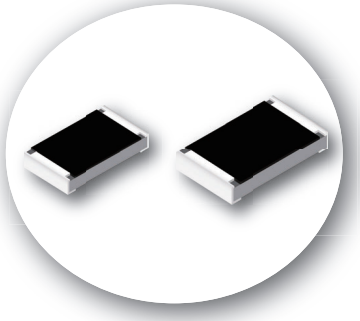
Panasonic INDUSTRY

Document

2024.10

High Temperature Chip Resistors



Contributes to use in high-temperature environments with high heat resistance and high reliability design

Product summary

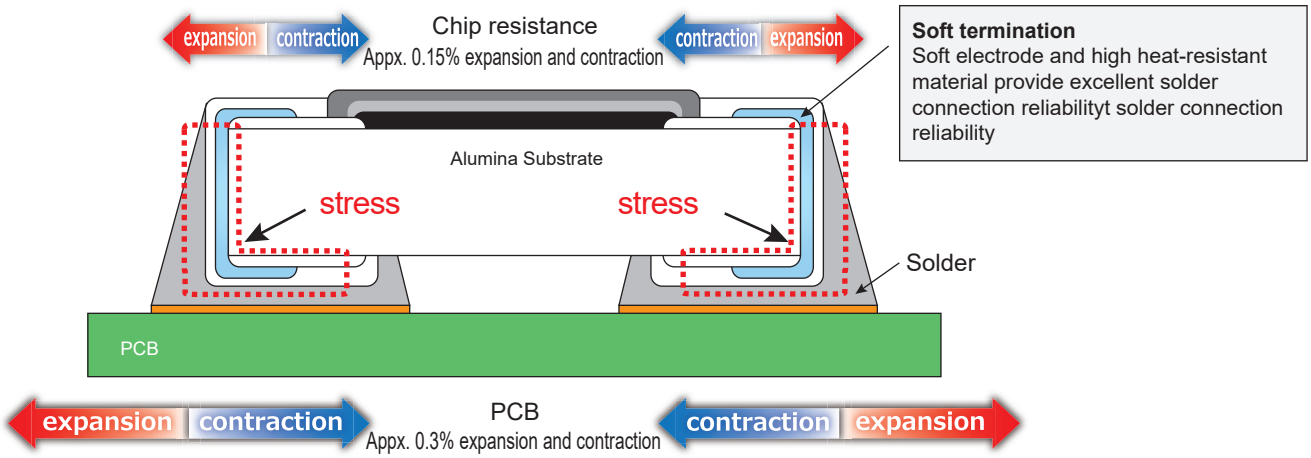
- Compatible with a maximum operating temperature of 175 ℃ and a rated operating temperature of 105 ℃
- Rapid temperature change: -55 ℃ ⇔ +175 ℃ 1000 cycles guaranteed

Features

- Improved heat resistance through the development of our original end-face electrode and protective film materials
- High heat-resistant soft electrode structure guarantees temperature cycle test -55 ℃ ⇔ +175 ℃ 1000cycle
- Ensures high solder connection reliability even in extreme temperature environments

Structure

[Resin electrode (Soft termination) material is used
→ Relieves strain solder stress during cold and thermal cycles]



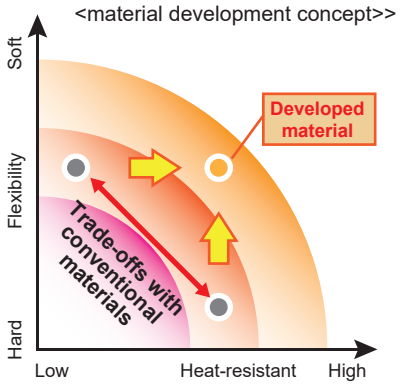
Overcome the trade-offs of conventional materials by reviewing the design of raw materials

✓ **Improvement of operating temperature**

Max operating temp. : 175 ℃

Rated operating temp. : 105 ℃

✓ **Suppression of solder cracks**



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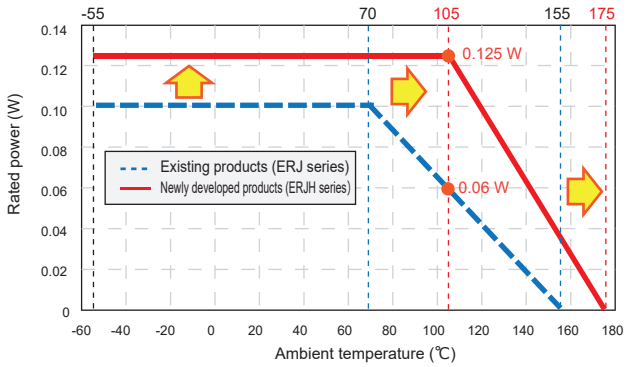
Contribution points

[Achieves high heat resistance by new materials developing]

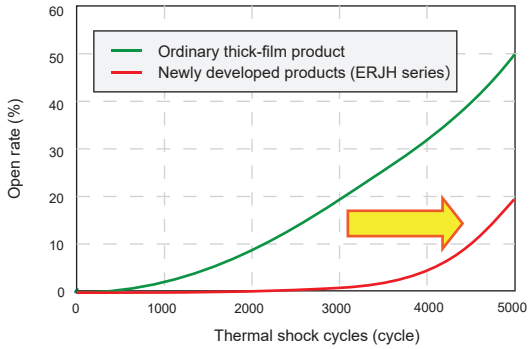
Expansion of maximum operating temperature and rated operating temperature

(Example) 0603 size Load reduction curve



Extended solder life by suppressing crack progress crack developing rate in thermal shock test

(Example)Test conditions : -55 ℃ /+175 ℃ 0603 size



Guarantees that the resistor endures 1000 cycles of thermal shock testing (-55℃/+175℃)

1. Expand of max operating temperature 155 ℃ ⇒ 175 ℃
2. Expand of rated operating temperature 70 ℃ ⇒ 105 ℃
3. Improvement of solder crack resistance

Product line-up

	Size (inch) (mm)	Part No.	Power rating (W)	Resistance tolerance (%)	Resistance range (Ω)	Category temp. range (℃)
General grade	0402 1005 (1.0x0.5)	ERJH2G	–	–	Jamper (50 mΩ or less)	–55 to +175
			0.10	±5	1 to 300 k	
	0603 1608 (1.6x0.8)	ERJH3G	–	–	Jamper (50 mΩ or less)	
			0.125	±5	1 to 300 k	
	0805 2012 (2.0x1.25)	ERJH6G	–	–	Jamper (50 mΩ or less)	
Precision grade	0402 1005 (1.0x0.5)	ERJH2C	0.10	±1	1 to 9.76	
		ERJH2R		±0.5, ±1	10 to 300 k	
	0603 1608 (1.6x0.8)	ERJH3E	0.125			
Low resistance	0603 1608 (1.6x0.8)	ERJH3Q	0.25	±0.5, ±1	1 to 9.76	
				±5	1 to 9.1	
Surge resistant	0805 2012 (2.0x1.25)	ERJHP6	0.50	±0.5	10 to 300 k	
				±1, ±5	1 to 300 k	

Data sheet →