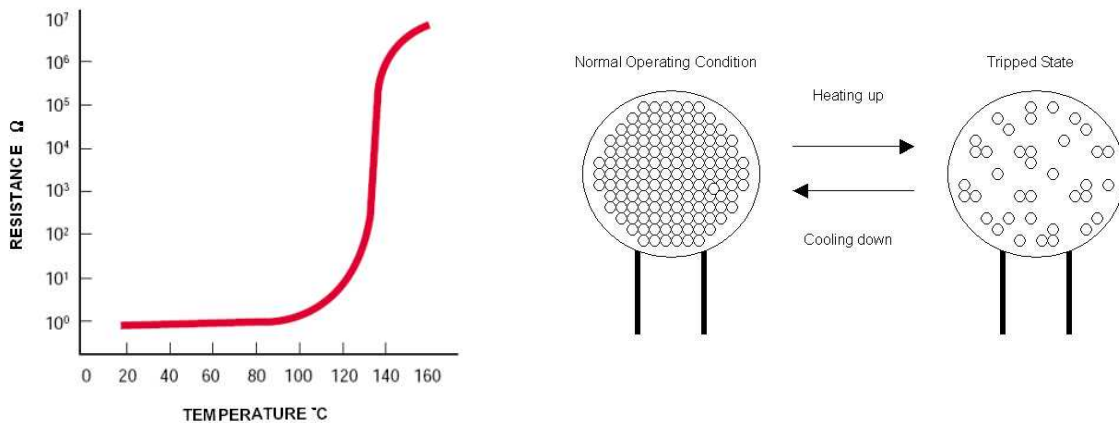


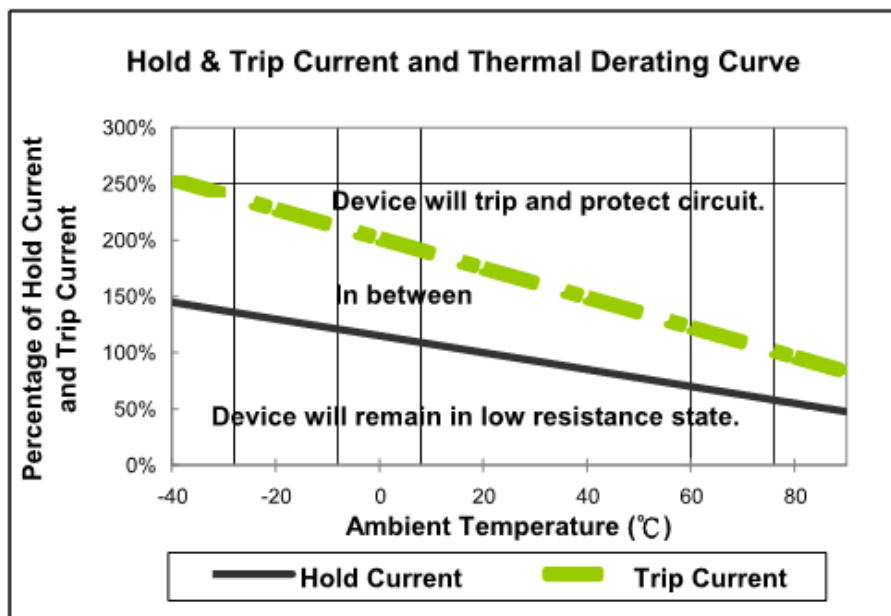
HOW DOES THE RESETTABLE FUSE ORK

Sinochip resettable fuses are designed and made of patented novel polymeric PTC material in thin chip form, developed solely by Sinochip . 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 (milli-ohms) and allows the electrical current to flow through it without any restriction. When overcurrent conditions occur, 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 fault current being removed, the resettable fuse cools and its resistance drops to the original extremely low value. The resettable fuse is "reset" and allows the current through the circuit again.



TRIP CURRENT, HOLD CURRENT AND THERMAL DERATING

Trip Current (IT) and Hold Current (IH) of Sinochip resettable fuse are rated at 23°C. Typically its Trip Current is twice as much as its Hold Current. Sinochip device does not trip at or below its rated Hold Current, and will trip at or above its Trip Current value. However, due to PTC effect both IT and IH reduce with ambient temperature increase and vice versa. As shown bellow, the currents are reduced nearly 50% at 85°C and increased to 150% at -40°C.



RoHS Compliant & Lead Free

Application: Wide variety of electronic equipment

Product Features: Low hold current, Solid state Radial-leaded product ideal for up to 60V_{DC}

Operation Current: 0.05A ~ 3.75A

Maximum Voltage: 60V_{DC}

Temperature Range: -40°C to 85°C



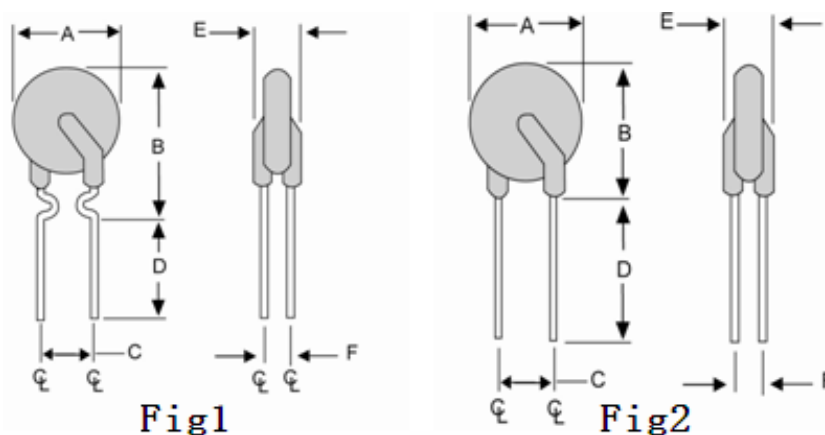
Electrical Characteristics(23°C)

Part Number	Hold Current I _H , A	Trip Current I _T , A	Max.Time to Trip at 5xI _H , s	Max. Current I _{MAX} , A	Rated Voltage V _{MAX} , V _{DC}	Typ. Power Pd, W	Resistance	
							R _{MIN} Ohms	R _{1MAX} Ohms
X60-005	0.05	0.10	5.0	40	60	0.26	7.30	20.00
X60-010	0.10	0.20	4.0	40	60	0.38	2.50	7.50
X60-017	0.17	0.34	3.0	40	60	0.48	2.00	8.00
X60-020	0.20	0.40	2.2	40	60	0.41	1.83	4.40
X60-025	0.25	0.50	2.5	40	60	0.45	1.25	3.00
X60-030	0.30	0.60	3.0	40	60	0.49	0.88	2.10
X60-040	0.40	0.80	3.8	40	60	0.56	0.55	1.29
X60-050	0.50	1.00	4.0	40	60	0.77	0.50	1.17
X60-065	0.65	1.30	5.3	40	60	0.88	0.31	0.72
X60-075	0.75	1.50	6.3	40	60	0.92	0.25	0.60
X60-090	0.90	1.80	7.2	40	60	0.99	0.20	0.47
X60-110	1.10	2.20	8.2	40	60	1.50	0.15	0.38
X60-135	1.35	2.70	9.6	40	60	1.70	0.12	0.30
X60-160	1.60	3.20	11.4	40	60	1.90	0.09	0.22
X60-185	1.85	3.70	12.6	40	60	2.10	0.08	0.19
X60-250	2.50	5.00	15.6	40	60	2.50	0.05	0.13
X60-300	3.00	6.00	19.8	40	60	2.80	0.04	0.10
X60-375	3.75	7.50	24.0	40	60	3.20	0.03	0.08

Thermal Derating for PPTC Device at Various Ambient Temperatures

TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	158%	136%	119%	100%	90%	81%	72%	63%	54%	40%

Product Dimensions (mm)

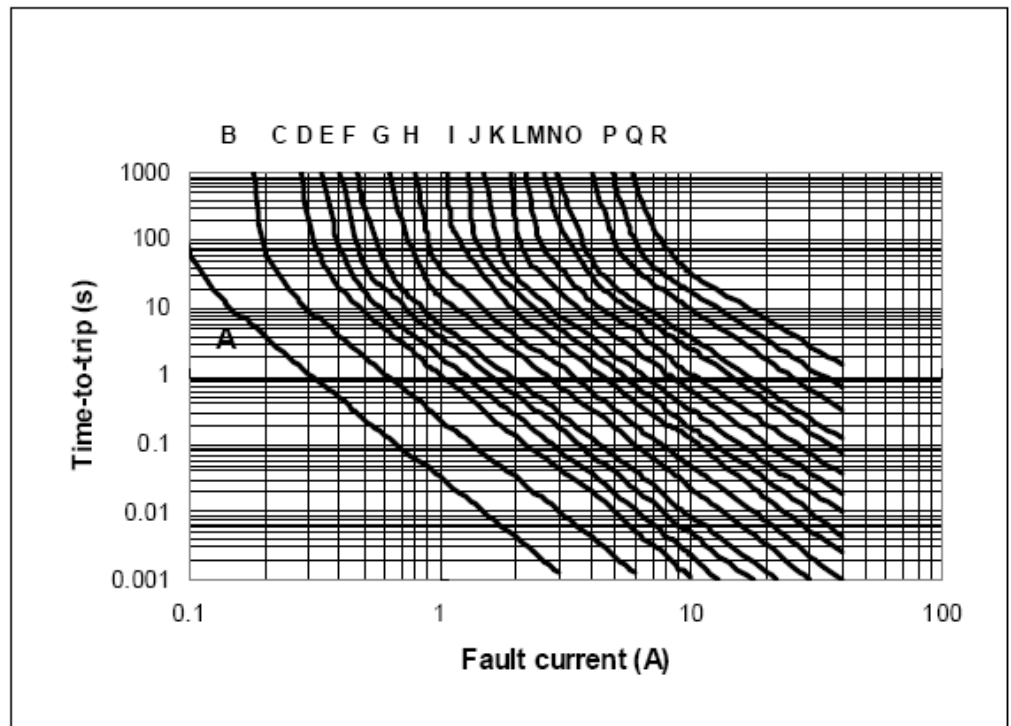




Part Number	Fig.	A	B	C	D	E	F
		Max	Max	Typ	Min	Max	Typ.
X60-005	1	7.4	12.7	5.1	7.6	3.1	1.1
X60-010	1	7.4	12.7	5.1	7.6	3.1	1.1
X60-017	1	7.4	12.7	5.1	7.6	3.1	1.1
X60-020	1	7.4	12.7	5.1	7.6	3.1	1.1
X60-025	1	7.4	12.7	5.1	7.6	3.1	1.1
X60-030	1	7.4	13.0	5.1	7.6	3.1	1.1
X60-040	1	7.6	13.5	5.1	7.6	3.1	1.1
X60-050	1	7.9	13.7	5.1	7.6	3.1	1.1
X60-065	1	9.7	14.5	5.1	7.6	3.1	1.1
X60-075	1	10.4	15.2	5.1	7.6	3.1	1.1
X60-090	1	11.7	15.8	5.1	7.6	3.1	1.1
X60-110	2	13.0	18.0	5.1	7.6	3.1	1.4
X60-135	2	14.5	19.6	5.1	7.6	3.1	1.4
X60-160	2	16.3	21.3	5.1	7.6	3.1	1.4
X60-185	2	17.8	22.9	5.1	7.6	3.1	1.4
X60-250	2	21.3	26.4	10.2	7.6	3.1	1.4
X60-300	2	24.9	30.0	10.2	7.6	3.1	1.4
X60-375	2	28.5	33.5	10.2	7.6	3.1	1.4

Typical Time-To-Trip at 23 °C

- A = 60-005
- B = 60-010
- C = 60-017
- D = 60-020
- E = 60-025
- F = 60-030
- G = 60-040
- H = 60-050
- I = 60-065
- J = 60-075
- K = 60-090
- L = 60-110
- M = 60-135
- N = 60-160
- O = 60-185
- P = 60-250
- Q = 60-300
- R = 60-375



RoHS Compliant & Lead Free

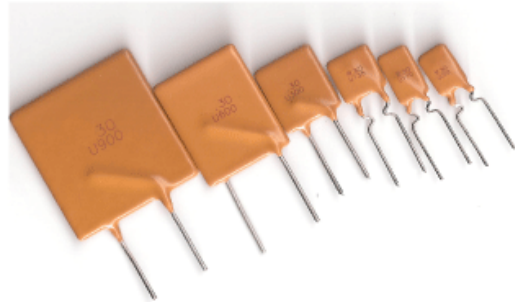
Application: Wide variety of electronic equipment

Product Features: Low resistance, High hold current, Solid state Radial-leaded product ideal for up to 30VDC

Operation Current: 0.9A ~ 9.00A

Maximum Voltage: 30V_{DC}

Temperature Range: -40°C to 85°C



Electrical Characteristics(23°C)

Part Number	Hold Current	Trip Current	Max.Time To Trip	Max. Current	Rated Voltage	Typ. Power	Resistance	
							R _{MIN}	R _{1MAX}
							Ohms	Ohms
U30-090	0.90	1.80	5.9	40	30	0.6	0.070	0.220
U30-110	1.10	2.20	6.6	40	30	0.7	0.050	0.170
U30-135	1.35	2.70	7.3	40	30	0.8	0.040	0.130
U30-160	1.60	3.20	8.0	40	30	0.9	0.030	0.110
U30-185	1.85	3.70	8.7	40	30	1.0	0.030	0.090
U30-250	2.50	5.00	10.3	40	30	1.2	0.020	0.070
U30-300	3.00	6.00	10.8	40	30	2.0	0.020	0.080
U30-400	4.00	8.00	12.7	40	30	2.5	0.010	0.050
U30-500	5.00	10.00	14.5	40	30	3.0	0.010	0.050
U30-600	6.00	12.00	16.0	40	30	3.5	0.005	0.040
U30-700	7.00	14.00	17.5	40	30	3.8	0.005	0.030
U30-800	8.00	16.00	18.8	40	30	4.0	0.005	0.020
U30-900	9.00	18.00	20.0	40	30	4.2	0.005	0.020

Thermal Derating for PPTC Device at Various Ambient Temperatures

TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	145%	130%	115%	100%	91%	83%	76%	67%	61%	52%

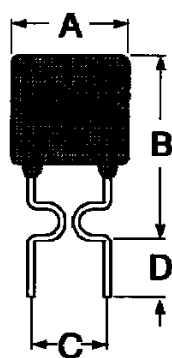


Fig1

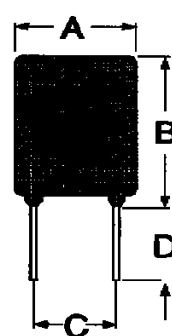
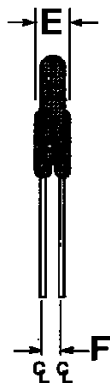


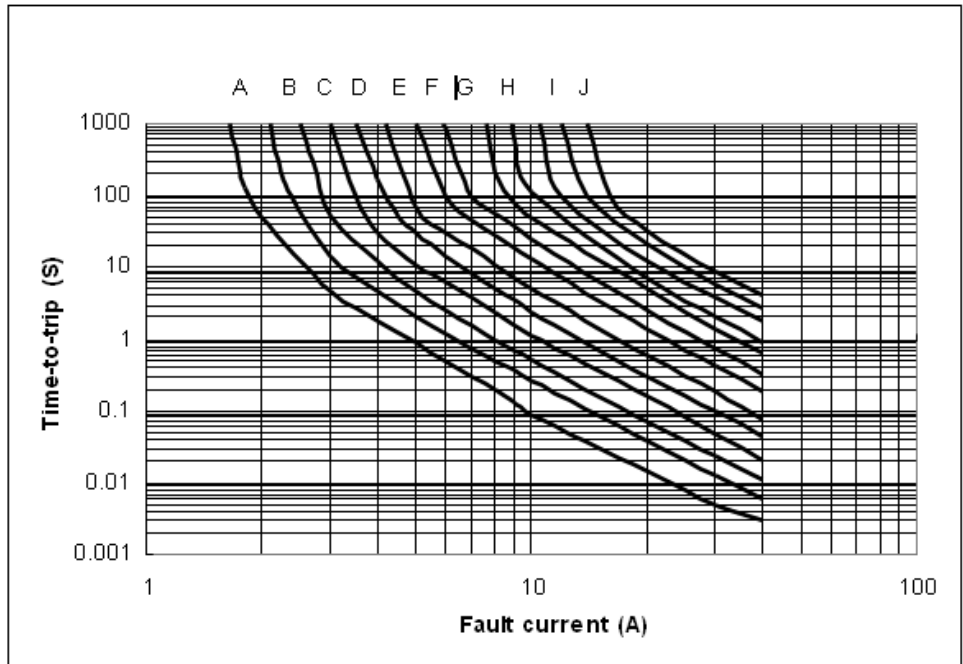
Fig2



Part Number	Fig	A	B	C	D	E	F
		Max	Max	Typ	Min	Max	Typ
U30-090	1	7.4	12.2	5.1	7.6	3.0	0.9
U30-110	1	7.4	14.2	5.1	7.6	3.0	0.9
U30-135	1	8.9	13.5	5.1	7.6	3.0	0.9
U30-160	1	8.9	15.2	5.1	7.6	3.0	0.9
U30-185	1	10.2	15.7	5.1	7.6	3.0	0.9
U30-250	1	11.4	18.3	5.1	7.6	3.0	0.9
U30-300	2	11.4	17.3	5.1	7.6	3.0	1.2
U30-400	2	14.0	20.1	5.1	7.6	3.0	1.2
U30-500	2	14.0	24.9	10.2	7.6	3.0	1.2
U30-600	2	16.5	24.9	10.2	7.6	3.0	1.2
U30-700	2	19.1	26.7	10.2	7.6	3.0	1.2
U30-800	2	21.6	29.2	10.2	7.6	3.0	1.2
U30-900	2	24.1	29.7	10.2	7.6	3.0	1.2

Typical Time-To-Trip at 23°C

- A = 30-090
- B = 30-110
- C = 30-135
- D = 30-160
- E = 30-185
- F = 30-250
- G = 30-300
- H = 30-400
- I = 30-500
- J = 30-600
- K = 30-700
- L = 30-800
- M = 30-900



RoHS Compliant & Lead Free

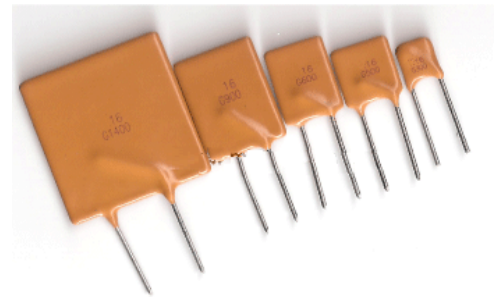
Application: Wide variety of electronic equipment

Product Features: Very high hold current, Solid state Radial-leaded product ideal for up to 16VDC

Operation Current: 2.5A ~ 14.00A

Maximum Voltage: 16V_{DC}

Temperature Range: -40°C to 85°C



Electrical Characteristics(23°C)

Part Number	Hold Curre I _H , A	Trip Curre I _T , A	Max.time to trip at 5xI _H , s	Max. Current I _{MAX} , A	Rated Voltage V _{MAX} , V _{DC}	Typ. Power Pd, W	Resistance	
							R _{MIN} Ohms	R _{1MAX} Ohms
G16-250	2.5	4.7	5.0	100	16	1.0	0.022	0.053
G16-300	3.0	5.1	2.0	100	16	2.3	0.034	0.105
G16-400	4.0	6.8	3.5	100	16	2.4	0.020	0.063
G16-500	5.0	8.5	3.6	100	16	2.6	0.014	0.044
G16-600	6.0	10.2	5.8	100	16	2.8	0.009	0.033
G16-700	7.0	11.9	8.0	100	16	3.0	0.006	0.021
G16-800	8.0	13.6	9.0	100	16	3.0	0.005	0.018
G16-900	9.0	15.3	12.0	100	16	3.3	0.004	0.015
G16-1000	10.0	17.0	12.5	100	16	3.3	0.003	0.012
G16-1100	11.0	18.7	13.5	100	16	3.7	0.003	0.010
G16-1200	12.0	20.4	16.0	100	16	4.2	0.002	0.009
G16-1400	14.0	23.8	20.0	100	16	4.6	0.002	0.008

Thermal Derating for PPTC Device at Various Ambient Temperatures

TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	149%	132%	120%	100%	95%	88%	80%	71%	61%	47%

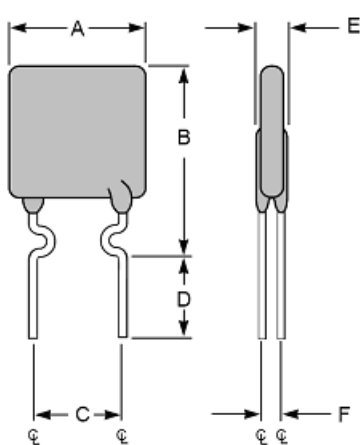


Fig1

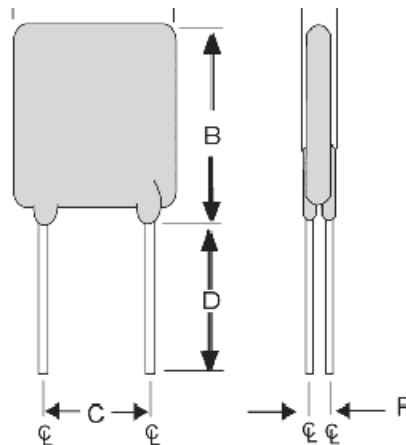


Fig2

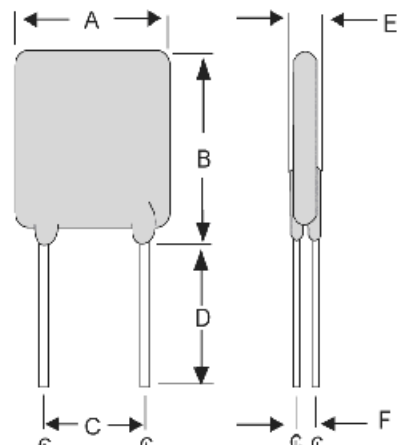


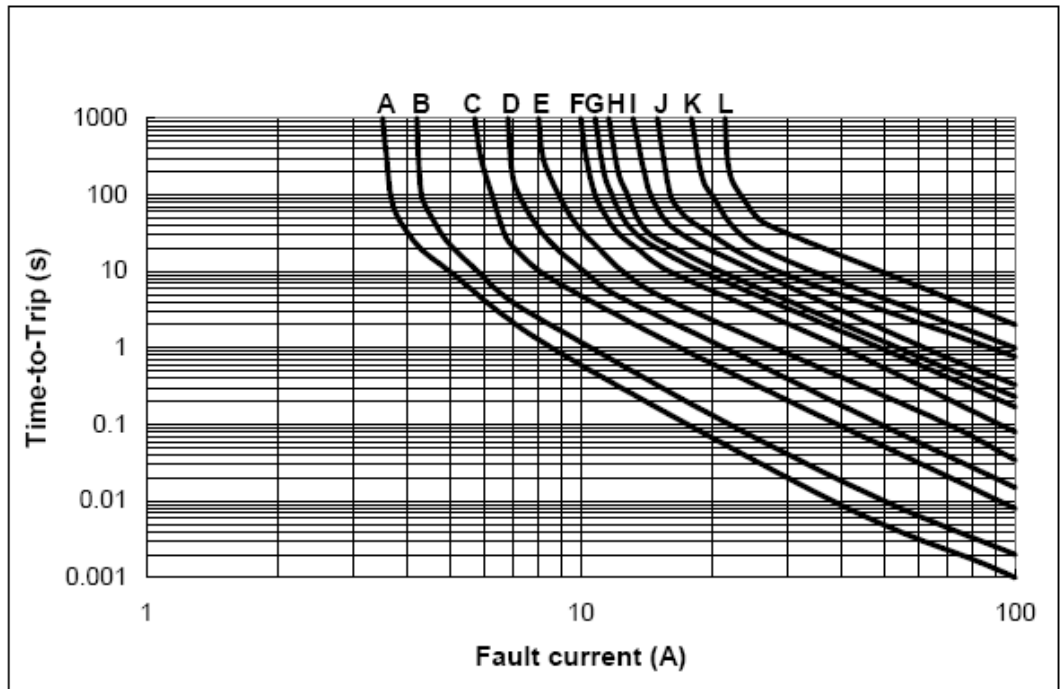
Fig3



Part Number	Fig	A	B	C	D	E	F
		Max	Max	Typ	Min	Max	Typ
G16-250	1	8.9	12.8	5.1	7.6	3.0	1.2
G16-300	2	7.1	11.0	5.1	7.6	3.0	1.2
G16-400	2	8.9	12.8	5.1	7.6	3.0	1.2
G16-500	2	10.4	14.3	5.1	7.6	3.0	1.2
G16-600	2	10.7	17.1	5.1	7.6	3.0	1.2
G16-700	2	11.2	19.7	5.1	7.6	3.0	1.2
G16-800	2	12.7	20.9	5.1	7.6	3.0	1.2
G16-900	2	14.0	21.7	5.1	7.6	3.0	1.2
G16-1000	2	16.5	24.1	5.1	7.6	3.0	1.2
G16-1100	2	17.5	26.0	5.1	7.6	3.0	1.2
G16-1200	3	17.5	28.0	10.2	7.6	3.6	1.4
G16-1400	3	27.9	27.9	10.2	7.6	3.6	1.4

Typical Time-To-Trip at 23°C

- A = G16-250
- B = G16-300
- C = G16-400
- D = G16-500
- E = G16-600
- F = G16-700
- G = G16-800
- H = G16-900
- I = G16-1000
- J = G16-1100
- K = G16-1200
- L = G16-1400



RoHS Compliant & Lead Free

Application: Telecommunication and Data transmitting

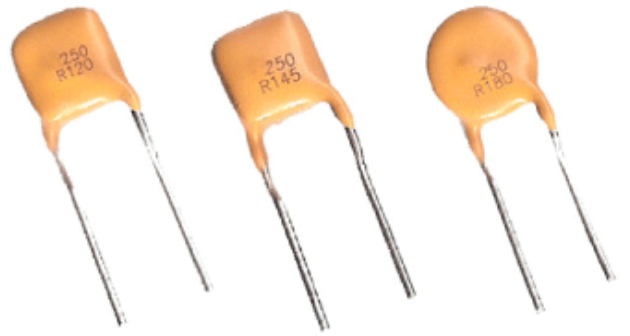
Product Features: Low hold current, Solid state

Operation Current: 0.08 A~0.18A

Max. Operation Voltage : 100V/250VDC

Max. Interrupt Voltage : 250V/600V

Temperature Range: -40°C to 85°C



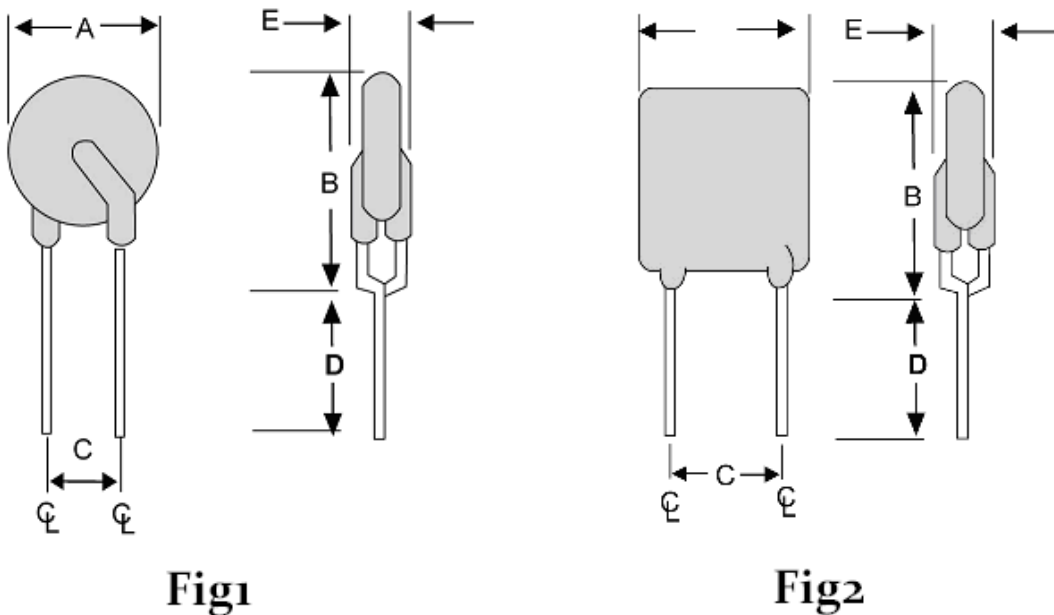
Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Max. Time To Trip		Max. Current	Max. Oper. Voltage	Max. Int. Voltage	Typ.	Resistance	
			Current	Time					R _{MIN}	R _{1MAX}
R250-080	0.08	0.16	0.35	4.0	3.0	100	250	1.0	14.0	33.0
R250-110	0.11	0.22	1.00	2.0	3.0	100	250	1.0	5.0	16.0
R250-120	0.12	0.24	1.00	2.0	3.0	100	250	1.0	4.0	16.0
R250-145	0.15	0.29	1.00	2.5	3.0	100	250	1.0	3.0	12.0
R250-180	0.18	0.65	1.50	11.0	10.0	100	250	1.5	0.8	4.0
R600-150	0.15	0.30	1.00	5.0	3.0	250	600	1.0	6.0	22.0
R600-160	0.16	0.32	1.00	7.0	3.0	250	600	1.0	4.0	18.0

Thermal Derating for PPTC Device at Various Ambient Temperatures

TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	159%	138%	119%	100%	92%	83%	73%	64%	55%	42%

Product Dimensions (mm)

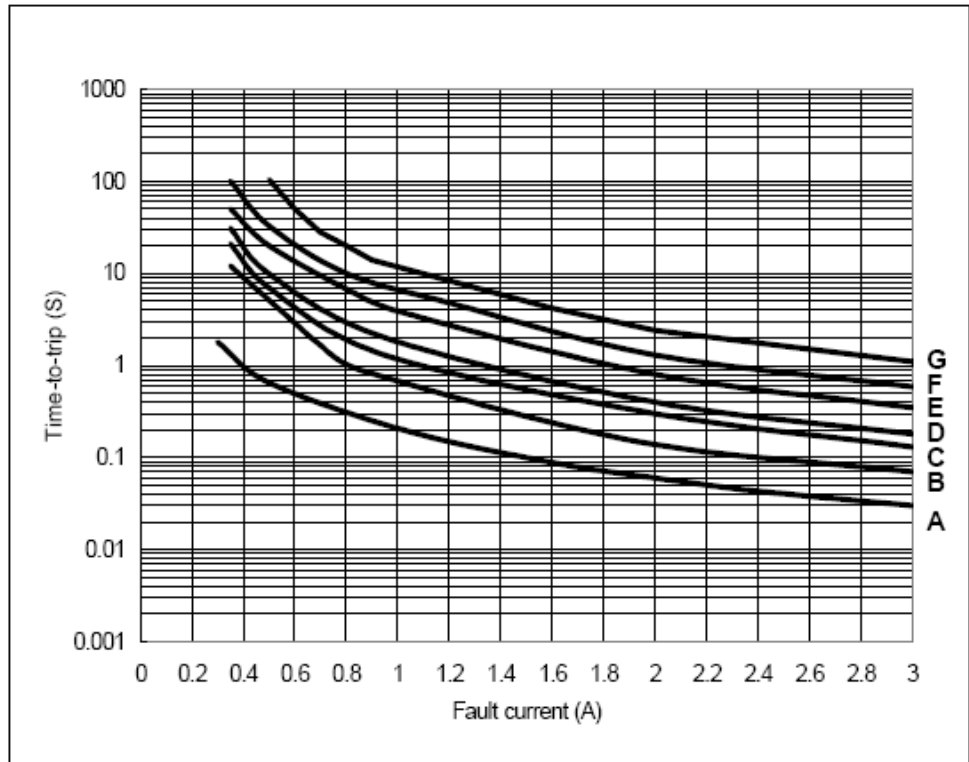




Part Number	Fig	A	B	C	D	E
		Max	Max	Typ	Min	Max
R250-080	1	5.8	9.6	5.0	4.7	4.6
R250-110	1	6.8	9.9	5.0	4.7	4.6
R250-120	2	6.5	11.0	5.0	4.7	4.6
R250-145	2	6.5	11.0	5.0	4.7	4.6
R250-180	2	10.9	12.6	5.0	4.7	4.6
R600-150	2	9.0	12.5	5.0	4.7	4.6
R600-160	2	16.0	12.6	5.0	4.7	6.0

Typical Time-To-Trip at 23°C

- A = 250-080
- B = 250-110
- C = 250-120
- D = 250-145
- E = 250-180
- F = 600-150
- G = 600-160



RoHS Compliant & Lead Free

Application : Line Voltage Power Supply, Transformer and Appliances

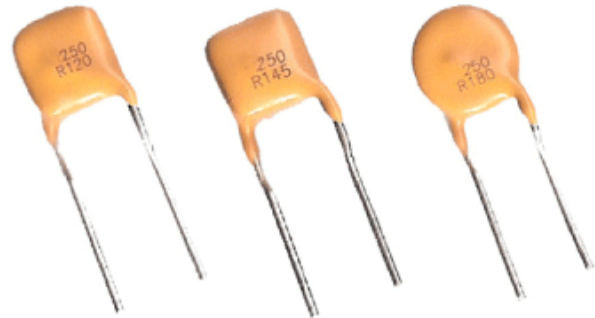
Product Features : Low hold current, Solid state, Radial leaded product ideal for up to 265V_{AC/DC}

Maximum Operation Current : 0.05A~2.00A

Maximum Operating Voltage : 240V_{AC/DC}

Maximum Interrupt Voltage : 265V_{AC/DC}

Temperature Range : -40°C to 85°C



Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Max.Time to Trip	Max. Current	Rated Voltage	Max.Int Voltage	Typ. Power	Resistance	
	I _H , A	I _T , A	at 5xI _H ,s	I _{MAX} , A	V _{MAX} , V _{AC/DC}	V _{I-MAX} , V _{AC/DC}		R _{MIN}	R1 _{MAX}
	I _H , A	I _T , A	at 5xI _H ,s	I _{MAX} , A	V _{MAX} , V _{AC/DC}	V _{I-MAX} , V _{AC/DC}	Pd, W	Ohms	Ohms
RV240-050	0.05	0.12	15.0	1.0	240	265	0.70	18.50	65.00
RV240-080	0.08	0.19	15.0	1.2	240	265	0.80	7.40	26.00
RV240-120	0.12	0.30	15.0	1.2	240	265	1.00	3.00	12.00
RV240-160	0.16	0.37	15.0	2.0	240	265	1.40	2.50	7.80
RV240-250	0.25	0.56	18.5	3.5	240	265	1.50	1.30	3.80
RV240-330	0.33	0.74	18.5	4.5	240	265	1.70	0.83	2.60
RV240-400	0.40	0.90	24.0	5.5	240	265	2.00	0.60	1.90
RV240-550	0.55	1.25	26.0	7.0	240	265	3.40	0.45	1.45
RV240-750	0.75	1.50	18.0	7.5	240	265	2.60	0.32	0.84
RV240-1000	1.00	2.00	21.0	10.0	240	265	2.90	0.22	0.58
RV240-1250	1.25	2.50	23.0	12.5	240	265	3.30	0.17	0.44
RV240-2000	2.00	4.00	28.0	20.0	240	265	4.50	0.09	0.22

Thermal Derating for PPTC Device at Various Ambient Temperatures

TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	148%	133%	114%	100%	92%	86%	73%	64%	52%	40%

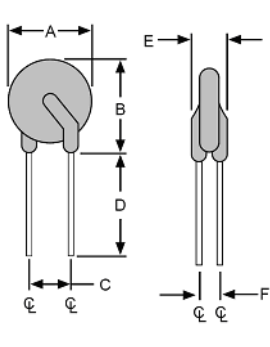


Fig1

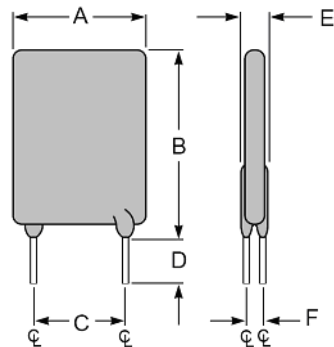


Fig2

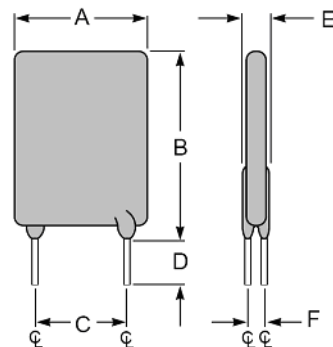


Fig3

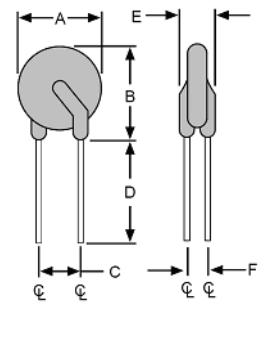


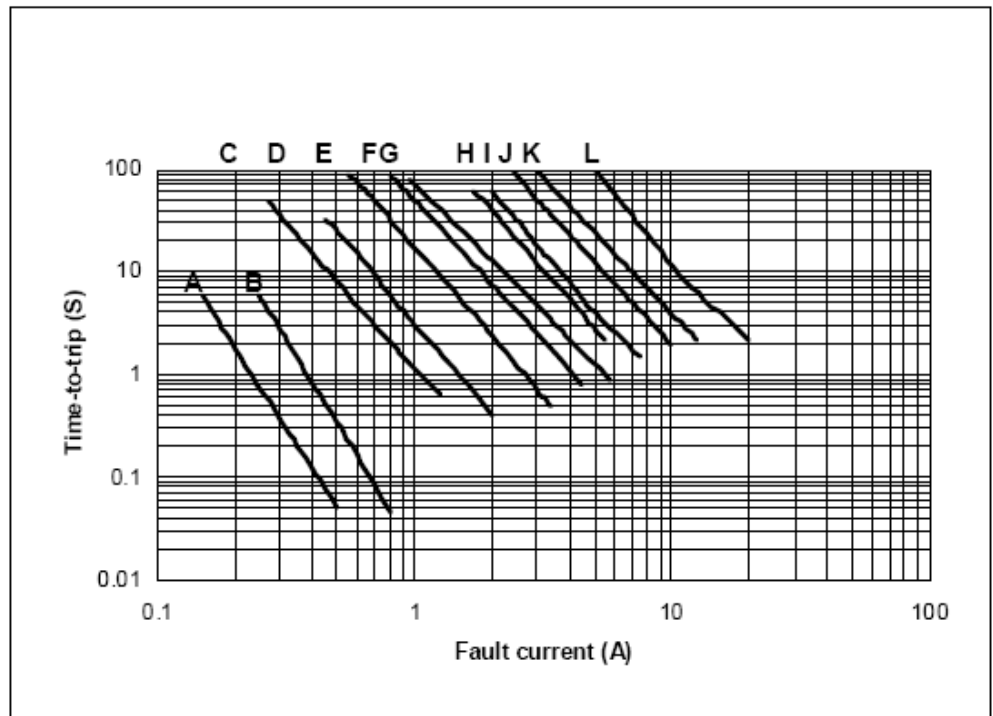
Fig4



Part Number	Fig	A	B	C	D	E	F
		Max	Max	Typ	Min	Max	Typ
RV240-050	1	8.3	10.7	5.1	7.6	3.8	1.6
RV240-080	1	8.3	10.7	5.1	7.6	3.8	1.6
RV240-120	1	8.3	10.7	5.1	7.6	3.8	1.6
RV240-160	1	9.9	12.5	5.1	7.6	3.8	1.6
RV240-250	2	9.6	17.4	5.1	7.6	3.8	1.8
RV240-330	2	11.4	16.5	5.1	7.6	3.8	1.8
RV240-400	2	11.5	19.5	5.1	7.6	3.8	1.8
RV240-550	3	14.0	21.7	5.1	7.6	4.1	1.9
RV240-750	3	11.5	23.4	5.1	7.6	4.8	1.9
RV240-1000	4	18.7	24.4	10.2	7.6	5.1	1.9
RV240-1250	4	21.2	27.4	10.2	7.6	5.3	1.9
RV240-2000	3	24.9	33.8	10.2	7.6	6.1	1.9

Typical Time-To-Trip at 23°C

- A = 240-050
- B = 240-080
- C = 240-120
- D = 240-160
- E = 240-250
- F = 240-330
- G = 240-400
- H = 240-550
- I = 240-750
- J = 240-1000
- K = 240-1250
- L = 240-2000



RoHS Compliant & Lead Free

Application : Line Voltage Power Supply, Transformer and Appliances Product

Features : Solid state, Radial leaded product ideal for up to 120V_{AC}/V_{DC}

Maximum Operation Current : 0.10A~3.75A

Maximum Voltage : 120V_{AC/DC}

Maximum Interrupt Voltage : 135V_{AC/DC}

Temperature Range : -40°C to 85°C



Electrical Characteristics (23°C)

Part Number	Hold Current I _H , A	Trip Current I _T , A	Max. Time to Trip at 5xI _H ,s	Max. Current I _{MAX} , A	Max. Oper. Voltage V _{MAX} , V _{AC/DC}	Max. Int. Voltage V _{I-MAX} , V _{AC/DC}	Typ. Power Pd, W	Resistance	
								R _{MIN} Ohms	R _{1MAX} Ohms
R120-100	0.10	0.20	10.0	2.0	120	135	0.84	3.00	7.50
R120-170	0.17	0.34	10.0	2.0	120	135	0.84	2.00	7.00
R120-200	0.20	0.40	9.0	2.0	120	135	1.08	1.83	4.40
R120-250	0.25	0.50	7.5	3.0	120	135	1.08	1.25	3.00
R120-300	0.30	0.60	8.5	3.0	120	135	1.44	0.88	2.10
R120-400	0.40	0.80	6.5	3.0	120	135	1.44	0.55	1.29
R120-500	0.50	1.00	6.0	3.0	120	135	1.56	0.50	1.17
R120-650	0.65	1.30	5.7	5.0	120	135	1.68	0.31	0.72
R120-700	0.75	1.50	6.3	5.0	120	135	1.80	0.25	0.60
R120-750	0.75	1.50	15.0	7.5	120	135	2.64	0.25	0.69
R120-900	0.90	1.80	7.2	5.0	120	135	1.80	0.20	0.47
R120-1000	1.00	2.00	15.0	10.0	120	135	2.64	0.18	0.47
R120-1100	1.10	2.20	8.2	8.0	120	135	2.28	0.15	0.38
R120-1250	1.25	2.50	20.0	12.5	120	135	2.88	0.11	0.33
R120-1300	1.35	2.70	9.6	10.0	120	135	2.64	0.12	0.30
R120-1350	1.35	2.70	20.0	13.5	120	135	3.12	0.11	0.30
R120-1600	1.60	3.20	11.4	12.0	120	135	3.12	0.09	0.22
R120-1850	1.85	3.70	12.6	12.0	120	135	3.36	0.08	0.19
R120-2000	2.00	4.20	36.0	20.0	120	135	4.32	0.08	0.21
R120-2500	2.50	5.00	15.6	15.0	120	135	4.44	0.05	0.13
R120-3000	3.00	6.00	19.8	17.0	120	135	4.56	0.04	0.10
R120-3750	3.75	7.50	24.0	20.0	120	135	4.80	0.03	0.08

Thermal Derating for PPTC Device at Various Ambient Temperatures

TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	158%	138%	119%	100%	90%	80%	70%	60%	50%	38%

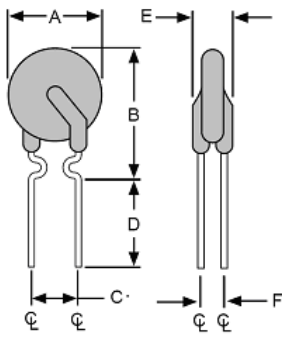


Fig1

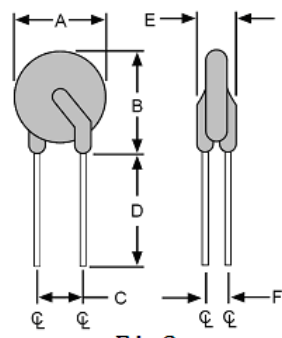


Fig2

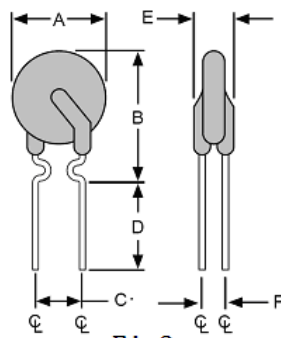


Fig3

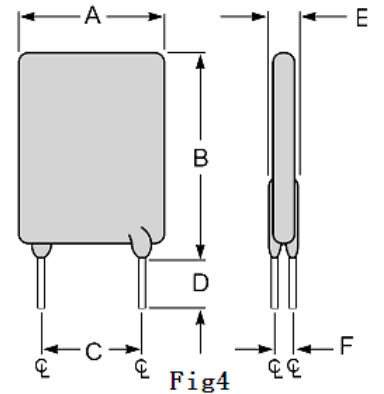


Fig4

Part Number	Fig	A	B	C	D	E	F
		Max	Max	Typ	Min	Max	Typ
R120-100	1	7.9	13.0	5.1	7.6	3.8	2.2
R120-170	1	7.9	13.0	5.1	7.6	3.8	2.2
R120-200	2	7.9	13.0	5.1	7.6	3.8	2.2
R120-250	2	7.9	13.0	5.1	7.6	3.8	2.2
R120-300	2	7.9	13.0	5.1	7.6	3.8	2.2
R120-400	2	8.2	14.2	5.1	7.6	3.8	2.2
R120-500	2	9.2	14.9	5.1	7.6	3.8	2.2
R120-650	2	9.7	14.9	5.1	7.6	3.8	2.2
R120-700	2	10.6	15.5	5.1	7.6	3.8	2.2
R120-750	4	10.9	17.0	5.1	7.6	4.1	2.2
R120-900	2	11.9	15.9	5.1	7.6	3.8	2.2
R120-1000	4	11.5	20.1	5.1	7.6	4.1	2.2
R120-1100	3	13.3	18.3	5.1	7.6	4.1	2.2
R120-1250	4	14.0	21.7	5.1	7.6	4.1	2.2
R120-1300	3	15.5	20.6	5.1	7.6	4.1	2.2
R120-1350	4	16.3	21.7	5.1	7.6	4.1	2.2
R120-1600	3	17.5	22.5	5.1	7.6	4.1	2.2
R120-1850	3	19.9	24.9	5.1	7.6	4.1	2.2
R120-2000	4	23.5	27.9	10.2	7.6	4.1	2.2
R120-2500	3	22.5	27.5	10.2	7.6	4.1	2.2
R120-3000	3	25.5	30.0	10.2	7.6	4.1	2.2
R120-3750	3	29.5	34.0	10.2	7.6	4.1	2.2



Typical Time-To-Trip at 23°C

- A=120-100
- B=120-170
- C=120-200
- D=120-250
- E=120-300
- F=120-400
- G=120-500
- H=120-600
- I=120-700
- J=120-900
- K=120-1100
- L=120-1300
- M=120-1600
- N=120-1850
- O=120-2500
- P=120-3000
- Q=120-3750

