Featured Products

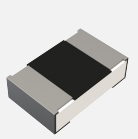
Industrial & General Purpose | Consumer & Home Appliance | Automotive | PC/ Smart devices

New MCR series shunt models significantly increase rated power

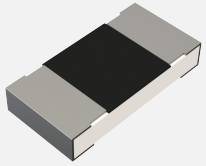
General-Purpose Low Resistance · High Power Shunt Resistors

MCR10L/MCR18L

- **Smaller size and higher power than conventional products**
  MCR10L and MCR18L guarantees 2x and 3x the rated power of conventional products, respectively
- **Optimized structure reduces TCR (vs conventional)**
- **Next-generation general-purpose products ideal for new applications**
  As part of the MCR series, stable supply into the future is ensured



MCR10L
2012 size
(2.0mm×1.25mm)



MCR18L
3216 size
(3.2mm×1.6mm)

■ General-Purpose MCR series

General-Purpose High Power type

New
High Power General-Purpose Low Ohmic type MCR L series (≤910mΩ)

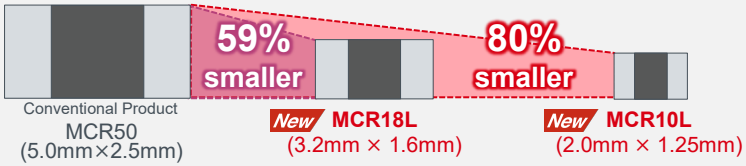
New
High Power General-Purpose type MCR S series (≥ 1Ω)

Conventional type

MCR Low Ohmic series (≤ 9.1Ω)

MCR series (≥ 1Ω)

■ Achieves Higher Power and Accuracy in a Smaller size



	ROHM Conventional Product MCR50	MCR18L	MCR10L
Size mm (inch)	5025 (2010)	3216 (1206)	2012 (0805)
Rated Power	0.5W	0.75W Smaller and Higher Power	0.5W Smaller
Resistance Tolerance	F (±1.0%) J (±5.0%)	F (±1.0%) J (±5.0%)	F (±1.0%) J (±5.0%)
Temperature Coefficient of Resistance* (ppm/°C)	±250	0 to +150	0 to +150

*Comparison at than 150mΩ

■ Lower Temperature Coefficient of Resistance

TCR Comparison: MCR10L/MCR18L vs Conventional Products

Size mm (inch)	Part No.	Rated Power (W)	Resistance (mΩ)
2012 (0805)	Conventional MCR10	0.25	47–91: TCR 500±300 ppm/°C; 100–130: TCR 400±200 ppm/°C; 150–9100: TCR ±250 ppm/°C
	New MCR10L	0.50	47–110: TCR 0 to +250 ppm/°C; 120–910: TCR 0 to +150 ppm/°C
3216 (1206)	Conventional MCR18	0.25	47–91: TCR 500±300 ppm/°C; 100–130: TCR 400±200 ppm/°C; 150–9100: TCR ±250 ppm/°C
	New MCR18L	0.75	47–91: TCR 0 to +250 ppm/°C; 100–910: TCR 0 to +150 ppm/°C

Significantly improves both rated power and TCR over conventional products

MCR L series Lineup

Click on the icon to access the product page on ROHM's website

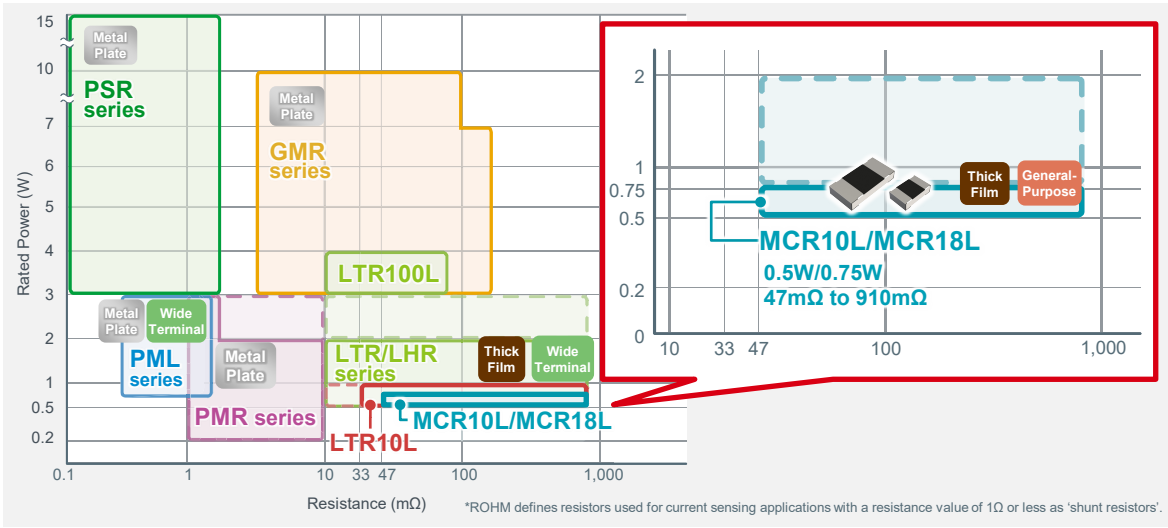
Click on the icon to access the product datasheet on ROHM's website

Part No.	Size Code mm (inch)	Rated Power (70°C)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
New MCR10L	2012 (0805)	0.5W	J (±5%) F (±1%)	0 to 250	47mΩ to 110mΩ (E24 series)	−55 to +155	YES
				0 to 150	120mΩ to 910mΩ (E24 series)		
New MCR18L	3216 (1206)	0.75W	J (±5%) F (±1%)	0 to 250	47mΩ to 91mΩ (E24 series)		YES
				0 to 150	100mΩ to 910mΩ (E24 series)		
☆MCR50L	5025 (2010)	1.5W	J (±5%) F (±1%)	0 to 300	47mΩ to 91mΩ (E24 series)	−55 to +155	YES
				0 to 200	100mΩ to 430mΩ (E24 series)		
				0 to 100	470mΩ to 910mΩ (E24 series)		
☆MCR100L	6432 (2512)	2.0W	J (± 5%) F (±1%)	0 to 250	47mΩ to 91mΩ (E24 series)		YES
				0 to 150	100mΩ to 910mΩ (E24 series)		

☆Under Development *The design and specifications are subject to change without notice. Please verify the relevant information (i.e. delivery specifications) before ordering and using. *Rated Voltage = √Rated Power x Nominal Resistance Empty space is a placeholder for calculated value.

Shunt Resistor Product Map

Existing Product Under Development



*ROHM defines resistors used for current sensing applications with a resistance value of 1Ω or less as 'shunt resistors'.

Product Technology Support Page

Electronics Basics

Additional content will be added in the future

https://www.rohm.com/electronics-basics/resistors

What is a Resistor?
- Technology basics

Chip Resistor Specifications
- What is Rated Power?
- What is Rated Voltage?
- What is Temperature Coefficient of Resistance?

Chip Resistor Structure
- Manufacturing Process

Using Chip Resistors
- Using in Excess of the Rated Power

Chip Resistor Failure Examples
- Destruction of Thick-Film Chip Resistors due to Surge
- Poor Resistance of Chip Resistors Caused by Cracks
- Destruction of Thick-Film Chip Resistors from Sulfuration
- Advantages of Back-Mount Low Ohmic Resistors
- FAQ

Technical Materials
- Usage Notes
- Product FAQ
- Storage Conditions
- Soldering Conditions

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