerance	
	I _H ,A	I _T ,A	at 5xI _H	I _{MAX} ,A	V _{MAX} ,V	W	R _{MIN}	R _{1MAX}
							Ω	Ω
RA010-60	0.10	0.20	4.0	40	60	0.38	2.50	7.50
RA017-60	0.17	0.34	3.0	40	60	0.48	2.00	7.00
RA020-60	0.20	0.40	2.2	40	60	0.41	1.83	4.40
RA025-60	0.25	0.50	2.5	40	60	0.45	1.25	3.00
RA030-60	0.30	0.60	3.0	40	60	0.49	0.88	2.10
RA040-60	0.40	0.80	3.8	40	60	0.56	0.55	1.29
RA050-60	0.50	1.00	4.0	40	60	0.77	0.50	1.17
RA065-60	0.65	1.30	5.3	40	60	0.88	0.31	0.72
RA075-60	0.75	1.50	6.3	40	60	0.92	0.25	0.60
RA090-60	0.90	1.80	7.2	40	60	0.99	0.20	0.47
RA110-60	1.10	2.20	8.2	40	60	1.50	0.15	0.38
RA135-60	1.35	2.70	9.6	40	60	1.70	0.12	0.30
RA160-60	1.60	3.20	11.4	40	60	1.90	0.09	0.22
RA185-60	1.85	3.70	12.6	40	60	2.10	0.08	0.19
RA250-60	2.50	5.00	15.6	40	60	2.50	0.05	0.13
RA300-60	3.00	6.00	19.8	40	60	2.80	0.04	0.10
RA375-60	3.75	7.50	24.0	40	60	3.20	0.03	0.08

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

V_{MAX}=Maximum voltage device can withstand without damage at rated current.

I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V max).

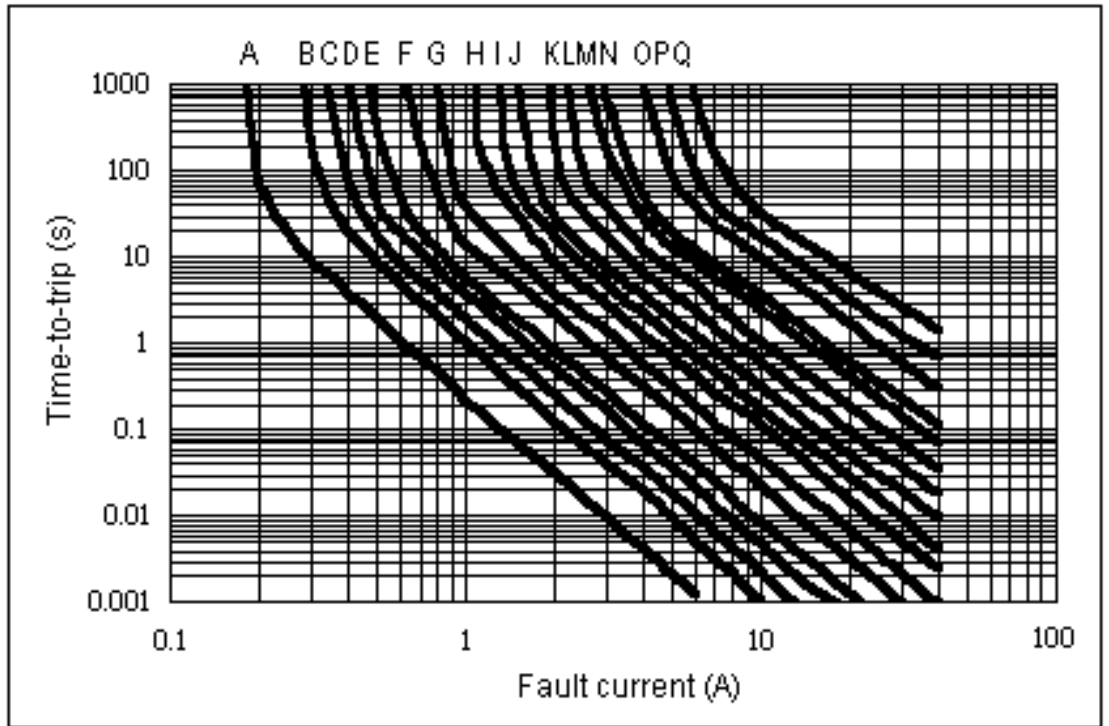
P_d=Typical power dissipated from device when in the tripped state in 23°C still air environment.

R_{MIN}=Minimum device resistance at 23°C.

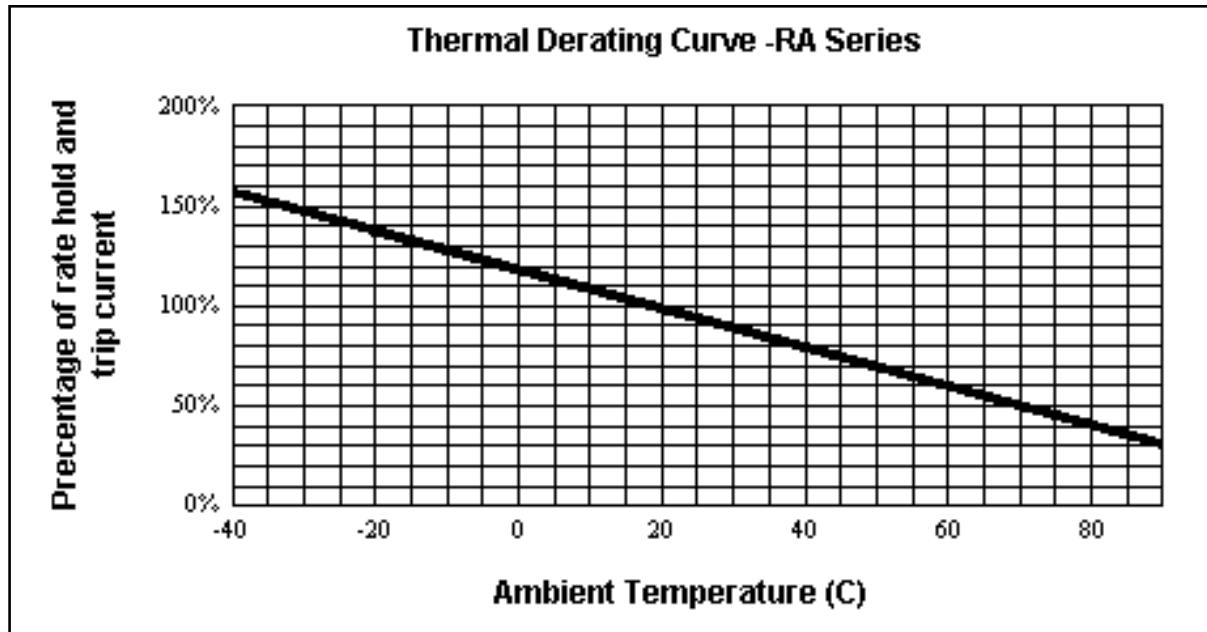
R_{1MAX}=Maximum device resistance at 23°C 1 hour after tripping.

Typical time-to-trip-at 23°C

- A=RA010-60
- B=RA017-60
- C=RA020-60
- D=RA025-60
- E=RA030-60
- F=RA040-60
- G=RA050-60
- H=RA065-60
- I=RA075-60
- J=RA090-60
- K=RA110-60
- L=RA135-60
- M=RA160-60
- N=RA185-60
- O=RA250-60
- P=RA300-60
- Q=RA375-60

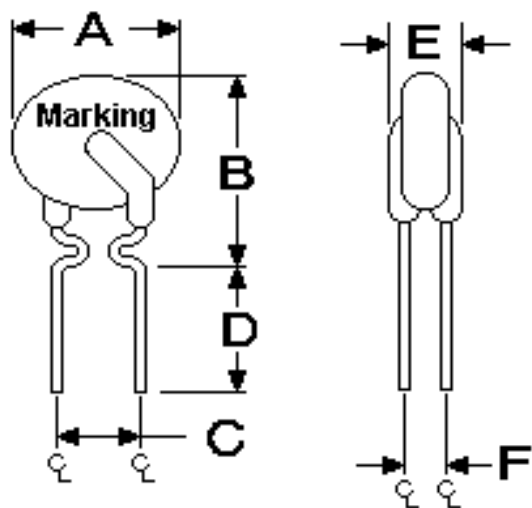


Thermal Derating Curve

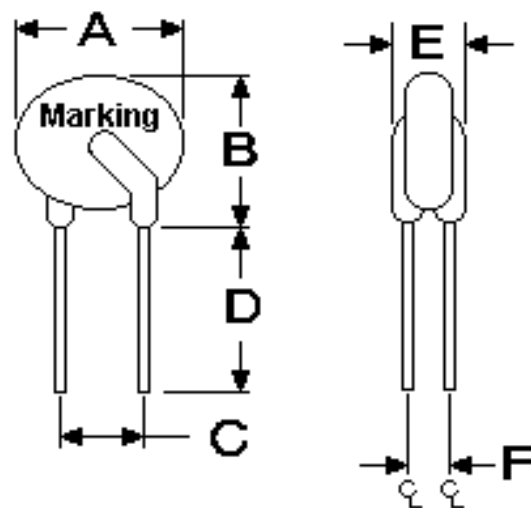


RA Product Dimensions (UNIT:mm)

Part Number	A	B	C	D	E	F
	Maximum	Maximum	Typical	Minimum	Minimum	Typical
RA-010-60	7.4	12.7	5.1	7.6	3.1	1.1
RA-017-60	7.4	12.7	5.1	7.6	3.1	1.1
RA-020-60	7.4	12.2	5.1	7.6	3.1	1.1
RA-025-60	7.4	12.7	5.1	7.6	3.1	1.1
RA-030-60	7.4	13.0	5.1	7.6	3.1	1.1
RA-040-60	7.6	13.5	5.1	7.6	3.1	1.1
RA-050-60	7.9	13.7	5.1	7.6	3.1	1.1
RA-065-60	9.7	14.5	5.1	7.6	3.1	1.1
RA-075-60	10.4	15.2	5.1	7.6	3.1	1.1
RA-090-60	11.7	15.8	5.1	7.6	3.1	1.1
RA-110-60	13.0	18.0	5.1	7.6	3.1	1.4
RA-135-60	14.5	19.6	5.1	7.6	3.1	1.4
RA-160-60	16.3	21.3	5.1	7.6	3.1	1.4
RA-185-60	17.8	22.9	5.1	7.6	3.1	1.4
RA-250-60	21.3	26.4	10.2	7.6	3.1	1.4
RA-300-60	24.9	30.0	10.2	7.6	3.1	1.4
RA-375-60	28.5	33.5	10.2	7.6	3.1	1.4



RA 010-60 ~ RA 090-60
 ● Lead Size: 24AWG
 ● \varnothing 0.51 mm Diameter



RA 110-60 ~ RA 375-60
 ● Lead Size: 20AWG
 ● \varnothing 0.81 mm Diameter

RADIAL LEADED PTC

U.S.Electronics Inc
-- RB MODEL --

 Ph: (314)423 7550
 Fax:(314) 423 0585

Features

- Radial Leaded Devices being high hold current, solid state
- Operation current 900mA~9A
- Maximum Voltage 30V
- Temperature range -40°C to 85°C
- Cured, flame retardant epoxy polymer insulating material meets UL 94V-0 requirement
- Bulk packaging, tape and reel available on most models

Applications

Ideal for low voltage power supply with a load to be protected:

- Computers & peripherals
- Security and fire alarm system
- General electronics
- Loud speakers
- Automotive applications
- Power transformers

Part Numbering system

<u>ERF</u>	<u>XX</u>	<u>XXX</u>	<u>XX</u>	<u>X</u>	<u>X</u>	
						+----- Special number:
						0:Standard product
						+----- Packing type:
						0.bulk
						1.tape packing
						2.tape & reel
						+----- Voltage rating: 30:30V
						+----- Current rating: 090:0.9A
						+-- Model:
						RB:Radial leaded devices, high hold current
						+-- Product Name: Resettable Fuse

Electrical characteristics (23°C)

Part Number	Hold Current	Trip Current	Max.Time to trip	Maximum Current	Rated Voltage	Pd	Resistance Tolerance	
	I _H ,A	I _T ,A	at 5xI _H	I _{MAX} ,A	V _{MAX} ,V	W	R _{MIN}	R _{1MAX}
							Ω	Ω
RB090-30	0.90	1.80	5.9	40	30	0.6	0.070	0.22
RB110-30	1.10	2.20	6.6	40	30	0.7	0.050	0.17
RB135-30	1.35	2.70	7.3	40	30	0.8	0.040	0.13
RB160-30	1.60	3.20	8.0	40	30	0.9	0.030	0.11
RB185-30	1.85	3.70	8.7	40	30	1.0	0.030	0.09
RB250-30	2.50	5.00	10.3	40	30	1.2	0.020	0.07
RB300-30	3.00	6.00	10.8	40	30	2.0	0.020	0.08
RB400-30	4.00	8.00	12.7	40	30	2.5	0.010	0.05
RB500-30	5.00	10.00	14.5	40	30	3.0	0.010	0.05
RB600-30	6.00	12.00	16.0	40	30	3.5	0.005	0.04
RB700-30	7.00	14.00	17.5	40	30	3.8	0.005	0.03
RB800-30	8.00	16.00	18.8	40	30	4.0	0.005	0.02
RB900-30	9.00	18.00	20.0	40	30	4.2	0.005	0.02

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

V_{MAX}=Maximum voltage device can withstand without damage at rated current.

I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V max).

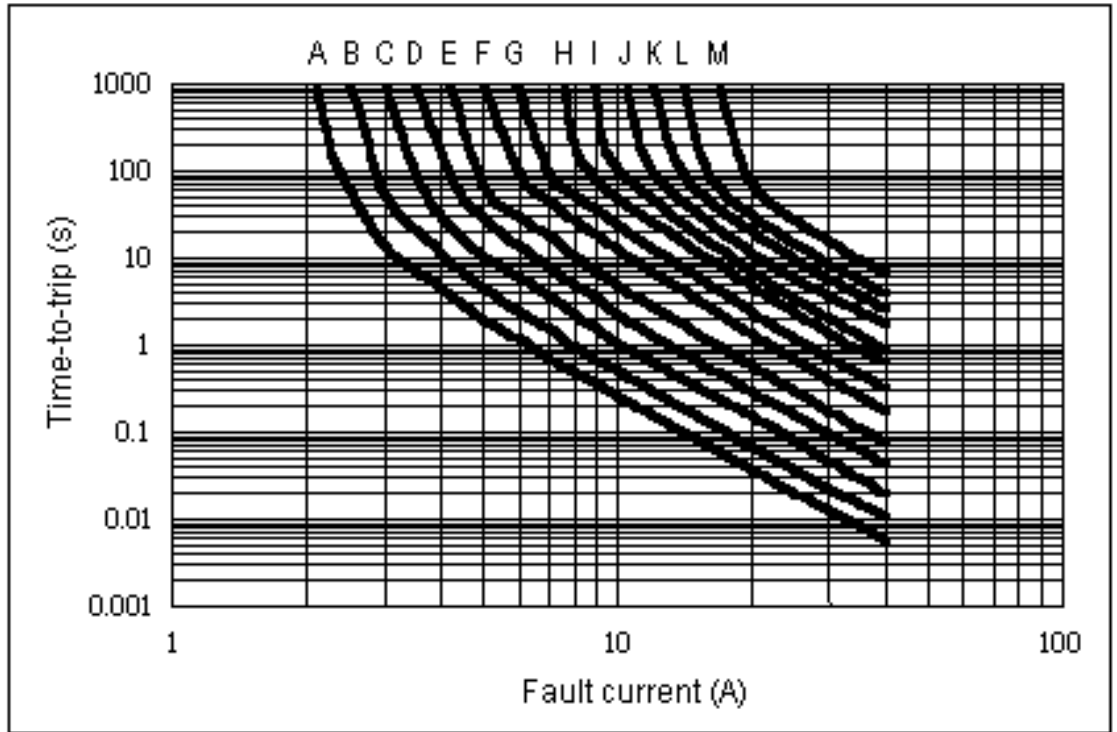
P_d=Typical power dissipated from device when in the tripped state in 23°C still air environment.

R_{MIN}=Minimum device resistance at 23°C.

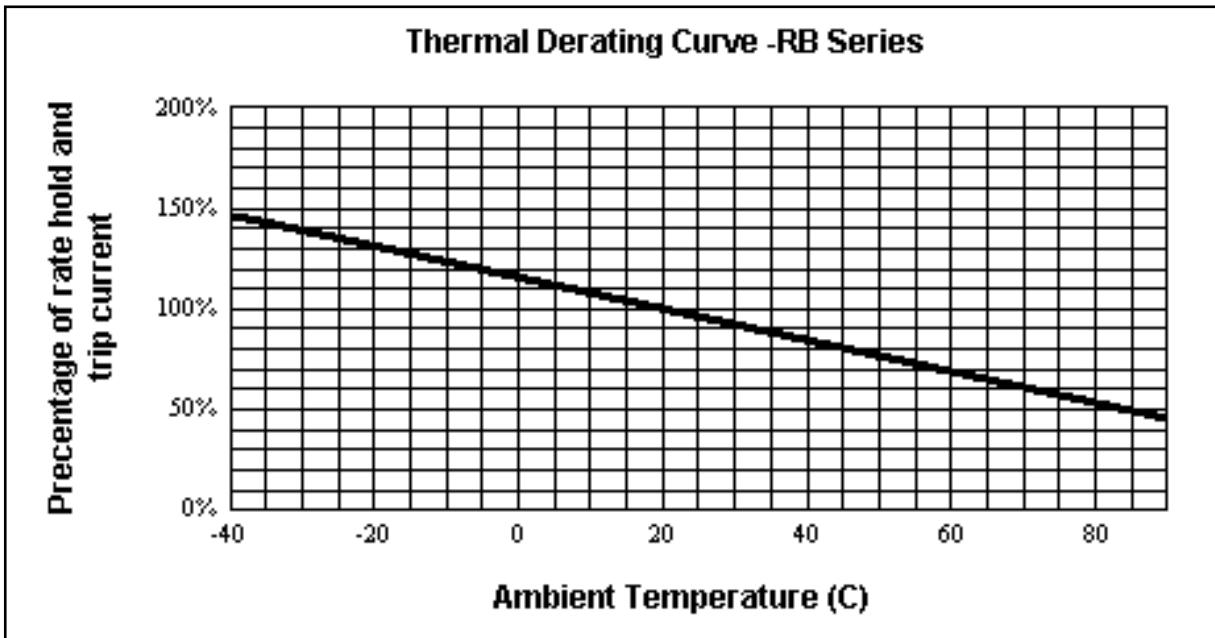
R_{1MAX}=Maximum device resistance at 23± 1 hour after tripping.

Typical time-to-trip-at 23°C

- A=RB090-30
- B=RB110-30
- C=RB135-30
- D=RB160-30
- E=RB185-30
- F=RB250-30
- G=RB300-30
- H=RB400-30
- I=RB500-30
- J=RB600-30
- K=RB700-30
- L=RB800-30
- M=RB900-30

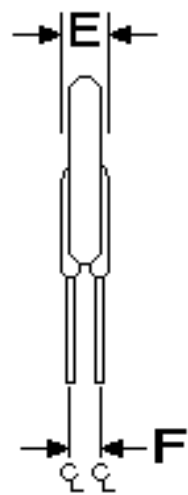
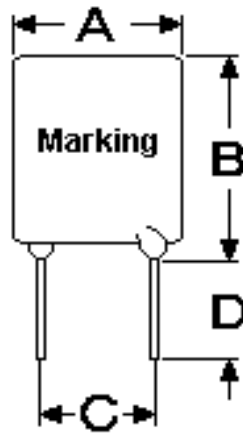
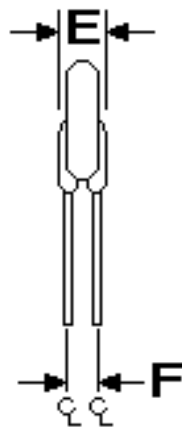
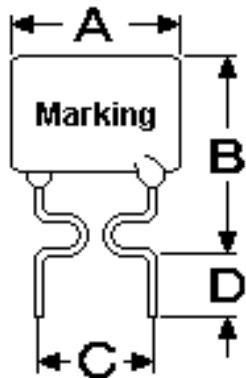


Thermal Derating Curve



RB Product Dimensions (UNIT:mm)

Part Number	A	B	C	D	E	F
	Maximum	Maximum	Typical	Minimum	Minimum	Typical
RB090-30	7.4	12.2	5.1	7.6	3.0	0.9
RB110-30	7.4	14.2	5.1	7.6	3.0	0.9
RB135-30	8.9	13.5	5.1	7.6	3.0	0.9
RB160-30	8.9	15.2	5.1	7.6	3.0	0.9
RB185-30	10.2	15.7	5.1	7.6	3.0	0.9
RB250-30	11.4	18.3	5.1	7.6	3.0	0.9
RB300-30	11.4	17.3	5.1	7.6	3.0	1.2
RB400-30	14.0	20.1	5.1	7.6	3.0	1.2
RB500-30	14.0	24.9	10.2	7.6	3.0	1.2
RB600-30	16.5	24.9	10.2	7.6	3.0	1.2
RB700-30	19.1	26.7	10.2	7.6	3.0	1.2
RB800-30	21.6	29.2	10.2	7.6	3.0	1.2
RB900-30	24.1	29.7	10.2	7.6	3.0	1.2



RB 090-30 ~ RB 250-30

- Lead Size: 24AWG
- \varnothing 0.51 mm Diameter

RB 300-30 ~ RB 900-30

- Lead Size: 20AWG
- \varnothing 0.81 mm Diameter

RADIAL LEADED PTC

U.S.Electronics Inc

-- BX/BU MODEL --

Ph: (314)423 7550

Fax:(314) 423 0585

Features

- Radial Leaded Devices being lower resistance, fast trip time and solid state
- Operation current 750mA~2.5A
- Maximum Voltage 16V
- Temperature range -40°C to 85°C
- Cured, flame retardant epoxy polymer insulating material meets UL 94V-0 requirement
- Bulk packaging, tape and reel available on most models

Applications

Almost anywhere there is a low voltage power supply and a load to be protected including:

- Computers & peripherals
 USB hosts: desktop PC, notebook
 USB self-powered hubs: monitor, stand-alone hub
 USB bus- powered hubs: keyboard
 USB function: CCD camera, joystick, scanner

Part Numbering system

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ERF  XX  XXX  XX  X  X
|    |    |    |    |
|    |    |    |    | +----- Special number:
|    |    |    |    |          0:Standard product
|    |    |    |    | +----- Packing type:
|    |    |    |    |          0.bulk
|    |    |    |    |          1.tape packing
|    |    |    |    |          2.tape & reel
|    |    |    |    | +----- Voltage rating: 16:16V
|    |    |    |    | +----- Current rating: 110:1.1A
|    |    |    |    | +-- Model:
|    |    |    |    |   BX:Radial leaded devices, low resistance,
|    |    |    |    |     fast trip time (Disc type)
|    |    |    |    |   BU:Radial leaded devices, low resistance,
|    |    |    |    |     fast trip time (Rectangle type)
|    |    |    |    | +-- Product Name: Resettable Fuse

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Electrical characteristics (23°C)

Part Number	Hold Current	Trip Current	Max.Time to trip		Maximum Current	Rated Voltage	Pd	Resistance Tolerance	
			at 8A	at 5xIH				RMIN	R1MAX
	I _H ,A	I _T ,A			I _{MAX} ,A	V _{MAX} ,V	W	Ω	Ω
BX075	0.75	1.30	0.4	--	40	16	0.3	0.080	0.23
BX120	1.20	2.00	0.5	--	40	16	0.6	0.040	0.13
BX155	1.55	2.70	0.6	--	40	16	0.7	0.030	0.12
BU090	0.90	1.80	1.2	5.9	40	16	0.6	0.070	0.18
BU110	1.10	2.20	2.3	6.6	40	16	0.7	0.050	0.14
BU135	1.35	2.70	4.5	7.3	40	16	0.8	0.040	0.12
BU160	1.60	3.20	9.0	8.0	40	16	0.9	0.030	0.11
BU185	1.85	3.70	10.0	8.7	40	16	1.0	0.030	0.09
BU250	2.50	5.00	40.0	10.3	40	16	1.2	0.020	0.06

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

V_{MAX}=Maximum voltage device can withstand without damage at rated current.

I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V max).

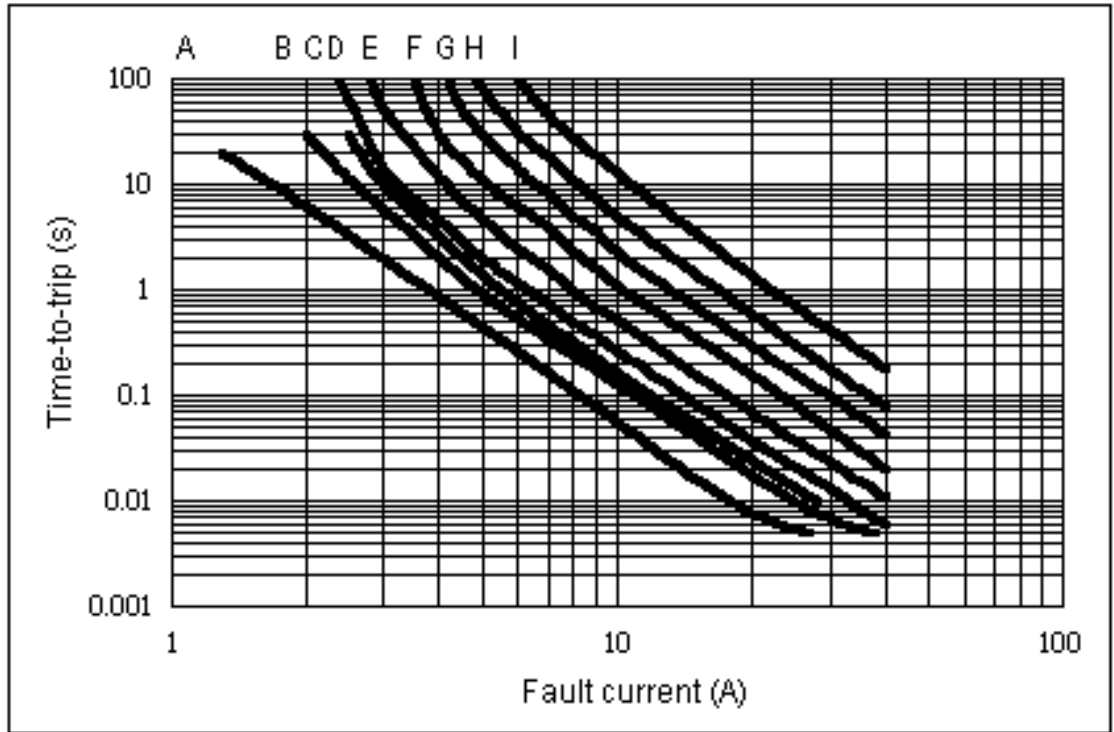
Pd=Typical power dissipated from device when in the tripped state in 23°C still air environment.

R_{MIN}=Minimum device resistance at 23°C.

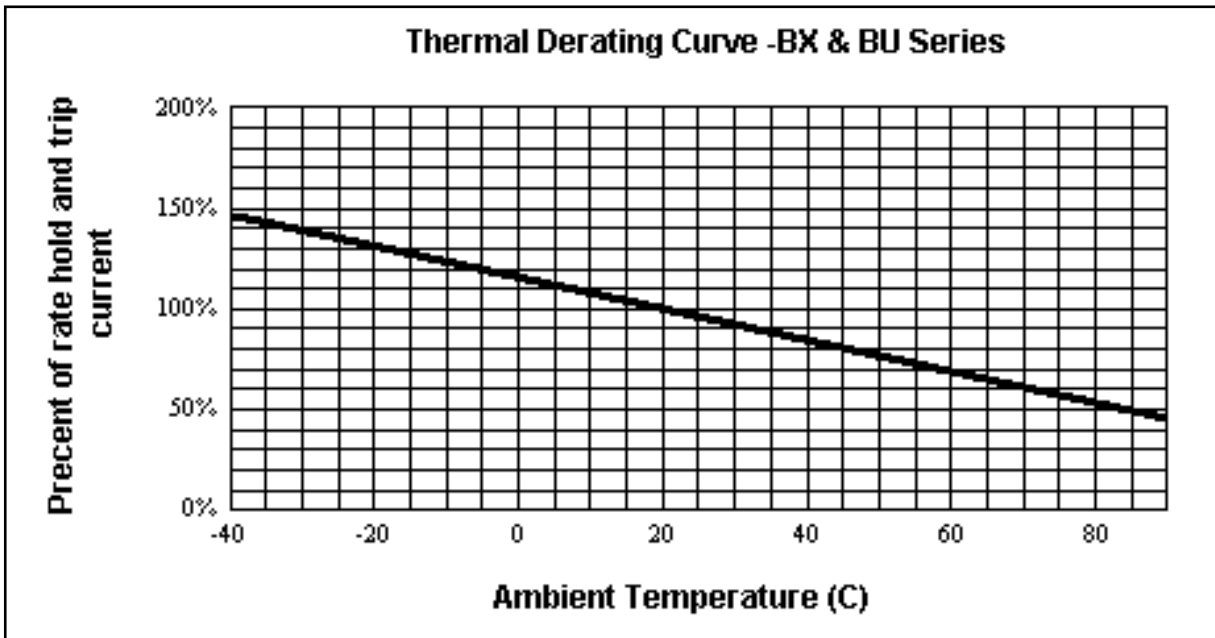
R_{1MAX}=Maximum device resistance at 23°C 1 hour after tripping.

Typical time-to-trip-at 23°C

- A=BX075
- B=BU090
- C=BU110
- D=BX120
- E=BU135
- F=BX155
- G=BU160
- H=BU185
- I=BU250

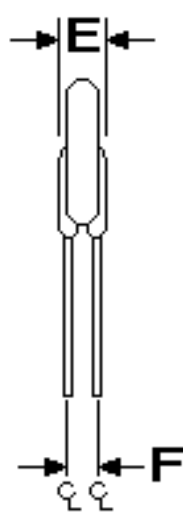
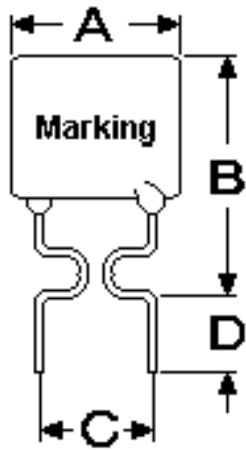


Thermal Derating Curve



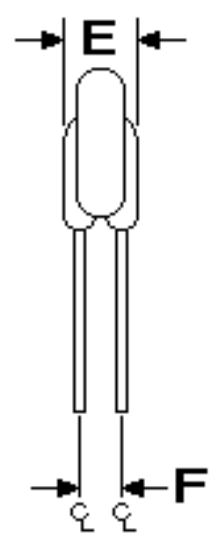
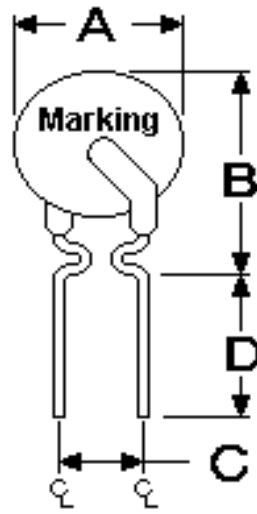
BX/BU Product Dimensions (UNIT:mm)

Part Number	A	B	C	D	E	F	Figure
	Maximum	Maximum	Typical	Minimum	Minimum	Typical	
BX075	6.9	11.4	5.1	7.6	3.0	0.8	2
BX120	6.9	11.7	5.1	7.6	3.0	0.8	2
BX155	6.9	11.7	5.1	7.6	3.0	0.8	2
BU090	7.4	12.2	5.1	7.6	3.0	0.8	1
BU110	7.7	14.2	5.1	7.6	3.0	0.8	1
BU135	8.9	13.5	5.1	7.6	3.0	0.8	1
BU160	8.9	15.2	5.1	7.6	3.0	0.8	1
BU185	10.2	15.7	5.1	7.6	3.0	0.8	1
BU250	11.4	18.3	5.1	7.6	3.0	0.8	1



BU Model

- Lead Size: 24AWG
- \varnothing 0.51 mm Diameter



BX Model

- Lead Size: 24AWG
- \varnothing 0.51 mm Diameter

AXIAL LEADED PTC

U.S.Electronics Inc

-- AN/AS MODEL --

Ph: (314)423 7550
Fax:(314) 423 0585

Features

- Axial Leaded Devices being low profile, solid state
- Full compatible with current industry standards
- Weldable nickel terminals
- Operation current 1.2A~4.2A
- Maximum Voltage 15V and 30V
- Temperature range -40°C to 85°C
- Cured, flame retardant epoxy polymer insulating material meets UL 94V-0 requirement
- Bulk packaging, tape and reel available on most models

Applications

- Rechargeable battery packs protection
- Lithium cell and battery packs
- Provides overcurrent protection with 125°C trip temperature

Part Numbering system

<u>ERF</u>	<u>XX</u>	<u>XXX</u>	<u>XX</u>	<u>X</u>	<u>X</u>	
						+----- Special number:
						0:Standard product
						+----- Packing type:
						0.bulk
						1.tape packing
						2.tape & reel
						+----- Voltage rating: 15:15V
						+----- Current rating: 120:1.2A
						+-- Model:
						AN:Axial leaded devices & non-slitted lead
						AS:Axial leaded devices & slitted lead
						+-- Product Name: Resettable Fuse

Electrical characteristics (23°C)

Part Number	Fig	Hold Current	Trip Current	Rated Voltage	Maximum Current	Pd	Resistance Tolerance	
		I _H ,A	I _T ,A	V _{MAX} ,V	I _{MAX} ,A	W	R _{MIN}	R _{1MAX}
							Ω	Ω
AN120	1	1.2	2.7	15	100	1.2	0.085	0.220
AS120	2	1.2	2.7	15	100	1.2	0.085	0.220
AN175	1	1.75	3.8	15	100	1.5	0.050	0.120
AS175	2	1.75	3.8	15	100	1.5	0.050	0.120
AN200	1	2.0	4.4	30	100	1.9	0.030	0.100
AN350	1	3.5	6.3	30	100	2.5	0.017	0.050
AN420	1	4.2	7.6	30	100	2.9	0.012	0.040

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

V_{MAX}=Maximum voltage device can withstand without damage at rated current.

I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V max).

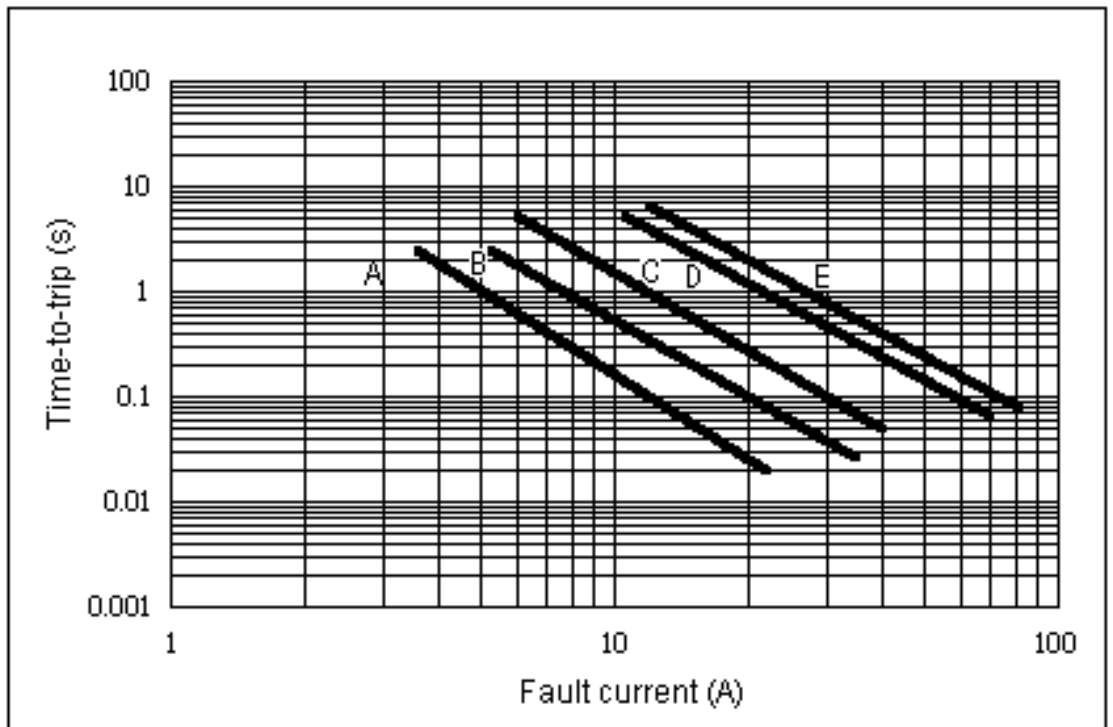
Pd=Typical power dissipated from device when in the tripped state in 23°C still air environment.

R_{MIN}=Minimum device resistance at 23°C.

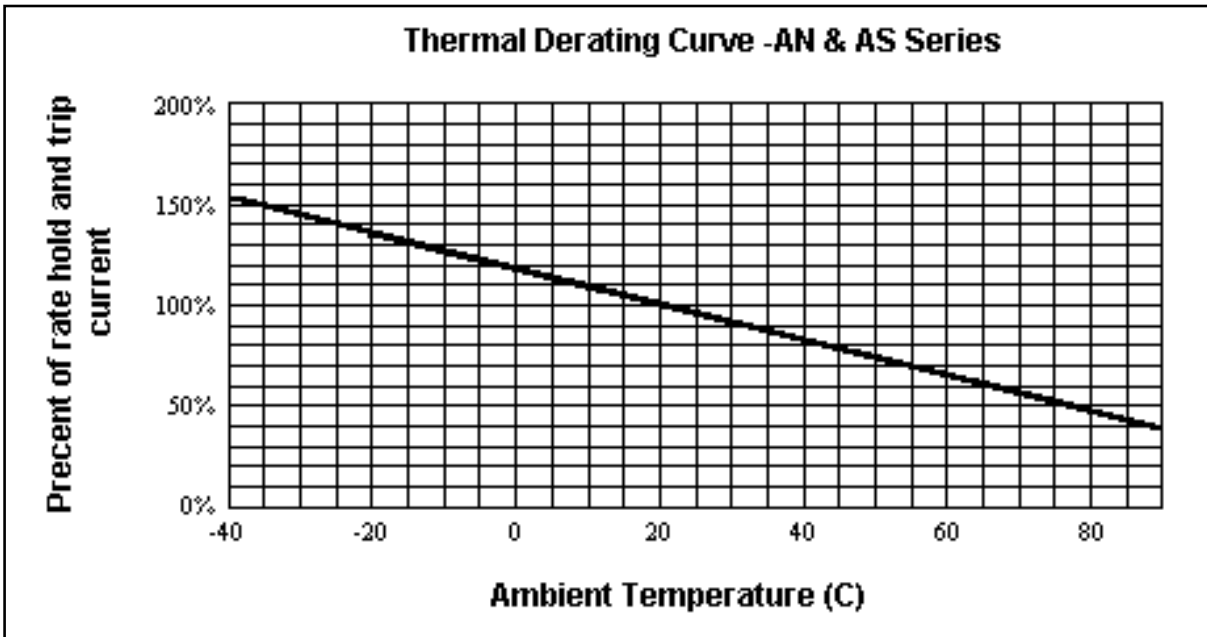
R_{1MAX}=Maximum device resistance at 23± 1 hour after tripping.

Typical time-to-trip-at 23°C

- A= AN120/AS120
- B= AN175/AS175
- C= AN200
- D= AN350
- E= AN420

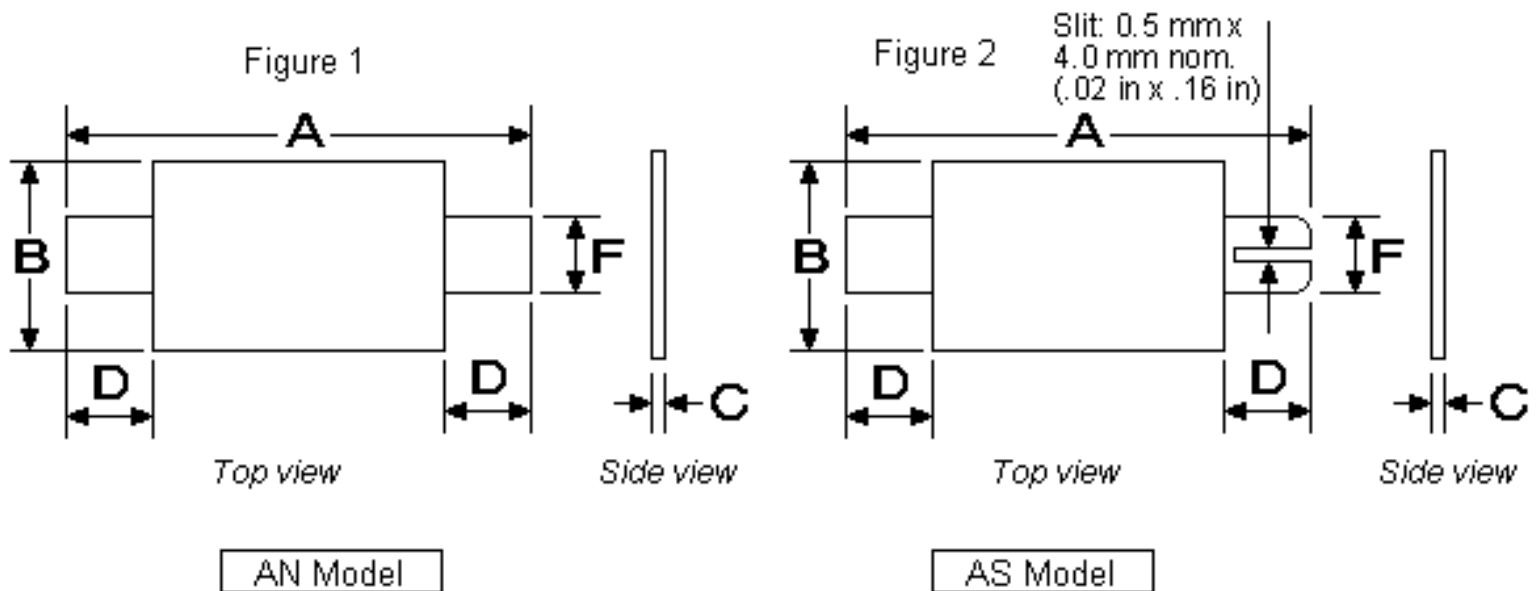


Thermal Derating Curve



AN/AS Product Dimensions (UNIT:mm)

Part Number	Fig	A		B		C		D		F	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
AN120	1	19.9	22.1	4.9	5.2	0.6	1.0	5.5	7.5	3.9	4.1
AS120	2	19.9	22.1	4.9	5.2	0.6	1.0	5.5	7.5	3.9	4.1
AN175	1	20.9	23.1	4.9	5.2	0.6	1.0	4.1	5.5	3.9	4.1
AS175	2	20.9	23.1	4.9	5.2	0.6	1.0	4.1	5.5	3.9	4.1
AN200	1	21.3	23.4	10.2	11.0	0.5	1.1	5.0	7.6	4.8	5.4
AN350	1	28.4	31.8	13.0	13.5	0.5	1.1	6.3	8.9	6.0	6.6
AN420	1	30.6	32.4	12.9	13.6	0.5	1.1	5.0	7.5	6.0	6.7



SURFACE MOUNT PTC

U.S.Electronics Inc**-- SD MODEL --**Ph: (314)423 7550
Fax:(314) 423 0585

Features

- Mini surface mount, solid state
- Faster time to trip than standard SMD devices
- Lower resistance than standard SMD devices
- Operation current 140mA~1.6A
- Maximum Voltage 6V and 60Vdc
- Temperature range -40°C to 85°C
- Tape and reel available on most models

Applications

Almost anywhere there High-density boards is a low voltage power supply and a load to beprotected including:

- Computers &peripherals
- General electronics
- Automotive applications

Part Numbering system

<u>ERF</u>	<u>XX</u>	<u>XXX</u>	<u>XX</u>	<u>X</u>	<u>X</u>	
						+----- Special number:
						0:Standard product
						+----- Packing type:
						0.bulk
						1.tape packing
						2.tape & reel
						+----- Voltage rating: 60:60V
						+----- Current rating: 014:0.14A
						+-- Model:
						SD:Mini surface mount
						+-- Product Name: Resettable Fuse

Electrical characteristics (23°C)

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Pd	Max time to trip		Resistance Tolerance	
						Current	Time	RMIN	R1MAX
	I _H ,A	I _T ,A	V _{MAX} ,V	I _{MAX} ,A	W	A	Sec	Ω	Ω
SD014	0.14	0.30	60	10	0.8	8.0	<0.02	1.50	6.50
SD020	0.20	0.40	30	40	0.8	8.0	0.02	0.80	5.00
SD035	0.35	0.70	15	40	0.8	8.0	0.10	0.32	1.50
SD050	0.50	1.00	15	40	0.8	8.0	0.15	0.15	1.00
SD075	0.75	1.50	13	40	0.8	8.0	0.02	0.11	0.45
SD110	1.10	2.20	6	40	0.8	8.0	0.30	0.04	0.21
SD160	1.60	3.20	6	40	0.8	8.0	<0.50	0.03	0.10

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

V_{MAX}=Maximum voltage device can withstand without damage at rated current.

I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V max).

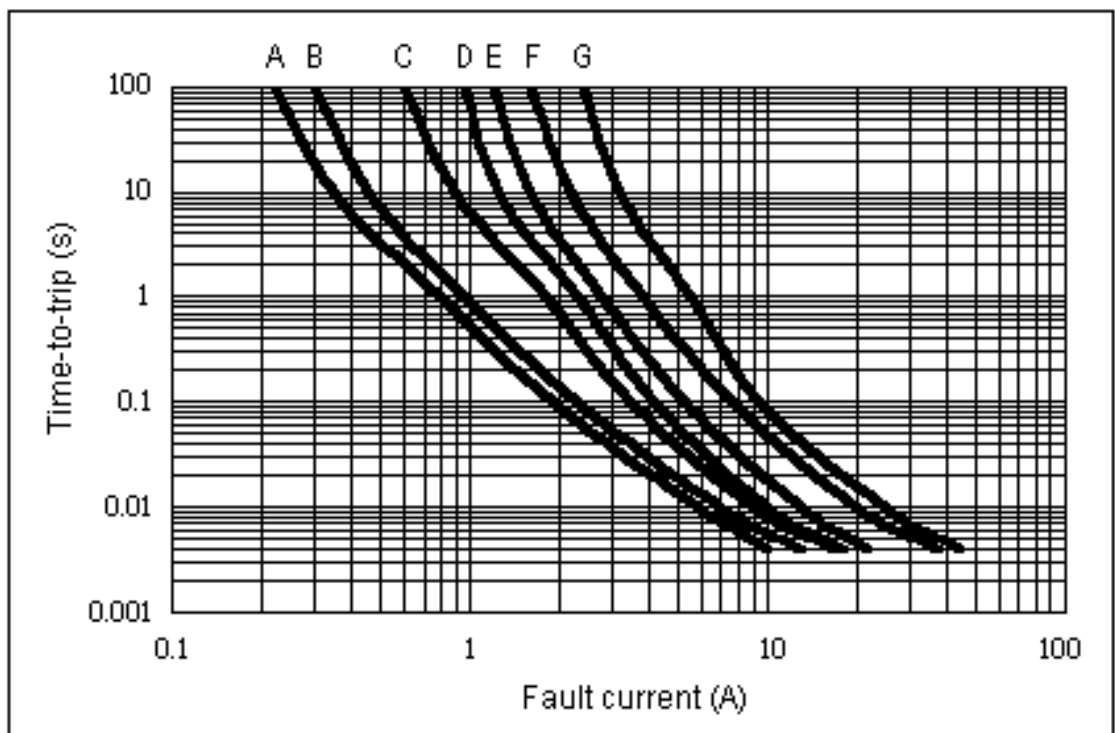
Pd=Typical power dissipated from device when in the tripped state in 23°C still air environment.

R_{MIN}=Minimum device resistance at 23°C.

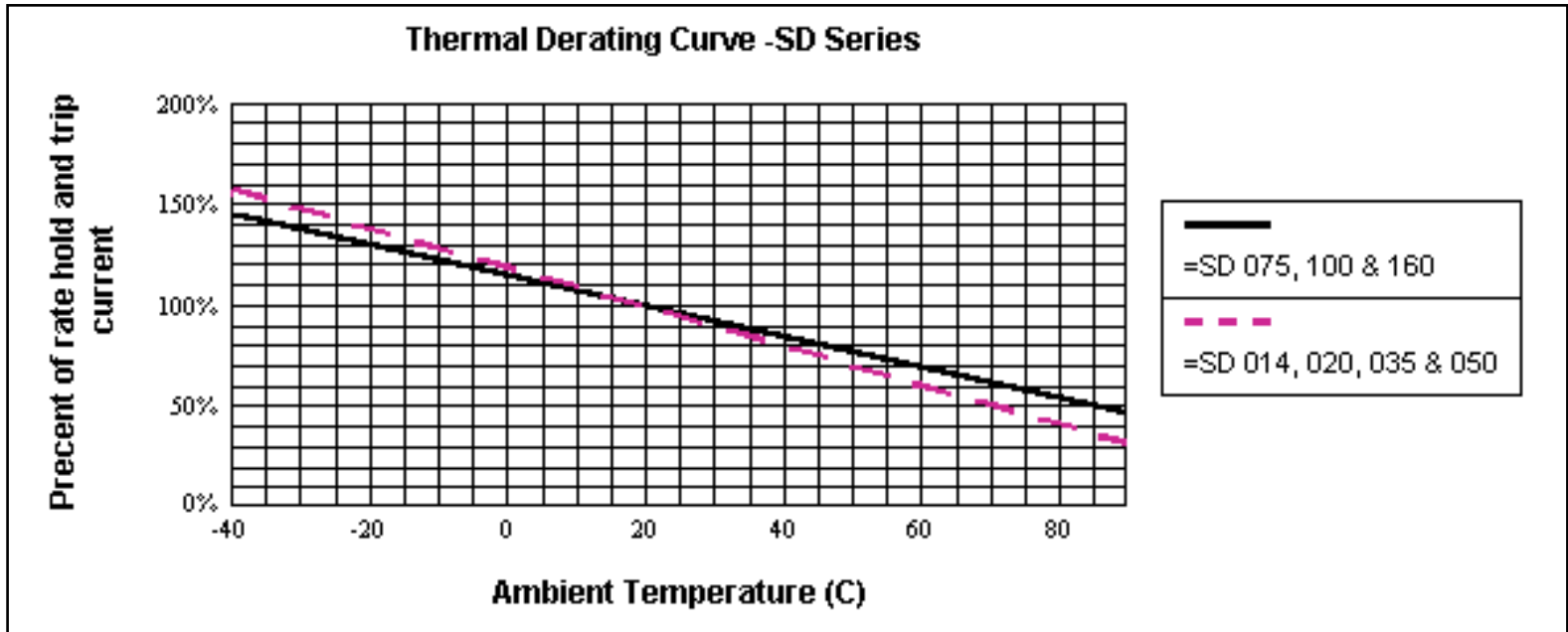
R_{1MAX}=Maximum device resistance at 23± 1 hour after tripping.

Typical time-to-trip-at 23°C

A=SD014
 B=SD020
 C=SD035
 D=SD050
 E=SD075
 F=SD110
 G=SD160



Thermal Derating Curve



SD Product Dimensions (UNIT:mm)

Part Number	A		B		C		D
	Min	Max	Min	Max	Min	Max	Min
SD014	4.37	4.73	3.07	3.41	0.7	1.0	0.35
SD020	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD035	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD050	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD075	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD110	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD160	4.37	4.73	3.07	3.41	0.4	0.7	0.35

