

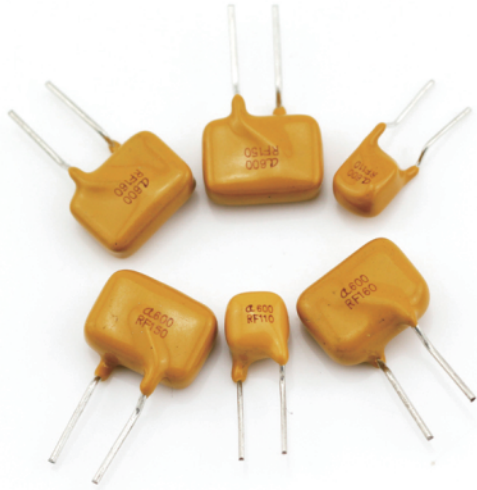


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PRODUCT DATASHEET

PTC Devices

A600 Series PTC Devices





Description

The JDTFUSE A600 Series is designed to protect against power fault events typically found in telecom applications. This series is designed to be used in applications that need to meet the requirements of GR-1089-CORE and UL60950/EN60950/IEC60950. These resettable devices also help to meet the requirements of ITU K.20, K.21 and K.44.

Features

- 0.15 - 0.16A hold current range, 60VDC operating voltage
- 600VAC interrupt rating
- Fast time-to-trip
- Binned and sorted narrow resistance ranges available
- RoHS compliant, Lead-Free and Halogen-Free*



Agency Approvals

Agency	File Number
	E472196
	pending

Applications

Secondary overcurrent protection for:

- Central Office Equipment(CO)
- Customer Premises Equipment(CE)
- Alarm systems
- Set Top Boxes(STB)
- Voice over IP(VOIP)
- Subscriber Line Interface Circuit (SLIC)

Regulation	Standard
	2002/95/EC
	EN14582

Performance Specification

Model	I _{hold} @25°C (A)	I _{trip} @25°C (A)	V _{max} Operating (V dc)	V _{max} Interrupt (Vrms)	I _{max} (A)	P _d Typ. (W)	Maximum Time To Trip		Resistance	
							Current (A)	Time (Sec)	R _{i min} (Ω)	R _{1max} (Ω)
A600-150	0.150	0.300	60	600	3.0	1.00	1.00	5.00	6.00	22.00
A600-160	0.160	0.320	60	600	3.0	1.00	1.00	7.00	4.00	18.00

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.

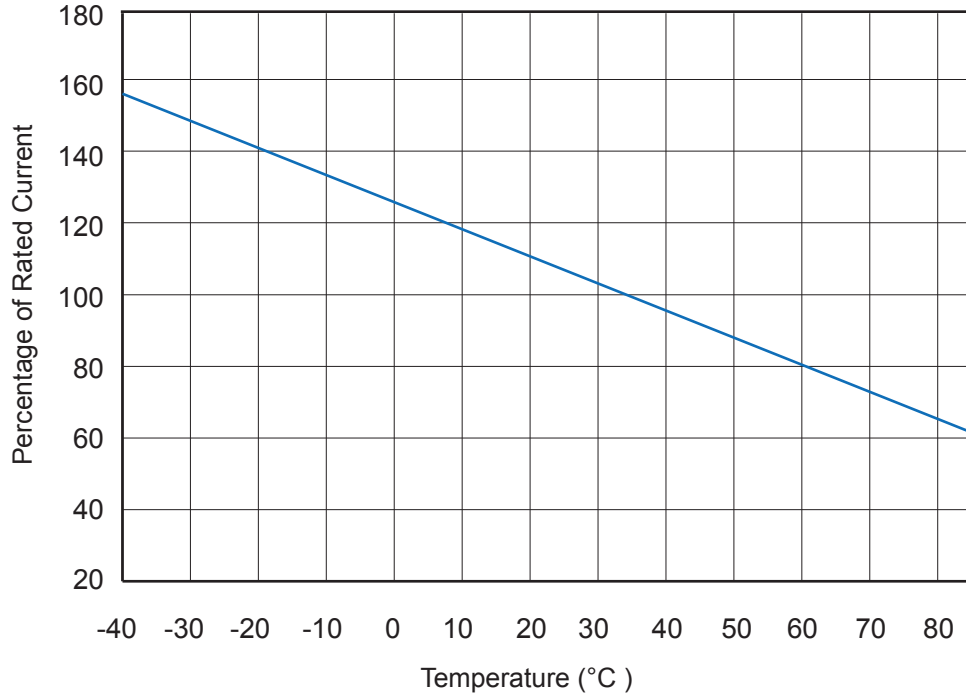
CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

Environmental Specifications

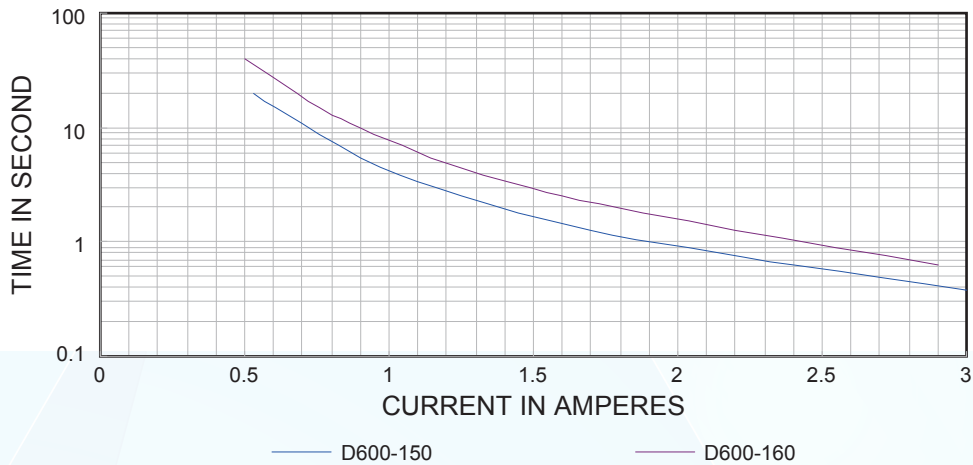
Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202, Method 215	No change
Vibration	MIL-STD-202, Method 201	No change
Ambient operating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

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

Thermal Derating Curve



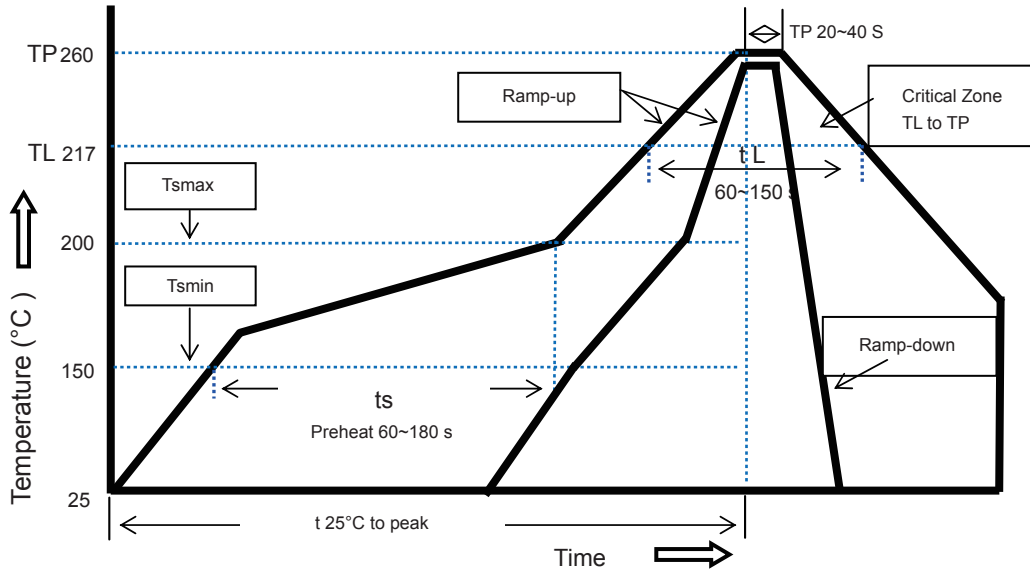
Average Time-Current Curve



I_{hold} Versus Temperature

Model	Maximum ambient operating temperature (T _{mao}) vs. hold current (I _{hold})								
	- 40°C	- 20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
A600-150	0.233	0.206	0.178	0.150	0.124	0.110	0.096	0.083	0.062
A600-160	0.249	0.219	0.190	0.160	0.132	0.117	0.103	0.088	0.066

Soldering Parameters



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Ts max to T p)	3 °C/second max.
Preheat	
-Temperature Min(Ts min)	150 °C
-Temperature Max(Ts max)	200 °C
-Time(Ts min to Ts max)	60~180 seconds
Time maintained above:	
-Temperature(TL)	217 °C
-Time(tL)	60~150 seconds
Peak Temperature(Tp)	260 °C
Ramp-Down Rate	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max
Storage Condition	0 °C~35 °C, ≤70%RH

Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free

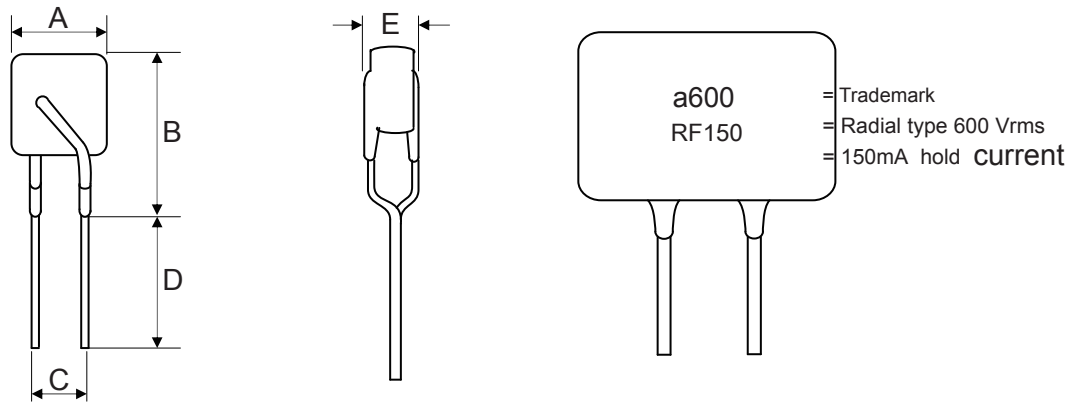
Recommended maximum paste thickness is 0.25mm

Devices can be cleaned using standard industry methods and solvents.

Note 1: All temperature refer to topside of the package, measured on the package body surface.

Note 2: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Physical Dimensions(mm.)



Model	A Max.	B Max.	C Typ.	D Min.	E Max.	Lead Style
A600-150	13.5	12.6	5.1	4.7	6.0	Kink
A600-160	13.5	12.6	5.1	4.7	6.0	Kink

PHYSICAL SPECIFICATIONS :

Materials : J600: Tin-plated copper, 22AWG, $\Phi 0.65\text{mm}(0.026\text{ in})$.

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

Packaging Quantity

A600	150	RA	B-0.5	Reel QTY	Bag QTY
Product	Hold	Rx=	B-x.x=	500	500
Series	Current (mA)	Resistance range (Optional)	Resistance bin range within 0.5 ohms in one lot (Optional)		

Tape & Reel packaging per EIA468-B standard.

Cross Reference

Model	Cross Reference		
	Tyco / PolySwitch®	Bourns / POLY-FUSE®	Polytronics / EVERFUSE®
A600-150	TRF600-150	MF-R015/600	HVR600P150CF
A600-160	TRF600-160	MF-R016/600	HVR600P160CF

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

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

X-ON Electronics

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