



DATA SHEET

Resettable PPTC Fuse Size 1812

Range: 500mA

Voltage: 24=Volt

**Resettable PPTC Fuse
Size 1812**

Serie No.: **R47018**

Customer:

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	26.08.2026
APPD:	Schumi			FINISH	Jamy		Sheet No.		1 from 9

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Technical Informations

- RoHS Compliant, Halogen Free, Lead Free RoHS,
- Fast tripping, 1812 Size
- Surface mountable, Solid state
- Holding Current : 0.1A-3.0A, @25°C
- Maximum Voltage : 8V-60V
- Operating Temperature : -40°C~ 85°C
- Agency Approvals UL E345393, TUV R50450107

Physical Characteristics

Terminal Pad Materials	Tin-Plated Nickle-copper
Soldering characteristics	EIA specification RS 186-9E ANSI/J-STD-002
Moisture Sensitivity	Level 2a, per IPC/JEDEC J-STD 020C

Test Procedures and Requirements

Test Item	Test Conditions	Accept/Reject Criteria
Initial Resistance	In still air at 25°C	$R_{MIN} \leq R \leq R1_{MAX}$
Time to Trip	Specified current , V_{MAX} , 25°C	$t \leq$ Maximum Time to Trip
Holding Current	1 hour , at I_H , 25°C	No trip
Trip Endurance	V_{MAX} , I_{MAX} , 1 hour	No arcing or burning

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Item-Marking

Marking 标识	A		B		C		D	E
	Min	Max	Min	Max	Min	Max	Min	Min
010	4.37	4.73	3.07	3.41	0.5	1.1	0.3	0.15
014	4.37	4.73	3.07	3.41	0.5	1.1	0.3	0.15
020	4.37	4.73	3.07	3.41	0.5	1.1	0.3	0.15
030	4.37	4.73	3.07	3.41	0.5	1.1	0.3	0.15
050	4.37	4.73	3.07	3.41	0.4	0.9	0.3	0.15
050	4.37	4.73	3.07	3.41	0.4	0.9	0.3	0.15
050	4.37	4.73	3.07	3.41	0.5	1.1	0.3	0.15
075	4.37	4.73	3.07	3.41	0.4	0.9	0.3	0.15
075	4.37	4.73	3.07	3.41	0.5	1.2	0.3	0.15
075	4.37	4.73	3.07	3.41	0.5	1.2	0.3	0.15
110	4.37	4.73	3.07	3.41	0.4	0.9	0.3	0.15
110	4.37	4.73	3.07	3.41	0.4	0.9	0.3	0.15
110	4.37	4.73	3.07	3.41	0.6	1.3	0.3	0.15
110	4.37	4.73	3.07	3.41	0.6	1.7	0.3	0.15
125	4.37	4.73	3.07	3.41	0.5	1.0	0.3	0.15
125	4.37	4.73	3.07	3.41	0.5	1.2	0.3	0.15
125	4.37	4.73	3.07	3.41	0.6	1.3	0.3	0.15
150	4.37	4.73	3.07	3.41	0.3	0.9	0.3	0.15
150	4.37	4.73	3.07	3.41	0.4	1.1	0.3	0.15
150	4.37	4.73	3.07	3.41	0.5	1.2	0.3	0.15
150	4.37	4.73	3.07	3.41	0.6	1.7	0.3	0.15
160	4.37	4.73	3.07	3.41	0.4	1.0	0.3	0.15
160	4.37	4.73	3.07	3.41	0.5	1.3	0.3	0.15
160	4.37	4.73	3.07	3.41	0.6	1.7	0.3	0.15
200	4.37	4.73	3.07	3.41	0.4	1.0	0.3	0.15
200	4.37	4.73	3.07	3.41	0.4	1.2	0.3	0.15
200	4.37	4.73	3.07	3.41	0.5	1.3	0.3	0.15
250	4.37	4.37	3.07	3.41	0.6	1.7	0.3	0.15
260	4.37	4.73	3.07	3.41	0.5	1.2	0.3	0.15
260	4.37	4.73	3.07	3.41	0.6	1.5	0.3	0.15
260	4.37	4.73	3.07	3.41	0.6	1.7	0.3	0.15
300	4.37	4.73	3.07	3.41	0.5	1.5	0.3	0.15

Dimensions (mm)



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I_H : Holding current, maximum current at which the device will not interrupt in 25°C still air.

I_T : Tripping current, minimum current at which the device from low resistance to high resistance in 25°C still air.

V_{MAX} : Maximum continuous voltage device can withstand without damage at rated current.

I_{MAX} : Maximum fault current device can withstand without damage at rated voltage.

Maximum Time-to-trip: Maximum time to trip at assigned current.

P_D : Typical amount of power dissipated from the device when in 25°C still air environment.

R_{MIN} : Minimum resistance of device at 25°C prior to tripping.

$R1_{MAX}$: Maximum resistance of device is measured one hour post reflow.

Thermal Derating Chart-ICH (A)

Part-No.	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
R47018-01060RTR	0.16	0.14	0.12	0.1	0.08	0.07	0.06	0.05	0.03
R47018-01460RTR	0.23	0.19	0.17	0.14	0.12	0.1	0.09	0.08	0.06
R47018-02030RTR	0.29	0.26	0.23	0.2	0.17	0.15	0.14	0.12	0.1
R47018-03030RTR	0.44	0.39	0.35	0.3	0.26	0.23	0.21	0.18	0.15
R47018-05016RTR	0.77	0.68	0.59	0.5	0.44	0.4	0.37	0.33	0.29
R47018-05024RTR	0.77	0.68	0.59	0.5	0.44	0.4	0.37	0.33	0.29
R47018-05030RTR	0.77	0.68	0.59	0.5	0.44	0.4	0.37	0.33	0.29
R47018-07513RTR	1.15	1.01	0.88	0.75	0.65	0.6	0.55	0.49	0.43
R47018-07524RTR	1.15	1.01	0.88	0.75	0.65	0.6	0.55	0.49	0.43
R47018-07533RTR	1.15	1.01	0.88	0.75	0.65	0.6	0.55	0.49	0.43
R47018-11008RTR	1.55	1.4	1.25	1.1	0.93	0.83	0.73	0.63	0.5
R47018-11016RTR	1.55	1.4	1.25	1.1	0.93	0.83	0.73	0.63	0.5
R47018-11024RTR	1.55	1.4	1.25	1.1	0.93	0.83	0.73	0.63	0.5
R47018-11033RTR	1.55	1.4	1.25	1.1	0.93	0.83	0.73	0.63	0.5
R47018-12508RTR	2.0	1.75	1.52	1.25	1.0	0.95	0.9	0.75	0.53
R47018-12516RTR	2.0	1.75	1.52	1.25	1.0	0.95	0.9	0.75	0.53

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Soldering Reflow Profiles and Pad Layout Dimensions

Solder pad layout dimensions (mm)			
Normal Value	F	G	H
常规值	1.78	3.45	3.20
Profile Feature Pb-Free			
Average ramp up rate ($T_{S_{MAX}}$ to T_p) 3°C/ max.			
Preheat 预热			
• Temperature min ($T_{S_{MIN}}$) 150°C • Temperature max ($T_{S_{MAX}}$) 200°C • Time ($t_{S_{MIN}}$ to $t_{S_{MAX}}$) 60-120 seconds			
Time maintained above			
• Temperature (T_L) 217°C • Time (t_L) 60-150 seconds			
Peak/Classification temperature (T_p) 260°C			
Time within 5°C of actual peak temperature			
Time (t_p) 30 seconds max			
Ramp down rate 3°C/second max			
Time 25°C to peak temperature 8 minutes max			



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Soldering Reflow Profiles and Pad Layout Dimensions

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

Devices are not designed to be wave soldered to the bottom side of the board.

Recommended maximum paste thickness is 0.25mm (0.01inch). 0.25mm(0.01)。

Devices can be cleaned using standard industry methods and aqueous solvents.

Devices can be reworked using the standard industry practices .Please also avoid direct contact to the device.

If reflow temperature exceed the recommended profile, devices may not meet the performance requirements.

Storage

The maximum ambient temperature shall not exceed 40°C .Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use 。

Warning

Use PPTC beyond the maximum ratings or improper use may result in device damage, electrical arcing and flame.

PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.

Use PPTC with a large inductance in circuit will generate a circuit voltage above the rated voltage of the PPTC.

Avoid impact PPTC device its thermal expansion like placed under pressure or installed in limited space.

Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices.

Users should independently evaluate the suitability of the product and test each product selected for their own application.

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Packing informations (mm)

Tape Specifications EIA 481-1	
W	12.0 ± 0.2
P0	4.0 ± 0.1
P1	8.0 ± 0.1
P2	2.0 ± 0.05
A0	3.66 ± 0.1
B0	4.98 ± 0.1
D0	$1.5 + 0.1 / - 0$
D1	1.5 ± 0.1
F	5.5 ± 0.1
E	1.75 ± 0.1
T	0.20 ± 0.05 0.25 ± 0.05
K0	0.95 ± 0.1 1.50 ± 0.1
Reel Dimensions	
A	178.0 ± 1.0
D	13.3 ± 0.3
W	13.5 ± 1.0
N	59.0 ± 1.0



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Ordering Informations

Customer	Trip Range (A)	Volt	ROHS	Packing Code						
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R47018	-	050	24	R	TR					
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500mA	24=Volt	R= ROHS Conform	TR= Tape Reel Packing
Current Trip Range	Item- Voltage		

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