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PRODUCT DATASHEET

PTC Devices

A16 Series PTC Devices






Description

JDTFUSE A16 Series Radial Leaded PTCs are designed to provide resettable overcurrent protection serving a wide range of electronics applications. With maximum 16V voltage and maximum 40-ampere short circuit rating, they offer an ideal solution for USB protection.

Features

- 100A short circuit rating
- 16V Operating voltages
- Fast time-to-trip
- Meets all USB protection requirements
- RoHS compliant, Lead-Free and Halogen-Free*

Agency Approvals

Agency	File Number
	E472196
Regulation	Standard
	2002/95/EC
	EN14582

Applications

- Computers & peripherals
- Any USB applications
- Motor protection
- General Electronics

Performance Specification

Model	V _{max} (V _{dc})	I _{max} (A)	I _{hold} @25°C (A)	I _{trip} @25°C (A)	P _d Typ. (W)	Maximum Time To Trip		Resistance		
						Current (A)	Time (Sec)	R _{i min} (Ω)	R _{i max} (Ω)	R _{1max} (Ω)
A16-030	16	40	0.30	0.60	0.30	1.50	1.00	0.300	0.900	1.300
A16-050	16	40	0.50	1.00	0.40	2.50	1.10	0.200	0.500	0.760
A16-065	16	40	0.65	1.30	0.60	3.25	5.00	0.120	0.480	0.650
A16-075	16	40	0.75	1.50	0.30	3.75	4.80	0.100	0.320	0.400
A16-090	16	40	0.90	1.80	0.60	4.50	1.20	0.090	0.180	0.250
A16-110	16	40	1.10	2.20	0.70	5.50	2.30	0.060	0.150	0.240
A16-120	16	40	1.20	2.40	0.60	6.00	5.50	0.050	0.180	0.240
A16-135	16	40	1.35	2.70	0.80	6.75	4.50	0.040	0.130	0.190
A16-160	16	40	1.60	3.20	0.90	8.00	9.00	0.030	0.110	0.200
A16-185	16	40	1.85	3.70	1.00	9.25	10.0	0.030	0.100	0.160
A16-250	16	40	2.50	5.00	1.30	7.50	15.0	0.020	0.070	0.120
A16-300	16	40	3.00	5.10	2.30	15.0	2.00	0.020	0.070	0.110
A16-400	16	40	4.00	6.80	2.40	20.0	3.50	0.020	0.040	0.080
A16-500	16	40	5.00	8.50	2.60	25.0	3.60	0.014	0.025	0.033
A16-600	16	40	6.00	10.20	2.80	30.0	5.80	0.001	0.021	0.031
A16-700	16	40	7.00	11.90	3.00	35.0	8.00	0.008	0.015	0.022
A16-800	16	40	8.00	13.60	3.00	40.0	9.00	0.006	0.013	0.021
A16-900	16	40	9.00	15.30	3.30	45.0	12.0	0.004	0.012	0.018
A16-1000	16	40	10.00	17.00	3.60	50.0	12.5	0.004	0.011	0.015
A16-1100	16	40	11.00	18.70	3.70	55.0	13.5	0.003	0.009	0.013
A16-1200	16	40	12.00	20.40	4.20	60.0	16.0	0.003	0.008	0.012
A16-1400	16	40	14.00	23.80	4.60	70.0	20.0	0.003	0.007	0.011

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.

I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.

V_{max} = Maximum operating voltage device can withstand without damage at rated current (I_{max}).

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

P_d = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

R_{i min/max} = Minimum/Maximum device resistance prior to tripping at 25°C.

R_{1max} = Maximum device resistance is measured one hour post reflow.

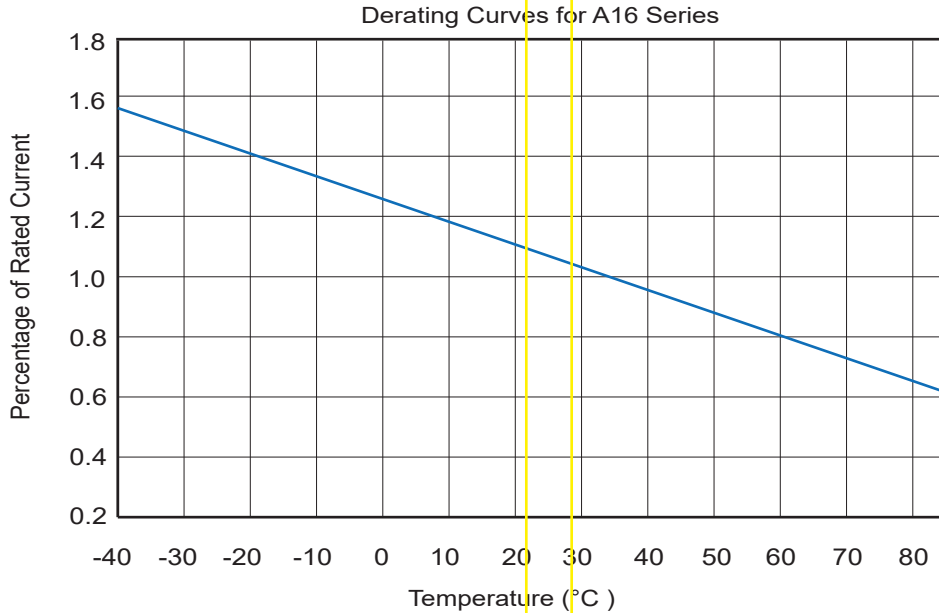
CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202, Method 215	No change
Vibration	MIL-STD-202, Method 201	No change
Ambient operating conditions : - 40 °C to +85 °C		

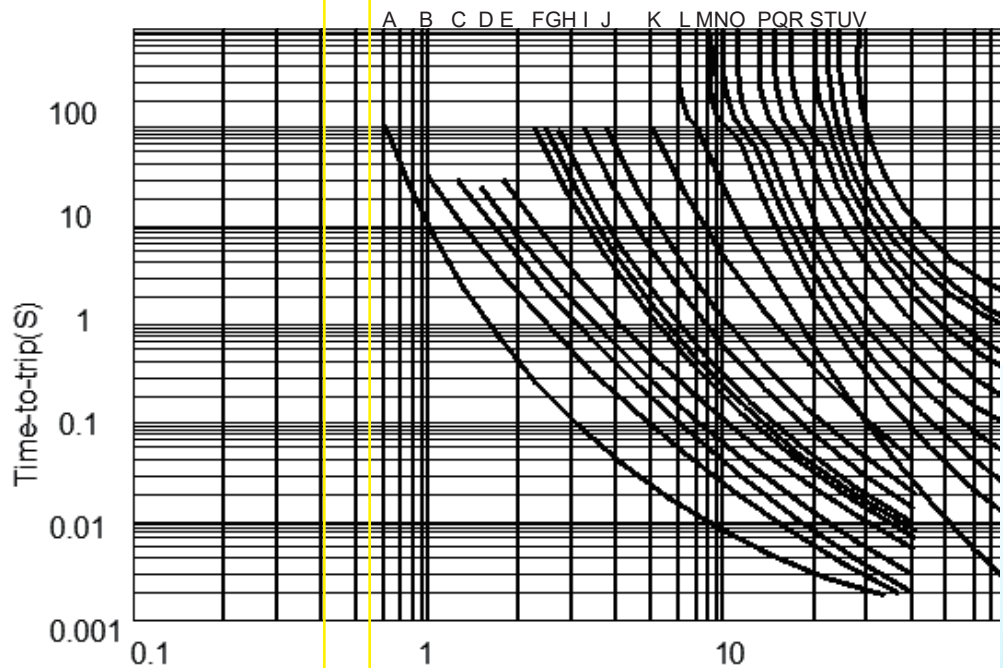
Maximum surface temperature of the device in the tripped state is 125 °C

Thermal Derating Curve

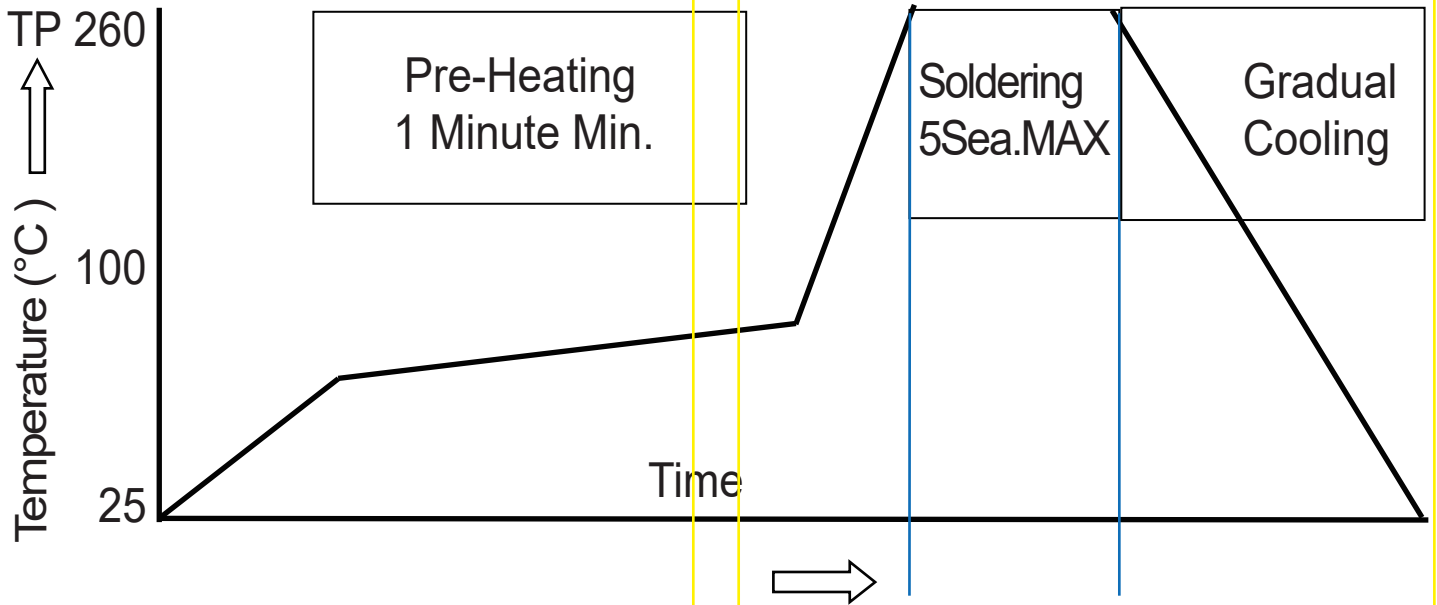


Average Time-Current Curve

- A=A16-030
- B=A16-050
- C=A16-065
- D=A16-075
- E=A16-090
- F=A16-110
- G=A16-120
- H=A16-135
- I=A16-160
- J=A16-185
- K=A16-250
- L=A16-300
- M=A16-400
- N=A16-500
- O=A16-600
- P=A16-700
- Q=A16-800
- R=A16-900
- S=A16-1000
- T=A16-1100
- U=A16-1200
- V=A16-1400

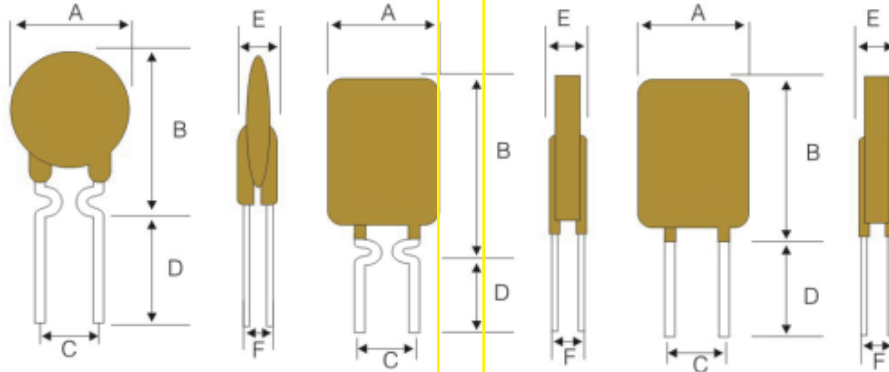


Soldering Parameters



WAVE SOLDERING INFORMATION

- Pre-Heating Zone Max.ramping rate should not exceed 4 °C/Sec.
- Soldering Zone Max.solder temperature should not exceed 260 °C
- Cooling Zone Cooling by natural convection in air.
- © Specifications are subject to change without notice

Physical Dimensions(mm.)


图片FIG1

图片FIG2

图片FIG3

Model	A Max.	B Max.	C Max.	D Max.	E Max.	FIG
A16-030	5.50	13.0	5.10	7.60	3.1	1
A16-050	5.50	12.0	5.10	7.60	3.0	1
A16-065	6.90	12.0	5.10	7.60	3.0	1
A16-075	7.40	13.0	5.10	7.60	3.0	1
A16-090	7.40	13.0	5.10	7.60	3.0	2
A16-110	7.40	14.4	5.10	7.60	3.0	1
A16-120	7.40	14.4	5.10	7.60	3.0	2
A16-135	8.90	15.9	5.10	7.60	3.0	2
A16-160	8.90	16.7	5.10	7.60	3.0	2
A16-185	10.7	17.7	5.10	7.60	3.0	2
A16-250	9.00	14.0	5.10	7.60	3.0	2
A16-300	9.00	12.0	5.10	7.60	3.0	3
A16-400	10.0	13.0	5.10	7.60	3.0	3
A16-500	10.7	17.5	5.10	7.60	3.0	3
A16-600	13.5	17.5	5.10	7.60	3.0	3
A16-700	13.5	23.0	5.10	7.60	3.0	3
A16-800	13.5	23.0	5.10	7.60	3.0	3
A16-900	15.0	24.0	5.10	7.60	3.0	3
A16-1000	18.0	26.0	5.10	7.60	3.0	3
A16-1100	18.0	26.0	5.10	7.60	3.0	3
A16-1200	22.5	28.0	5.10	7.60	3.5	3
A16-1400	24.5	30.0	10.2	7.60	3.5	3

PHYSICAL SPECIFICATIONS :

Materials : Leads A16-030 ~ 250: Tin plated copper-clad steel,24AWG(0.51mm/0.020" Dia.)
 A16-300 ~ 1100: Tin plated copper, 20AWG(0.81mm/0.032"Dia)
 A16-1200 ~ 1400: Tin plated copper, 18AWG(1.0mm/0.04" Dia.)

Lead Solderability : MIL-STD-202, Method 208E

Device Labeling : Device is marked with Logo,ampere rating,voltage rating & date code.

Packaging Quantity

Model	Reel QTY	Bag QTY
A16-030 ~ A16-600	3000	500
A16-700 ~ A16-900	1500	500
A16-1000 ~ A16-1400	-	500

Tape & Reel packaging per EIA468-B standard.

Cross Reference

Model	Cross Reference		
	Tyco / PolySwitch®	Bourns / POLY-FUSE®	Polytronics / EVERFUSE®
A16-030	-	-	-
A16-050	-	-	-
A16-065	-	-	-
A16-075	-	MF-RHT070	-
A16-090	RUEF090	MF-RHT090	RLD16P090BF
A16-110	RUEF110	-	RLD16P110BF
A16-120	RUEF120	-	-
A16-135	RUEF135	-	RLD16P135BF
A16-160	RUEF160	-	RLD16P160BF
A16-185	RUEF185	-	RLD16P185BF
A16-250	RUSBF250/RUEF250	-	RLD16P250BF
A16-300	RUEF300	MF-RG300	RLD16P300BF
A16-400	RUEF400	MF-RHT450	RLD16P400BF
A16-500	RUEF500	MF-RG500	RLD16P500BF
A16-600	RUEF600	MF-RHT650	RLD16P600BF
A16-700	RUEF700	MF-RHT750	RLD16P700BF
A16-800	RUEF800	-	RLD16P800BF
A16-900	RUEF900	-	RLD16P900BF
A16-1000	RUEF1000	-	RLD16P1000BF
A16-1100	RUEF1100	MF-R1100	RLD16P1100BF
A16-1200	RUEF1200	-	RLD16P1200BF
A16-1400	RUEF1400	MF-RHT1300	RLD16P1400BF

“PolySwitch” is a registered trademark of Tyco Electronics.

“POLY-FUSE” is a registered trademark of Littelfuse, Inc.

“EVERFUSE” is a registered trademark of Polytronics Technology Corp.

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