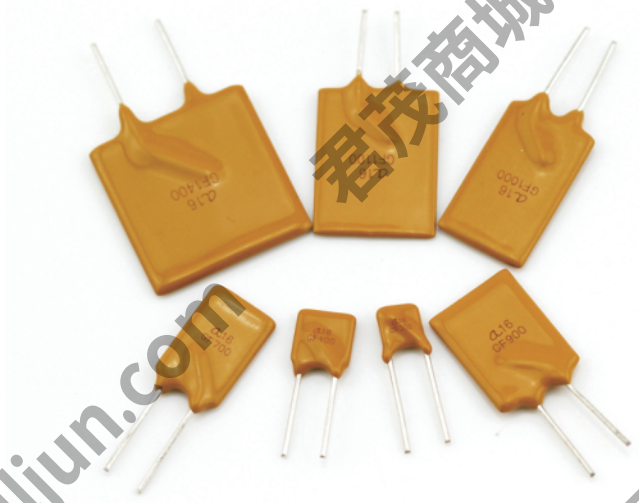
A16 Series PTC Devices



Description

JDTFUSE A16 Series Radial Leaded PTCs are designed to provide resettable overcurrent protection serving a wide range of electronics applications. With maximum 16 volts and maximum 100-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
c UL us	E472196
	pending

Regulation	Standard
RoHS	2002/95/EC
Halogen Free	EN14582

Applications

- Computers & peripherals
- Any USB application
- 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 (W)	R i max (W)	R1max (W)
A16-090	16	40	0.90	1.80	0.60	8.00	1.2	0.070	0.1200	0.180
A16-110	16	40	1.10	2.20	0.70	8.00	2.3	0.050	0.0950	0.140
A16-135	16	40	1.35	2.70	0.80	8.00	4.5	0.040	0.0740	0.120
A16-160	16	40	1.60	3.20	0.90	8.00	9.0	0.030	0.0610	0.110
A16-185	16	40	1.85	3.70	1.00	8.00	10.0	0.030	0.0510	0.090
A16-250	16	40	2.50	5.00	1.20	12.50	5.0	0.020	0.0350	0.060
A16-300	16	40	3.00	5.10	2.30	15.00	1.0	0.034	0.0650	0.105
A16-400	16	40	4.00	6.80	2.40	20.00	1.7	0.020	0.0390	0.063
A16-500	16	40	5.00	8.50	2.60	25.00	2.0	0.014	0.0230	0.044
A16-600	16	40	6.00	10.20	2.80	30.00	3.3	0.009	0.0190	0.030
A16-700	16	40	7.00	11.90	3.00	35.00	3.5	0.006	0.0130	0.021
A16-800	16	40	8.00	13.60	3.00	40.00	5.0	0.005	0.0110	0.018
A16-900	16	40	9.00	15.30	3.30	45.00	5.5	0.004	0.0092	0.015
A16-1000	16	40	10.00	17.00	3.60	50.00	6.0	0.003	0.0071	0.012
A16-1100	16	40	11.00	18.70	3.70	55.00	7.0	0.003	0.0062	0.010
A16-1200	16	40	12.00	20.40	4.20	60.00	7.5	0.002	0.0060	0.009
A16-1300	16	40	13.00	23.00	4.40	65.00	8.5	0.002	0.0060	0.009
A16-1400	16	100	14.00	23.80	4.60	70.00	9.0	0.002	0.0045	0.008

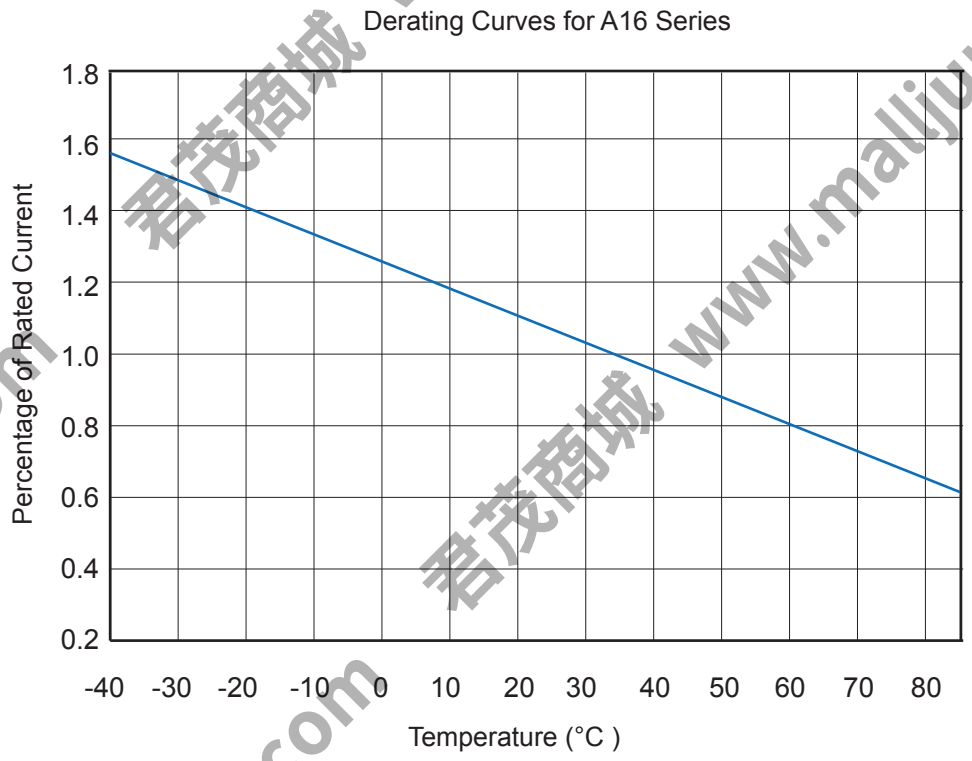
I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.
I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.
V_{max} = Maximum operating voltage device can withstand without damage at rated current (Imax).
I_{max} = Maximum fault current 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

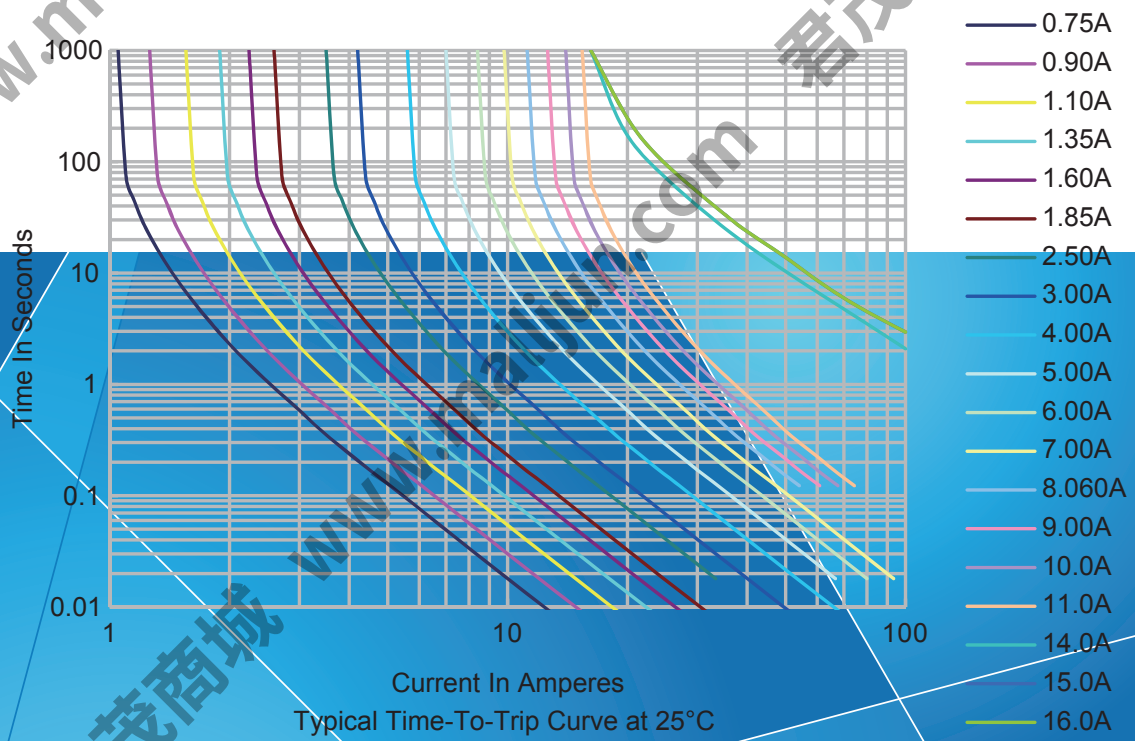
Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	MIL-STD-202,Method 201	No change

Ambient operating conditions : - 40 °C to +85 °C
Maximum surface temperature of the device in the tripped state is 125 °C

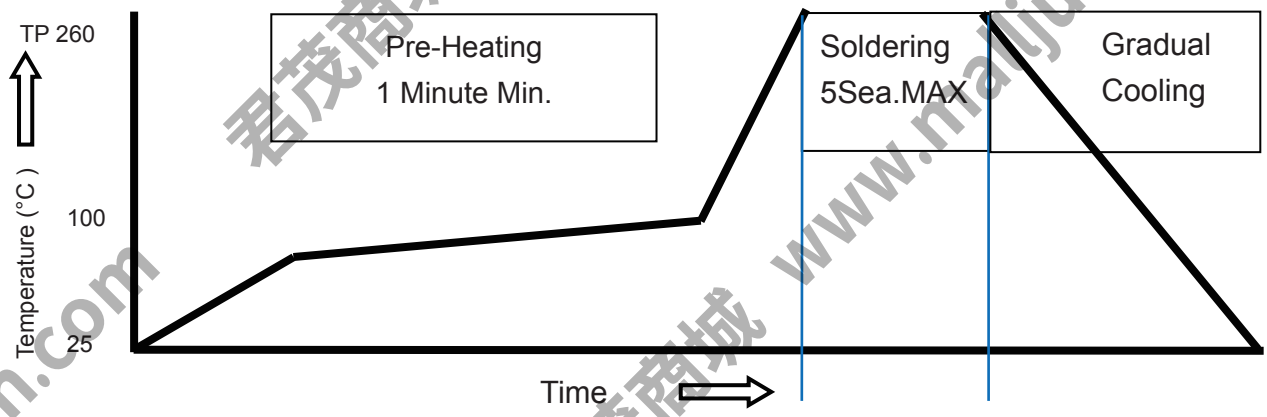
Thermal Derating Curve



Average Time-Current Curve

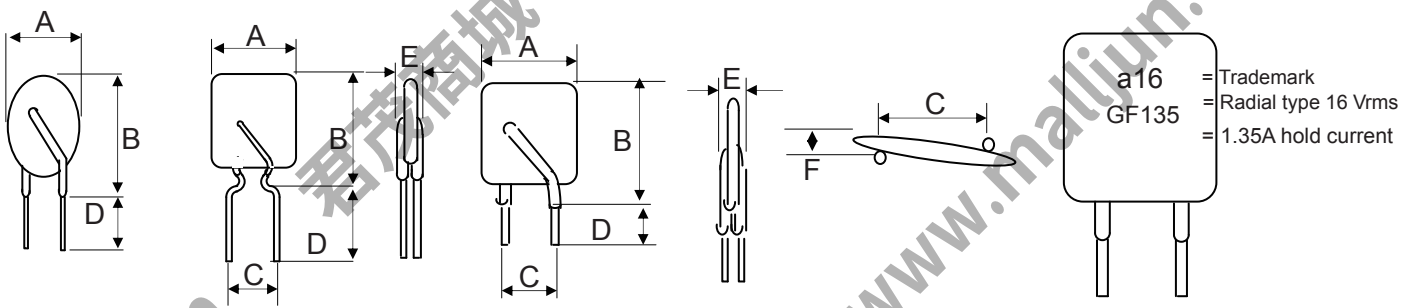


Soldering Parameters



WAVE SOLDERING INFORMATIONS	
Pre-Heating Zone	Max. ramping rate should not exceed 4℃/Sec.
Soldering Zone	Max. solder temperature should not exceed 260℃
Cooling Zone	Cooling by natural convection in air.
◎Specifications are subject to change without notice.	

Physical Dimensions(mm.)



Model	A Max.	B Max.	C Max.	D Max.	E Max.	Lead Style
A16-090	7.40	12.20	5.10	7.6	3	Kink
A16-110	7.40	14.20	5.10	7.6	3	Kink
A16-135	8.90	13.50	5.10	7.6	3	Kink
A16-160	8.90	15.20	5.10	7.6	3	Kink
A16-185	10.20	15.70	5.10	7.6	3	Kink
A16-250	10.40	14.30	5.10	7.6	3	Kink
A16-300	7.10	11.00	5.10	7.6	3	Straight
A16-400	8.90	15.20	5.10	7.6	3	Straight
A16-500	10.40	15.70	5.10	7.6	3	Straight
A16-600	10.70	18.30	5.10	7.6	3	Straight
A16-700	12.70	19.70	5.10	7.6	3	Straight
A16-800	13.40	20.10	5.10	7.6	3	Straight
A16-900	14.00	24.90	5.10	7.6	3	Straight
A16-1000	16.50	24.90	5.10	7.6	3	Straight
A16-1100	17.50	24.90	5.10	7.6	3	Straight
A16-1200	18.50	26.70	10.20	7.6	3.5	Straight
A16-1300	23.50	27.90	10.20	7.6	3.5	Straight
A16-1400	23.50	27.90	10.20	7.6	3.5	Straight

PHYSICAL SPECIFICATIONS :

Materials : Leads A16-090~250 : Tin plated copper-clad steel, 24 AWG (0.51mm/0.020" Dia.)
A16-300~1100 : Tin plated copper, 20 AWG (0.81mm/0.032" Dia.)
A16-1200~1400 : Tin plated copper, 18 AWG (1.0mm/0.04" Dia.)
Lead Solderability : MIL-STD-202, Method 208E
Device Labeling : Device is marked with Logo, amperage rating , voltage rating & date code.

Packaging Quantity

Model	Reel QTY	Bag QTY
A16-090 ~ 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®
A16-090	RUSBF090	MF-RHT070	RLD16P090BF
A16-110	RUSBF110	-	RLD16P110BF
A16-135	RUSBF135	-	RLD16P135BF
A16-160	RUSBF160	-	RLD16P160BF
A16-185	RUSBF185	MF-RHT200	RLD16P185BF
A16-250	RUSBF250	-	RLD16P250BF
A16-300	RGEF300	MF-RG300	RLD16P300GF
A16-400	RGEF400	MF-RHT450	RLD16P400GF
A16-500	RGEF500	MF-RG500	RLD16P500GF
A16-600	RGEF600	MF-RHT650	RLD16P600GF
A16-700	RGEF700	MF-RHT750	RLD16P700GF
A16-800	RGEF800		RLD16P800GF
A16-900	RGEF900	-	RLD16P900GF
A16-1000	RGEF1000	-	RLD16P1000GF
A16-1100	RGEF1100	MF-R1100	RLD16P1100GF
A16-1200	RGEF1200	-	RLD16P1200GF
A16-1300	-	MF-RHT1300	-
A16-1400	RGEF1400	-	RLD16P1400GF