

Description

The ASIM R72 Series is designed to provide overcurrent protection to 72Vdc maximum voltage with a maximum 40A short circuit rating.

Features

- 72Vdc max voltage w/max 40A short circuit rating
- RoHS compliant, Lead-Free and HalogenFree*
- Resettable feature
- Ideal for a broad range of general electronics using a low voltage power supply



Applications

- Load protection on wide range of low voltage power supplies
- Computers
- Computers peripherals
- 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)	Resistance				
						Maximum Time To Trip		$R_{i min}$ (Ω)	$R_{i max}$ (Ω)	R_{1max} (Ω)
						Current (A)	Time (Sec)			
72R020	72	40	0.20	0.40	0.52	1.00	3.6	1.50	2.84	4.49
72R025	72	40	0.25	0.50	0.52	1.25	3.2	1.00	1.95	3.00
72R030	72	40	0.30	0.72	0.59	1.50	3.0	0.76	1.38	2.20
72R040	72	40	0.40	0.80	0.66	2.00	3.8	0.45	0.88	1.40
72R050	72	40	0.50	1.00	0.80	2.50	4.0	0.40	0.79	1.20
72R065	72	40	0.65	1.30	0.90	3.25	5.3	0.27	0.50	0.74
72R075	72	40	0.75	1.50	0.95	3.75	6.3	0.18	0.42	0.62
72R090	72	40	0.90	1.80	1.00	4.50	7.2	0.14	0.33	0.49
72R110	72	40	1.10	2.20	1.51	5.50	8.2	0.14	0.27	0.40
72R135	72	40	1.35	2.70	1.71	6.75	9.6	0.12	0.21	0.32
72R160	72	40	1.60	3.20	1.98	8.00	11.4	0.09	0.16	0.24
72R185	72	40	1.85	3.70	2.10	9.25	12.6	0.08	0.14	0.21
72R250	72	40	2.50	5.00	2.50	12.50	15.6	0.05	0.10	0.15
72R300	72	40	3.00	6.00	2.80	15.00	19.8	0.04	0.08	0.12
72R375	72	40	3.75	7.50	3.20	18.75	24.0	0.03	0.06	0.10
72R500	72	40	5.00	10.0	4.20	25.00	30.0	0.015	0.05	0.08

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.

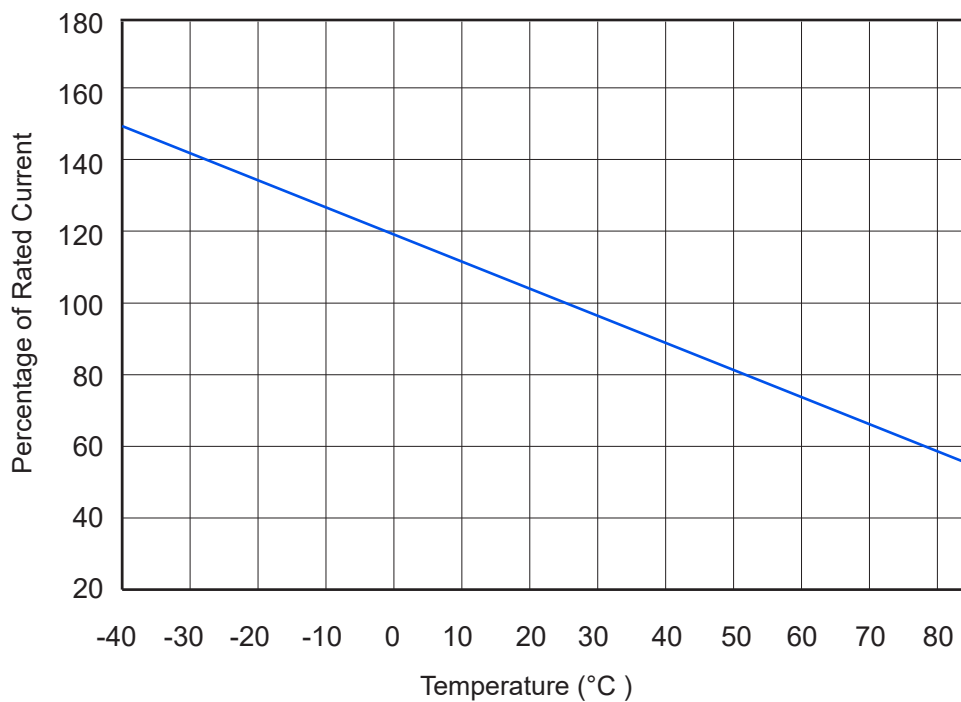
Environmental Specifications

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		

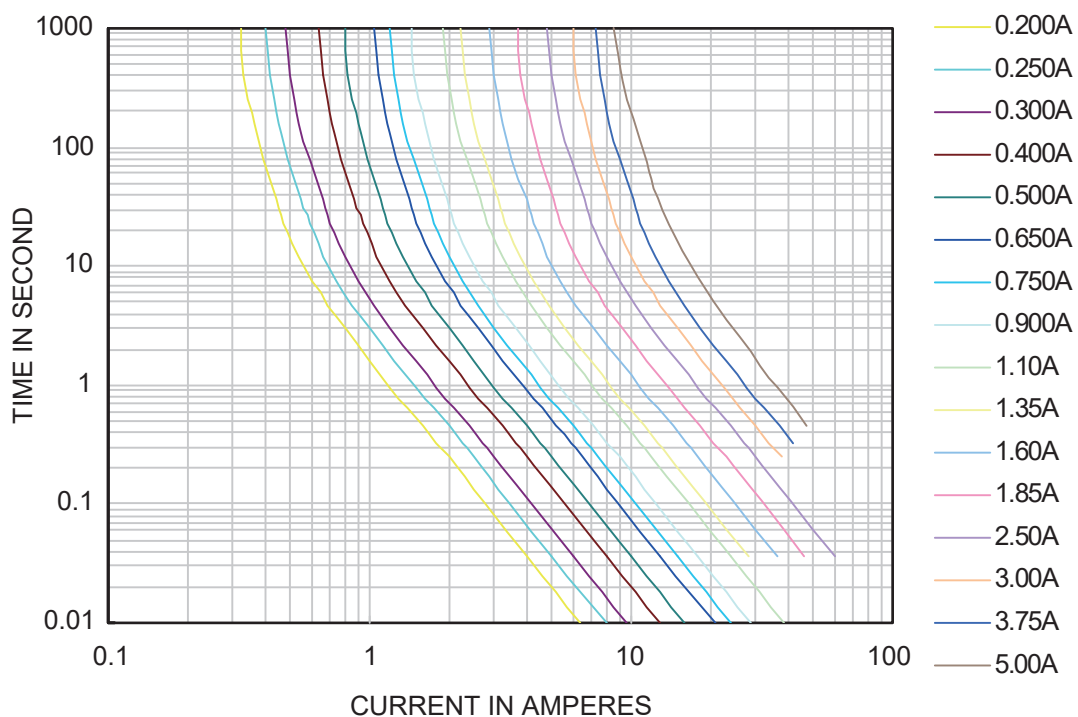
Maximum surface temperature of the device in the tripped state is 125 °C

Thermal Derating Curve

Derating Curves for 72R Series



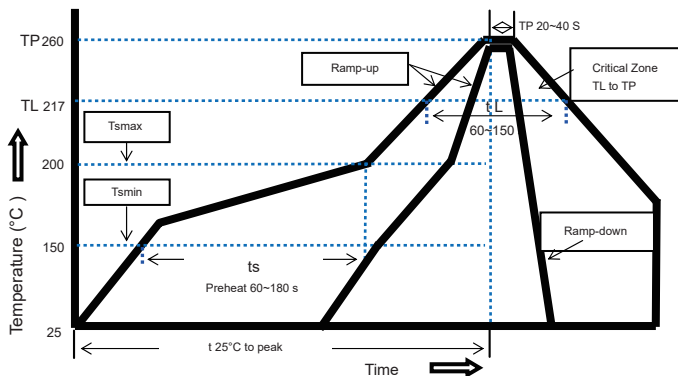
Average Time-Current Curve



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
72R020	0.31	0.27	0.24	0.20	0.16	0.14	0.13	0.11	0.08
72R025	0.39	0.34	0.30	0.25	0.20	0.18	0.16	0.14	0.10
72R030	0.47	0.41	0.36	0.30	0.24	0.22	0.19	0.16	0.12
72R040	0.62	0.54	0.48	0.40	0.32	0.29	0.25	0.22	0.16
72R050	0.78	0.68	0.60	0.50	0.41	0.36	0.32	0.27	0.20
72R065	1.01	0.88	0.77	0.65	0.53	0.47	0.41	0.35	0.26
72R075	1.16	1.02	0.89	0.75	0.61	0.54	0.47	0.41	0.30
72R090	1.40	1.22	1.07	0.90	0.73	0.65	0.57	0.49	0.36
72R110	1.71	1.50	1.31	1.10	0.89	0.79	0.69	0.59	0.44
72R135	2.09	1.84	1.61	1.35	1.09	0.97	0.85	0.73	0.54
72R160	2.48	2.18	1.90	1.60	1.30	1.15	1.01	0.86	0.64
72R185	2.87	2.52	2.20	1.85	1.50	1.33	1.17	1.00	0.74
72R250	3.88	3.40	2.98	2.50	2.03	1.80	1.58	1.35	1.00
72R300	4.65	4.08	3.57	3.00	2.43	2.16	1.89	1.62	1.20
72R375	5.81	5.10	4.46	3.75	3.04	2.70	2.36	2.03	1.50
72R500	7.52	6.65	5.70	5.00	4.02	3.57	3.06	2.60	1.85

Soldering Parameters



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.

Profile Feature

Average Ramp-Up Rate
(Ts max to T p)

Preheat

- Temperature Min(Ts min)
- Temperature Max(Ts max)
- Time(Ts min to Ts max)

Time maintained above:

- Temperature(TL)
- Time(tL)

Peak Temperature(Tp)

Ramp-Down Rate

Time 25°C to Peak Temperature

Storage Condition

Pb-Free Assembly

3°C/second max.

150°C

200°C

60~180 seconds

217°C

60~150 seconds

260°C

6°C/second max.

8 minutes max

0°C~35°C, ≤70%RH

Physical Dimensions(mm.)

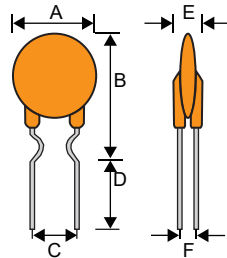


FIG 1

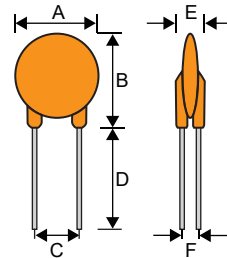


FIG 2

Model	A Max.	B Max.	C Typ.	D Min.	E Max.	F Typ.	FIG
72R020	7.40	12.7	5.10±0.5	7.6	3.1	1.0	1
72R025	7.40	12.7	5.10±0.5	7.6	3.1	1.0	1
72R030	7.40	13.0	5.10±0.5	7.6	3.1	1.0	1
72R040	7.80	16.2	5.10±0.5	7.6	3.1	1.2	1
72R050	7.90	16.2	5.10±0.5	7.6	3.1	1.2	1
72R065	9.70	17.8	5.10±0.5	7.6	3.1	1.5	1
72R075	10.4	18.4	5.10±0.5	7.6	3.1	1.5	1
72R090	11.7	18.4	5.10±0.5	7.6	3.1	1.5	1
72R110	13.0	18.0	5.10±0.5	7.6	3.1	1.2	2
72R135	14.5	19.6	5.10±0.5	7.6	3.1	1.2	2
72R160	16.3	21.3	5.10±0.5	7.6	3.1	1.5	2
72R185	17.8	22.9	5.10±0.5	7.6	3.1	1.5	2
72R250	21.3	26.4	10.2±0.5	7.6	3.1	1.7	2
72R300	23.9	28.6	10.2±0.5	7.6	3.1	2.0	2
72R375	28.5	33.5	10.2±0.5	7.6	3.1	2.0	2
72R500	29.5	32.5	10.7±0.5	7.6	3.1	1.4	2

PHYSICAL SPECIFICATIONS :

Materials : Leads 72R-020 ~ 040: Tin-plated copper-clad steel, 0.205mm² (24JWG), Φ0.51mm(0.020 in).
72R050 ~ 090: Tin-plated copper, 0.205mm² (24JWG), Φ0.51mm(0.020 in).
72R110 ~ 500: Tin-plated copper, 0.52mm² (20JWG), Φ0.81mm(0.032 in).
Lead Solderability : MIL-STD-202, Method 208E

Packaging Quantity

Order information

Packing

A72	185	K or S	R or U	Model	Reel QTY	Bag QTY
Radial type	Hold	K= Kink leads	R= Tape &	A72-020 ~ A72-090	3000	500
72 V	Current		Reel			
	(A)	S=Straight	U= Bulk	A72-110 ~ A72-185	1500	500
		leads	packaged	A72-250 ~ A72-500	-	250

Tape & Reel packaging per EIA468-B standard.

Cross Reference

Model	Cross Reference		
	Tyco / PolySwitch®	Bourns / POLY-FUSE®	Polytronics / EVERFUSE®
72R020	RXEF020	MF-R020	RLD72P020XF
72R025	RXEF025	MF-R025	RLD72P025XF
72R030	RXEF030	MF-R030	RLD72P030XF
72R040	RXEF040	MF-R040	RLD72P040XF
72R050	RXEF050	MF-R050	RLD72P050XF
72R065	RXEF065	MF-R065	RLD72P065XF
72R075	RXEF075	MF-R075	RLD72P075XF
72R090	RXEF090	MF-R090	RLD72P090XF
72R110	RXEF110	MF-RX110	RLD72P110XF
72R135	RXEF135	MF-RX135	RLD72P135XF
72R160	RXEF160	MF-RX160	RLD72P160XF
72R185	RXEF185	MF-RX185	RLD72P185XF
72R250	RXEF250	MF-RX250	RLD72P250XF
72R300	RXEF300	MF-RX300	RLD72P300XF
72R375	RXEF375	MF-RX375	RLD72P375XF
72R500	RXEF500	MF-RX500	RLD72P500XF

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