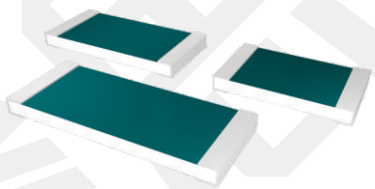
Operation temperature up to +175°C, TCR ±2ppm/°C, tolerance ±0.01%
Low noise, strong anti-pulse ability, anti-static
Excellent shelf life and load life

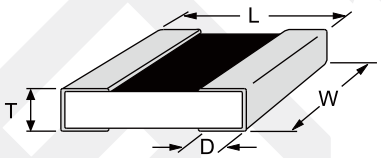
Introduction

High precision and high stability should be discussed at the same time. Whether it is a film resistor or an alloy resistor, tight initial tolerance can be achieved by trimming. However, during transportation, storage, and soldering process, the value will be changed. In addition, the resistor will work at different ambient temperatures with load, TCR and PCR should be taken into consideration. Therefore, high-precision resistor must be with high stability.



PZFR series can be delivered within 3 days, MOQ=1pcs, each resistor will be tested of value, TCR, load life and so on before shipment. Due to special trimming process of foil resistor, any value can be reached, such as 1.23456 ohms .

Specifications & Dimensions (mm)



Model	Rated Power (70℃)	Resistance Range	Max. working Voltage	Resistance, Tolerance and TCR			Dimensions (mm)			
				Value Range	Tol.	TCR①	L±0.13	W±0.13	T max	D±0.13
PZFR0603	0.10W	100-4K	22V	5R-<10R	±0.50%	±7.8ppm/℃	1.60	0.81	0.64	0.28
PZFR0805	0.20W	5-8K	40V	10R-<25R	±0.25%	±3.8ppm/℃	2.03	1.27	0.64	0.38
PZFR1206	0.30W	5-25K	87V	25R-<50R	±0.10%	±3.8ppm/℃	3.20	1.57	0.64	0.51
PZFR1506	0.30W	5-30K	95V	50R-<100R	±0.05%	±2.8ppm/℃	3.81	1.57	0.64	0.51
PZFR2010	0.50W	5-70K	187V	100R-<250R	±0.02%	±2ppm/℃	5.03	2.46	0.64	0.64
PZFR2512	0.75W	5-125K	220V	250R-<125K	±0.01%	±2ppm/℃	6.32	3.23	0.64	0.81

① The working temperature range is -55℃ to +175℃, according to different temperature range, the lowest TCR is +/-1ppm℃.

Part Number Information

Example: PZFR2010Q100RL9 (PZFR 2010 ±0.02% 100Ω ±2ppm/℃)

P	Z	F	R	2	0	1	0	Q	1	0	0	R	L	9

- Series: PZFR
- Size: 0603 1506 / 0805 2010 / 1206 2512
- Tolerance: T=± 0.01% / Q=± 0.02% / A=± 0.05% / B=± 0.1% / C=± 0.25% / D=± 0.5%
- Resistance: 5R00=5Ω / 50R0=50Ω / 100R=100Ω / 1K00=1KΩ / 10K0=10KΩ / 70K0=70KΩ
- TCR: L=Standard / Z=Custom
- Code: 9=S Green Coding / 8=M Green Coding / 7=L Blue Coding

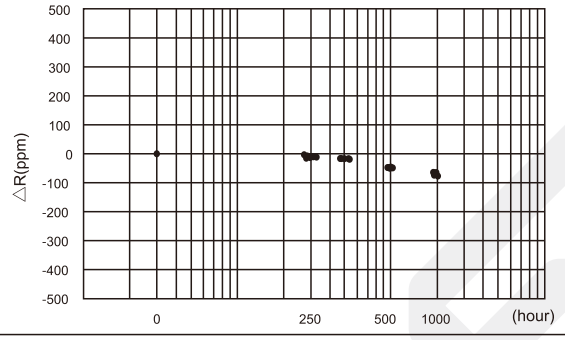
* The differences of coating have no effect on the product performance. Please contact us to confirm the product packaging information.

Performance

Test	Test limits	Test method
High Temperature Exposure	△R±0.005% typical △R±0.01% max	No load for 100 hours at +150°C
Thermal Shock	△R±0.005% typical △R±0.01% max	-65°C 15min ~ room temperature<20s ~ +175°C 15min, 100 cycles
Moisture resistance	△R±0.005% typical △R±0.01% max	MIL-STD-202 Method 103, 85°C, 85%RH, load not less than 10% rated power, 1000 hours
Load Life	△R±0.0025% typical △R±0.02% max	MIL-STD-202 Method 108, 2000 hours at +70°C, rated power, 90 minutes on, 30 minutes off
Resistance to Soldeing heat	△R±0.005% typical △R±0.02% max	Hold at 245°C tin bath for 5 seconds, +235°C tin bath for 10 seconds
ESD	△R±0.001% typical △R±0.005% max	AEC-Q200TEST 17 / AEC-Q200-002, human body model, two discharge, positive and negative once
Solderability	No visible damage, 95% Minimum critical area	IEC 60115-1 4.17, +245°C tin bath, hold for 3 seconds
Short Time Overload	△R±0.005% typical △R±0.02% max	6.25 times rated power, 5 seconds
Low Temperature Operation	△R±0.005% typical △R±0.015% max	-65°C, rated voltage, 45 minutes

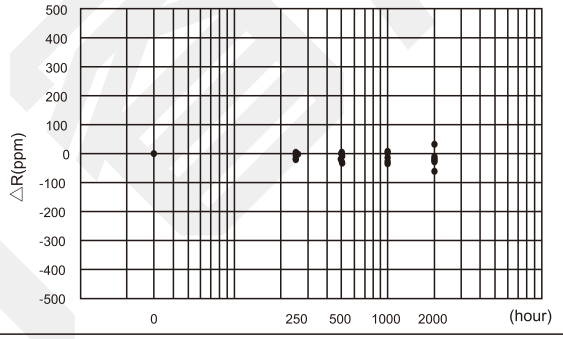
Moisture resistance

Test Method: 0.01W, +85 ℃ / 85% RH, 1000 h



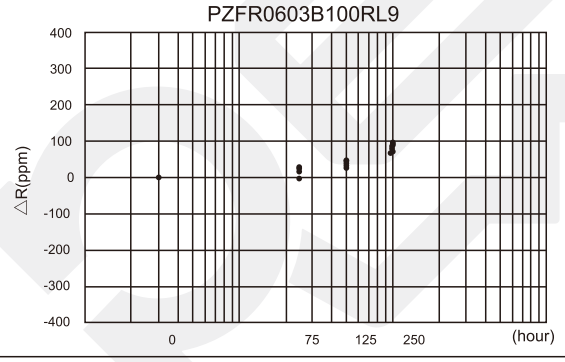
Load Life

Test Method: 0.1W, +70 ℃, 2000 h



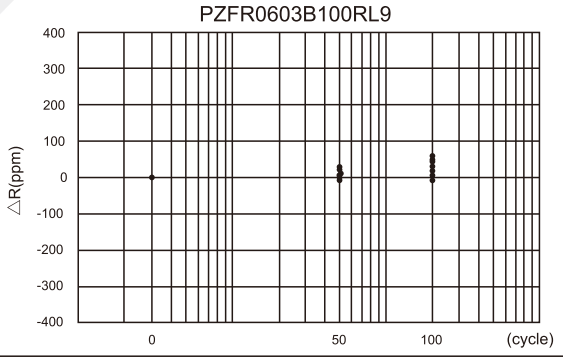
High Temperature Exposure

Test Method: +200°C, 250 h

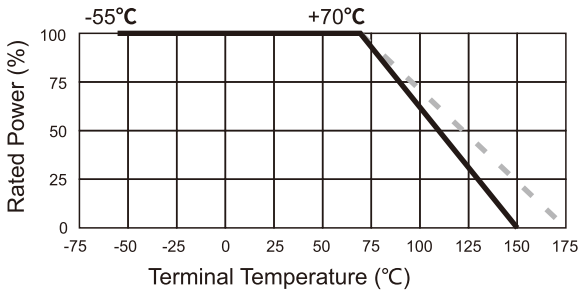


Thermal Shock

Test Method: -65°C 15min / +175°C 15min, 100 cycle



Derating Curve



Recommend Part Number

Model Number	Size	Resistance (Ω)	Tolerance (%)	Power (W)	TCR (ppm/°C)	Model Number	Size	Resistance (Ω)	Tolerance (%)	Power (W)	TCR (ppm/°C)
PZFR0805T100RL9	0805	100	±0.01	0.2	±2	PZFR1206T2K00L9	1206	2K	±0.01	0.3	±2
PZFR0805T500RL9	0805	500	±0.01	0.2	±2	PZFR1206T5K00L9	1206	5K	±0.01	0.3	±2
PZFR0805T1K00L9	0805	1K	±0.01	0.2	±2	PZFR1206T10K0L9	1206	10K	±0.01	0.3	±2
PZFR0805T2K00L9	0805	2K	±0.01	0.2	±2	PZFR1206T20K0L9	1206	20K	±0.01	0.3	±2
PZFR0805T5K00L9	0805	5K	±0.01	0.2	±2	PZFR2512D5R00L9	2512	5	±0.5	0.75	±7.8
PZFR0805T10K0L9	0805	10K	±0.01	0.2	±2	PZFR2512D10R0L9	2512	10	±0.5	0.75	±3.8
PZFR1206T100RL9	1206	100	±0.01	0.3	±2	PZFR2512T100RL9	2512	100	±0.01	0.75	±2
PZFR1206T500RL9	1206	500	±0.01	0.3	±2	PZFR2512T50K0L9	2512	50K	±0.01	0.75	±2
PZFR1206T1K00L9	1206	1K	±0.01	0.3	±2	PZFR2512T100KL9	2512	100K	±0.01	0.75	±2