

## APPROVAL SHEET

MODEL NO.: \_\_\_\_\_

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP

DATE

MANUFACTURER:

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Submitted by:

Approved by:

Date:

## Performance Specification

Model	V <sub>max</sub> (Vdc)	I <sub>max</sub> (A)	I <sub>hold</sub> (A)	I <sub>trip</sub> (A)	P <sub>d</sub> Typ. (W)	Maximum Time		Resistance		
						To Trip		R <sub>imin</sub> (Ω)	R <sub>imax</sub> (Ω)	R <sub>1max</sub> (Ω)
						Current (A)	Time (Sec)			
72R005	72/90	40	0.05	0.10	0.30	0.25	8.0	10.0	25.0	50.0
72R010	72/90	40	0.10	0.20	0.38	0.50	8.0	3.30	7.50	12.5
72R017	72/90	40	0.17	0.34	0.48	0.85	5.0	1.40	3.20	5.50
72R020	72/90	40	0.20	0.40	0.52	1.00	4.5	1.20	2.75	4.40
72R025	72/90	40	0.25	0.50	0.52	1.25	3.6	0.88	1.95	3.00
72R030	72/90	40	0.30	0.60	0.59	1.50	3.0	0.70	1.33	2.10
72R040	72/90	40	0.40	0.80	0.66	2.00	5.0	0.47	0.86	1.50
72R050	72/90	40	0.50	1.00	0.77	2.50	4.5	0.40	0.77	1.20
72R065	72/90	40	0.65	1.30	0.88	3.25	5.3	0.25	0.48	0.72
72R075	72/90	40	0.75	1.50	0.95	3.75	6.3	0.20	0.42	0.63
72R090	72/90	40	0.90	1.80	0.99	4.50	7.2	0.17	0.38	0.55
72R110	72/90	40	1.10	2.20	1.50	5.50	8.2	0.14	0.26	0.39
72R135	72/90	40	1.35	2.70	1.70	6.75	9.6	0.11	0.195	0.31
72R160	72/90	40	1.60	3.20	1.90	8.00	11.4	0.08	0.145	0.22
72R185	72/90	40	1.85	3.70	2.10	9.25	12.6	0.07	0.13	0.195
72R250	72/90	40	2.50	5.00	2.50	12.50	15.6	0.045	0.08	0.13
72R300	72/90	40	3.00	6.00	2.80	15.00	19.8	0.04	0.06	0.10
72R375	72/90	40	3.75	7.50	3.20	18.75	24.0	0.03	0.05	0.08

V<sub>max</sub> = Maximum operating voltage device can withstand without damage at rated current (I<sub>max</sub>).

I<sub>max</sub> = Maximum fault current device can withstand without damage at rated voltage (V<sub>max</sub>).

I<sub>hold</sub> = Hold Current. Maximum current device will not trip in 25°C still air.

I<sub>trip</sub> = Trip Current. Minimum current at which the device will always trip in 25°C still air.

P<sub>d</sub> = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

R<sub>i min/max</sub> = Minimum/Maximum device resistance prior to tripping at 25°C.

R<sub>1max</sub> = 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

# R HuiZhou DaRong Electronic Technology CO.,LTD

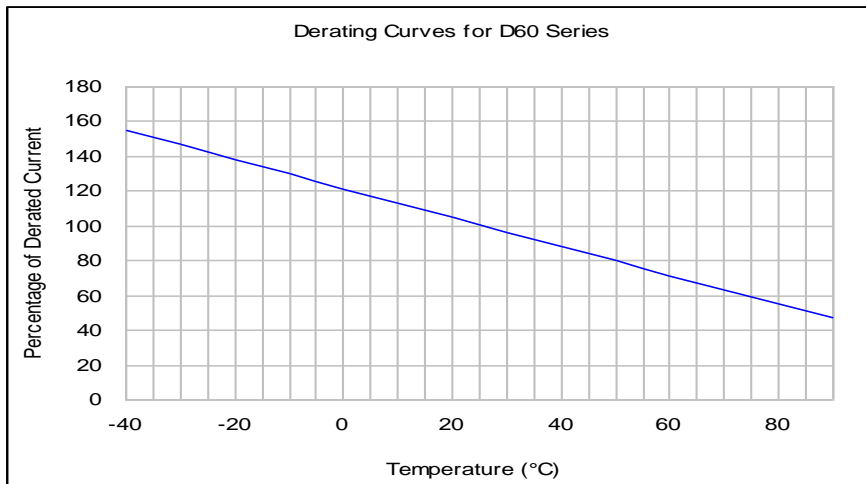
## 72R HF Series PTC Devices

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		

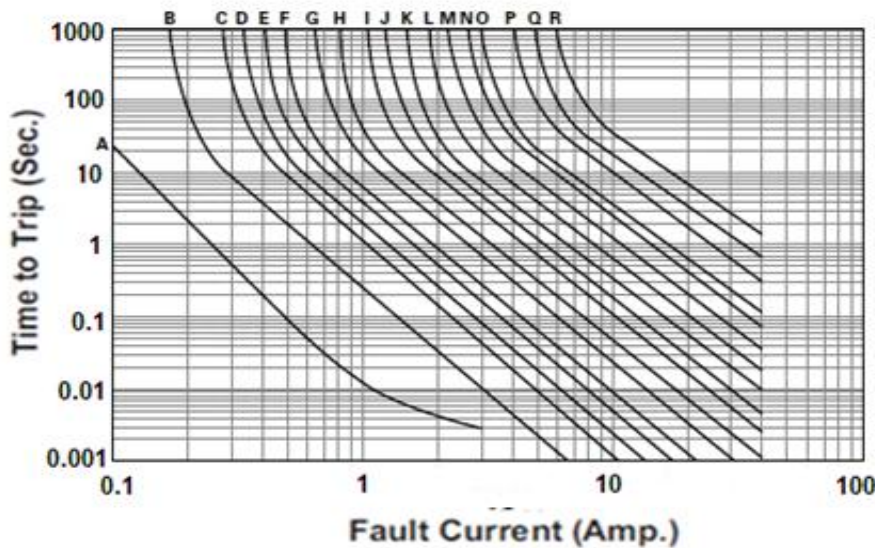
### Agency Approval and Environmental Compliance

Agency	File Number	Regulation	Standard
UL	pending		2002/95/EC
TUV	pending		EN14582

### Thermal Derating Curve



### Average Time-Current Curve

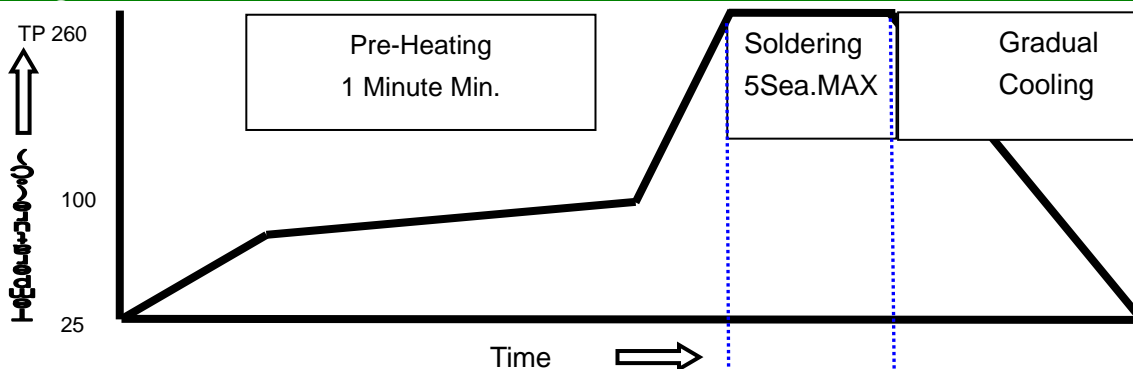


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|----------|----------|
| A=72-005 | J=72-075 |
| B=72-010 | K=72-090 |
| C=72-017 | L=72-110 |
| D=72-020 | M=72-135 |
| E=72-025 | N=72-160 |
| F=72-030 | O=72-185 |
| G=72-040 | P=72-250 |
| H=72-050 | Q=72-300 |
| I=72-065 | R=72-375 |

## Ihold Versus Temperature

Model	Maximum ambient operating temperature (T <sub>mao</sub> ) vs. hold current (I <sub>hold</sub> )								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
72R005	0.077	0.069	0.061	0.05	0.044	0.040	0.036	0.032	0.025
72R010	0.18	0.15	0.13	0.10	0.08	0.07	0.06	0.05	0.03
72R017	0.28	0.24	0.20	0.17	0.14	0.12	0.10	0.09	0.06
72R020	0.34	0.29	0.25	0.20	0.16	0.14	0.13	0.10	0.07
72R025	0.42	0.36	0.31	0.25	0.20	0.18	0.16	0.12	0.09
72R030	0.52	0.44	0.38	0.30	0.24	0.22	0.18	0.14	0.10
72R040	0.66	0.57	0.50	0.40	0.32	0.29	0.24	0.20	0.14
72R050	0.83	0.74	0.63	0.50	0.41	0.36	0.30	0.25	0.18
72R065	1.10	0.95	0.82	0.65	0.53	0.47	0.40	0.33	0.24
72R075	1.26	1.11	0.95	0.75	0.61	0.54	0.45	0.39	0.28
72R090	1.52	1.30	1.15	0.90	0.73	0.65	0.55	0.47	0.33
72R110	1.82	1.60	1.35	1.10	0.89	0.79	0.65	0.55	0.40
72R135	2.20	1.91	1.65	1.35	1.09	0.96	0.80	0.68	0.50
72R160	2.60	2.30	1.95	1.60	1.30	1.13	1.00	0.80	0.60
72R185	3.00	2.63	2.30	1.85	1.50	1.33	1.12	0.92	0.67
72R250	4.05	3.58	3.02	2.50	2.02	1.80	1.55	1.30	0.90
72R300	4.82	4.16	3.62	3.00	2.43	2.16	1.85	1.50	1.09
72R375	6.02	5.19	4.50	3.75	3.02	2.68	2.30	1.95	1.39

## Soldering Parameters

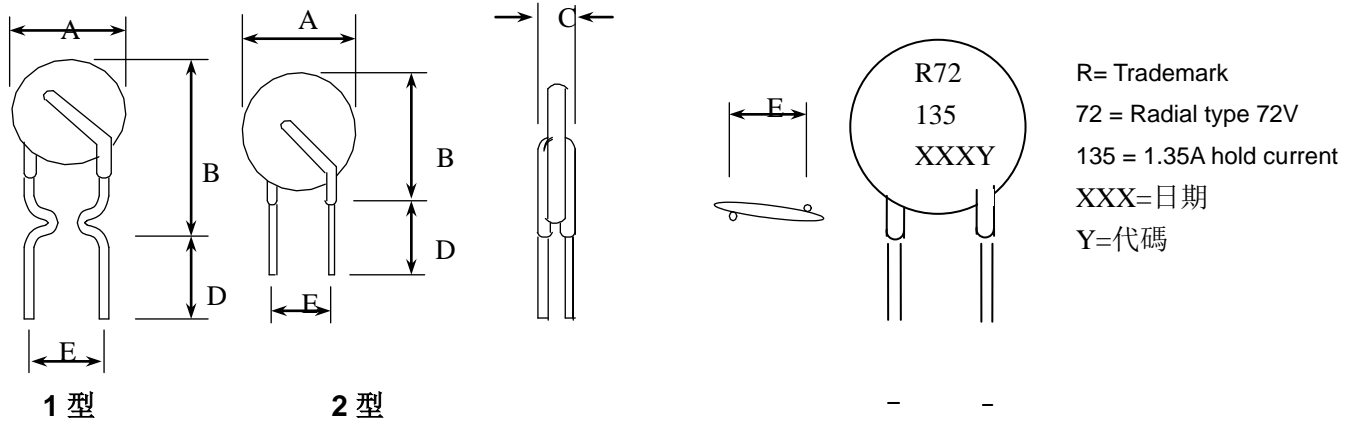


### WAVE SOLDERING INFORMATIONS

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.

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**Physical Dimensions(mm.)**



Model	A Max.	B Max.	C Max.	D Min.	E Typ.	Lead	
						Style	直径 (φ)
72R005	5.7	7.5	3.1	7.6	5.1	2	0.5
72R010	5.7	10.9	3.1	7.6	5.1	1	0.5
72R017	5.8	11.1	3.1	7.6	5.1	1	0.5
72R020	5.9	11.2	3.1	7.6	5.1	1	0.5
72R025	6.4	11.4	3.1	7.6	5.1	1	0.5
72R030	7.6	13.4	3.1	7.6	5.1	1	0.5
72R040	7.7	13.6	3.1	7.6	5.1	1	0.5
72R050	7.9	13.7	3.1	7.6	5.1	1	0.6
72R065	9.7	14.5	3.1	7.6	5.1	1	0.6
72R075	10.7	15.5	3.1	7.6	5.1	1	0.6
72R090	11.7	16.5	3.1	7.6	5.1	1	0.6
72R110	13.0	16.7	3.1	7.6	5.1	2	0.8
72R135	15.7	17.6	3.1	7.6	5.1	2	0.8
72R160	16.7	19.7	3.1	7.6	5.1	2	0.8
72R185	17.8	22.9	3.1	7.6	5.1	2	0.8
72R250	21.8	25.4	3.1	7.6	10.2	2	0.8
72R300	24.9	27.4	3.1	7.6	10.2	2	0.8
72R375	28.5	32.5	3.1	7.6	10.2	2	0.8

**PHYSICAL SPECIFICATIONS :**

Materials : Leads 72R005 ~ 040: Tin-plated copper-clad steel, 0.205mm<sup>2</sup> (24AWG), Φ0.50mm(0.020 in).  
 72R050 ~ 090: Tin-plated copper , 0.205mm<sup>2</sup> (24AWG), Φ0.60mm(0.020 in).  
 72R110 ~200: Tin-platedcopper-cladstee , 0.52mm<sup>2</sup> (20AWG), Φ0.80mm(0.032 in).  
 72R250 ~375: Tin-plated copper , 0.52mm<sup>2</sup> (20AWG), Φ0.80mm(0.032 in).

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

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

**Packaging Quantity**

72	135	U	Model	Reel Q'ty	Bag Q'ty
Radial type	Hold	U= Bulk	72R005-72R375	-	500
72V	Current(A)	packaged			

Tape & Reel packaging per EIA468-B standard.