

Quick Reference of Resistance Range

Low Ohmic Resistor Lineup

Part No./mm [inch]/Page

PSR GMR PML PMR Metal Strip UCR LHR LTR MCR Thick Film

Power Rating (W)	Resistance (Ω)									
	0.1m	1m	10m	100m	1	10				
7			5m	GMR320/7142 [2817]/P.243	100m					
5	0.1m	PSR500/15×7.75 [5931]/P.242	2m							
4	0.2m	PSR400/10×5.2 [3921]/P.242	3m							
3	0.3m	PSR100/6432 [2512]/P.242	3m	5m	GMR100/6432 [2512]/P.243	220m				
2		0.5m	2.2m	PML100/3264 [1225]/P.241						
				5m	GMR50/5025 [2010]/P.243	220m				
		0.5m	2.2m	PML50/2550 [1020]/P.241						
1.25										
1			1m	PMR50/5025 [2010]/P.240	10m					
		PMR25/3225 [1210]/P.240	1m	5m		47m	MCR100/6432 [2512]/P.237	9.1		
			1m	PMR18/3216 [1206]/P.240	10m	10m	LTR18/1632 [0612]/P.239	1		
0.66		0.5m	2.5m	PML18/1632 [0612]/P.241	11m	39m	UCR18/3216 [1206]/P.238			
0.5										
							47m	MCR50/5025 [2010]/P.237	9.1	
							47m	MCR25/3225 [1210]/P.237	9.1	
0.33										
0.25										
							11m	UCR18/3216 [1206]/P.238	100m	
							47m	LTR10/1220 [0508]/P.239	9.1	
0.2										
							11m	UCR10/2012 [0805]/P.238	100m	
							47m	MCR18/3216 [1206]/P.237	9.1	
0.125										
							47m	MCR10/2012 [0805]/P.237	9.1	
							20m	UCR03/1608 [0603]/P.238	200m	
0.1										
0.063										
0.05										

1Ω or more Resistor Lineup

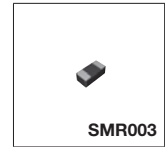
Part No./mm [inch]/Page

ESR SDR KTR LTR MCR SFR SMR Thick Film

Power Rating (W)	Resistance (Ω)									
	1	10	100	1k	10k	100k	1M	10M	30M	
2										
1										
0.75										
0.66										
0.5										
0.4										
0.33										
0.3										
0.25										
0.2										
0.125										
0.1										
0.063										
0.05										
0.031										
0.02										

Class-leading Compact Size Chip Resistors (RASMID series) Ultra-Compact Chip Resistors (SMR003 <009005>)

- Original process technology ensures greater accuracy
- Chip dimensional precision improved from $\pm 20\mu\text{m}$ to $\pm 10\mu\text{m}$
- Gold electrodes utilized for superior solderability and reliability



SMR003 <009005>								
Part No.	Size Code mm (inch)	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
SMR003	03015 (009005)	0.02W	10	J ($\pm 5\%$)	± 200	10 to 1M Ω (E24 series)	-55 to +125	-
				F ($\pm 1\%$)		10 to 1M Ω (E24, E96 series)		

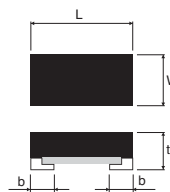
*E24: Standard products E96: Custom products

Jumper type					
Part No.	Size Code mm (inch)	Rated Current (A)	Resistance	Operating Temperature (°C)	Automotive Grade AEC-Q200
SMR003	03015 (009005)	0.5	50m Ω Max	-55 to +125	-

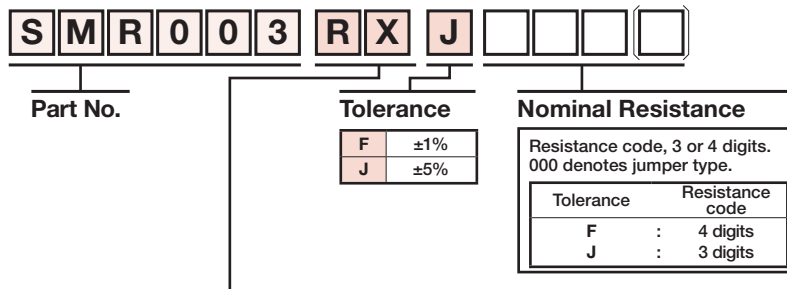
Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
SMR003	03015 (009005)	0.30 \pm 0.01	0.15 \pm 0.01	0.11 \pm 0.01	-	0.07 \pm 0.01

SMR003



Part No. Explanation



Packaging Specifications Code

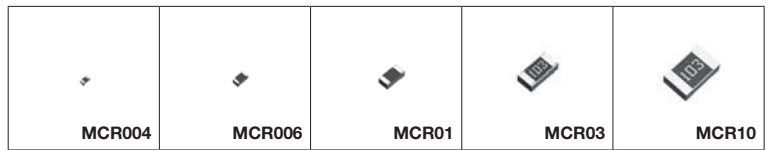
Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J ($\pm 5\%$)	F ($\pm 1\%$)			
SMR003	RX			Embossed tape (1mm Pitch)	$\phi 180\text{mm}$ (7inch)	40,000

Reel ($\phi 180\text{mm}$): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

*RASMID: ROHM's proprietary new method that enables superior dimensional precision, making it possible to develop the ultra-compact products.

Thick Film Chip Resistors (Standard series) Compact Chip Resistors (MCR series <01005 to 0805>)

- High reliability chip resistors optimized for a variety of applications.
- Nine package sizes, ranging from 01005 to 2512.
- Market-proven reliability.



MCR series <01005 to 0805>											
Part No.	Size Code mm (inch)	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range		Operating Temperature (°C)	Automotive Grade AEC-Q200		
MCR004	0402 (01005)	0.031W (1/32W)	15	J (±5%)	+600/-200 ±300 ±250	1Ω to 9.1Ω (E24 series)	10Ω to 91Ω (E24 series)	-55 to +125	-		
				F (±1%)	±300 ±250	100Ω to 3MΩ (E24 series)	100Ω to 3MΩ (E24, E96 series)				
MCR006	0603 (0201)	0.05W	25	J (±5%)	+600/-200 ±200	1Ω to 9.1Ω (E24 series)	10Ω to 10MΩ (E24 series)			-55 to +155	YES
				F (±1%)	±200	10Ω to 10MΩ (E24, E96 series)	10Ω to 10MΩ (E24, E96 series)				
				D (±0.5%)	±200 ±100	1kΩ to 1MΩ (E24, E96 series)	1kΩ to 1MΩ (E24, E96 series)				
MCR01	1005 (0402)	0.063W (1/16W)	50	J (±5%)	+500/-250 ±200	1Ω to 9.1Ω (E24 series)	10Ω to 10MΩ (E24 series)				
				F (±1%)	±100	10Ω to 2.2MΩ (E24, E96 series)	10Ω to 2.2MΩ (E24, E96 series)				
				D (±0.5%)	±100 ±50	100Ω to 1MΩ (E24, E96 series)	100Ω to 1MΩ (E24, E96 series)				
MCR03	1608 (0603)	0.1W	50	J (±5%)	±400 ±200	1Ω to 9.1Ω (E24 series)	10Ω to 10MΩ (E24 series)	-55 to +155	YES		
				FX (±1%)	±100	10Ω to 10MΩ (E24, E96 series)	10Ω to 10MΩ (E24, E96 series)				
				D (±0.5%)	±100 ±50	100Ω to 97.6Ω (E24, E96 series)	100Ω to 1MΩ (E24, E96 series)				
MCR10	2012 (0805)	0.125W	150	J (±5%)	±400 ±200	1Ω to 9.1Ω (E24 series)	10Ω to 10MΩ (E24 series)			-55 to +155	YES
				F (±1%)	±100	10Ω to 2.2MΩ (E24, E96 series)	10Ω to 2.2MΩ (E24, E96 series)				
		0.1W		D (±0.5%)	±100 ±50	100Ω to 97.6Ω (E24, E96 series)	100Ω to 1MΩ (E24, E96 series)				

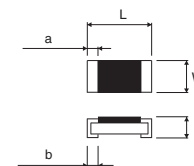
*E24: Standard products E96: Custom products

Jumper type					
Part No.	Size Code mm (inch)	Rated Current (A)	Resistance	Operating Temperature (°C)	Automotive Grade AEC-Q200
MCR004	0402 (01005)	0.5	50mΩ Max	-55 to +125	-
MCR006	0603 (0201)	0.5			YES
MCR01	1005 (0402)	1		-55 to +155	YES
MCR03	1608 (0603)	1			YES
MCR10	2012 (0805)	2		YES	

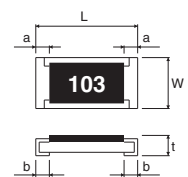
Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
MCR004	0402 (01005)	0.4±0.02	0.2±0.02	0.13±0.02	0.1±0.03	0.1 ±0.03
MCR006	0603 (0201)	0.6±0.03	0.3±0.03	0.23±0.03	0.1±0.05	0.15±0.05
MCR01	1005 (0402)	1.0±0.05	0.5±0.05	0.35±0.05	0.2±0.1	0.25 ^{+0.05} _{-0.10}
MCR03	1608 (0603)	1.6±0.1	0.8±0.1	0.45±0.1	0.3±0.2	0.3 ±0.2
MCR10	2012 (0805)	2.0±0.1	1.25±0.1	0.55±0.1	0.4±0.2	0.4 ±0.2

MCR004/006/01
MCR03 (Partially marked)



MCR10



Part No. Explanation



Part No.

Tolerance

Nominal Resistance

D	±0.5%
F (X)	±1%
J	±5%
J is also used for jumper	

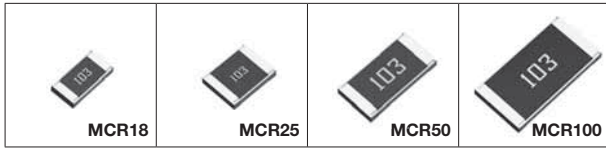
Resistance code, 3 or 4 digits. 000 denotes jumper type.	
Tolerance	Resistance code
D, F (X)	: 4 digits
J	: 3 digits

Packaging Specifications Code

Part No.	Code	Tolerance			Packaging Specifications	Reel	Basic Ordering Unit (pcs)	Remarks
		J (±5%)	F (±1%)	D (±0.5%)				
MCR004	QLP			-	Paper tape (2mm Pitch)	φ180mm (7inch)	20,000	-
MCR006	YLP				Paper tape (2mm Pitch)	φ180mm (7inch)	15,000	-
MCR01	MZP				Paper tape (2mm Pitch)	φ180mm (7inch)	10,000	-
MCR03	EZP		(FX)		Paper tape (4mm Pitch)	φ180mm (7inch)	5,000	-
MCR10	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000	-

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Thick Film Chip Resistors (Standard series) Chip Resistors (MCR series <1206 to 2512>)



MCR series <1206 to 2512>									
Part No.	Size Code mm (inch)	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range		Operating Temperature (°C)	Automotive Grade AEC-Q200
MCR18	3216 (1206)	0.25W	200	J (±5%)	±400 ±200	1Ω to 9.1Ω (E24 series) 10Ω to 10MΩ (E24 series)	-55 to +155	YES	
				F (±1%)	±100	10Ω to 2.2MΩ (E24, E96 series)			
		0.125W		D (±0.5%)	±100 ± 50	10Ω to 97.6Ω (E24, E96 series) 100Ω to 1MΩ (E24, E96 series)			
MCR25	3225 (1210)	0.25W to 0.5W*1	200	J (±5%)	500±350 ±500 ±200	1Ω to 2Ω (E24 series) 2.2Ω to 5.1Ω (E24 series) 5.6Ω to 3.3MΩ (E24 series)	-55 to +155	YES	
				F (±1%)	±100	10Ω to 1.0MΩ (E24, E96 series)			
MCR50	5025 (2010)	0.5W	200	J (±5%)	500±350 ±500 ±200 ±350	1Ω to 2Ω (E24 series) 2.2Ω to 9.1Ω (E24 series) 10Ω to 330kΩ (E24 series) 360kΩ to 560kΩ (E24 series)	-55 to +125	YES	
				F (±1%)	±100	10Ω to 180kΩ (E24, E96 series)			
MCR100	6432 (2512)	1W	200	J (±5%)	500±350 ±500 ±350 ±200	1Ω to 2Ω (E24 series) 2.2Ω to 9.1Ω (E24 series) 10Ω to 22Ω (E24 series) 24Ω to 100kΩ (E24 series)	-55 to +125	YES	
				F (±1%)	±100	10Ω to 82kΩ (E24, E96 series)			

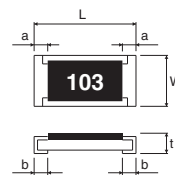
*1 Rated power 1Ω to 9.76Ω: 0.25W, 10Ω to 9.76kΩ: 0.5W, 10kΩ to 3.3MΩ: 0.33W
*E24: Standard products E96: Custom products

Jumper type					
Part No.	Size Code mm (inch)	Rated Current (A)	Resistance	Operating Temperature (°C)	Automotive Grade AEC-Q200
MCR18	3216 (1206)	2	50mΩ Max	-55 to +155	YES
MCR25	3225 (1210)	2			YES
MCR50	5025 (2010)	3			YES
MCR100	6432 (2512)	4		-55 to +125	YES

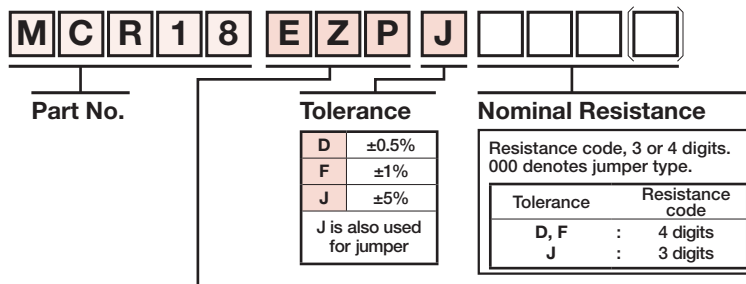
Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
MCR18	3216 (1206)	3.2±0.15	1.6±0.15	0.55±0.1	0.5±0.25	0.5±0.25
MCR25	3225 (1210)	3.2±0.15	2.5±0.15	0.55±0.15	0.5±0.25	0.5±0.25
MCR50	5025 (2010)	5.0±0.15	2.5±0.15	0.55±0.15	0.6±0.25	0.6±0.25
MCR100	6432 (2512)	6.3±0.15	3.2±0.15	0.55±0.15	0.6±0.25	0.6±0.25

MCR18/25/50/100



Part No. Explanation



Packaging Specifications Code

Part No.	Code	Tolerance			Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)	D (±0.5%)			
MCR18	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
MCR25	JZH			—	Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000
MCR50	JZH			—	Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000
MCR100	JZH			—	Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Thick Film Chip Resistors (Standard series) Compact Chip Resistor Networks (MNR series <0402x2 to 1206x4>)

- **Reduces cost**
Use of chip networks reduces the number of components and saves mounting space.
- **Easy fillet inspection**
Convex type electrodes facilitate visual inspection of fillets.
Inspection can be performed with automatic inspection equipment.



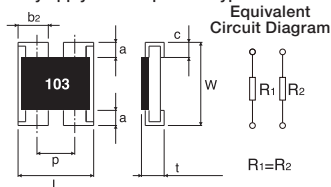
MNR series <0402x2 to 1206x4>										
Part No.	Size Code mm (inch)	No. of Terminals	No. of Elements	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
MNR02	1005 (0402)x2	4	2	0.063W/Element	25	J (±5%)	±200	10Ω to 1MΩ (E24 series)	-55 to +155	YES
MNR04	1005 (0402)x4	8	4	0.063W/Element	25	J (±5%)	+500/-250 ±200	1Ω to 9.1Ω (E24 series) 10Ω to 1MΩ (E24 series)		YES
MNR12	1608 (0603)x2	4	2	0.063W/Element	50	J (±5%) F (±1%)	±200 ±100	10Ω to 1MΩ (E24 series)		YES
MNR14	1608 (0603)x4	8	4	0.063W/Element	50	J (±5%) F (±1%)	±500 ±200 ±100	2.2Ω to 6.8Ω (E6 series) 10Ω to 1MΩ (E24 series) 10Ω to 1MΩ (E24 series)		YES
MNR32	3216 (1206)x2	4	2	0.125W/Element	200	J (±5%)	±200	10Ω to 1MΩ (E24 series)	-55 to +125	YES
MNR34	3216 (1206)x4	8	4	0.125W/Element	200	J (±5%)	±200	10Ω to 1MΩ (E24 series)		YES

Jumper type					
Part No.	Size Code mm (inch)	Rated Current	Resistance	Operating Temperature (°C)	Automotive Grade AEC-Q200
MNR02	1005 (0402)x2	1A/Element	50mΩ Max	-55 to +155	YES
MNR04	1005 (0402)x4	1A/Element			YES
MNR12	1608 (0603)x2	1A/Element			YES
MNR14	1608 (0603)x4	1A/Element			YES
MNR32	3216 (1206)x2	2A/Element	-55 to +125	YES	
MNR34	3216 (1206)x4	2A/Element		YES	

Dimensions (Unit: mm)

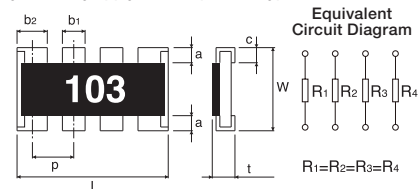
MNR02/MNR12/MNR32 (Marked except MNR02)

Different marking system may apply to each product type.



MNR04/MNR14/MNR34 (Marked except MNR04)

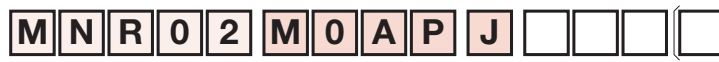
Different marking system may apply to each product type.



Part No.	L	W	t	a	b ₂	c	p
MNR02	1.0±0.1	1.0±0.1	0.35±0.1	0.2±0.1	0.33 ^{+0.1} _{-0.05}	0.25±0.1	0.68
MNR12	1.6±0.1	1.6±0.1	0.5±0.1	0.3±0.2	0.6±0.15	0.25±0.15	0.8
MNR32	2.6±0.2	3.1±0.2	0.55±0.1	0.5±0.3	1.0±0.2	0.5 Max	1.27

Part No.	L	W	t	a	b ₁	b ₂	c	p
MNR04	2.0±0.1	1.0±0.1	0.35±0.1	0.2±0.1	0.3±0.1	0.4±0.1	0.25±0.1	0.5
MNR14	3.2±0.1	1.6±0.1	0.5±0.1	0.3±0.2	0.4±0.15	0.6±0.15	0.25±0.15	0.8
MNR34	5.2±0.4	3.1±0.2	0.55±0.1	0.5±0.3	0.8±0.2	1.0±0.2	0.5 Max	1.27

Part No. Explanation



Part No.

Tolerance

Nominal Resistance

F	±1%
J	±5%
J is also used for jumper	

Resistance code, 3 or 4 digits. 000 denotes jumper type.	
Tolerance	Resistance code
F	: 4 digits
J	: 3 digits

Packaging Specifications Code

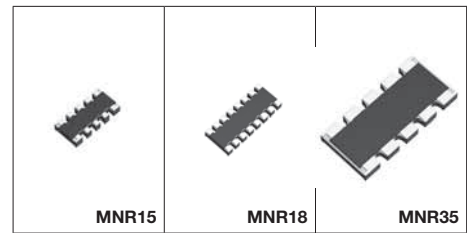
Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)			
MNR02	M0AP	—	—	Paper tape (2mm Pitch)	φ180mm (7inch)	10,000
MNR04	M0AP	—	—	Paper tape (2mm Pitch)	φ180mm (7inch)	10,000
MNR12	E0AP	—	—	Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
MNR14	E0AP	—	—	Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
MNR32	J0AB	—	—	Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000
MNR34	J5AB	—	—	Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Thick Film Chip Resistors (Standard series)

8-element Chip Resistor Networks (MNR series <0603x5 to 1206x5>)

- One package built in 8-element chip contributes to space-saving
- 8 resistor elements reduce mounting cost
- Convex type electrodes facilitate visual inspection of fillets. Inspection can be performed with automatic inspection equipment.
- Suitable for pull-up resistor, damping resistor
- No direction to be mounted



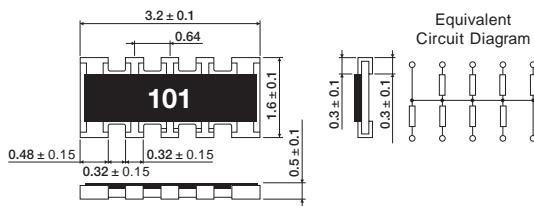
MNR series <0603x5 to 1206x5>										
Part No.	Size Code mm (inch)	No. of Terminals	No. of Elements	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
MNR15	1608 (0603)x5	10	8	0.031W/Element	12.5	J (±5%)	±200	56Ω to 100kΩ (E24 series)	-55 to +125	YES
MNR18	1605 (0602)x8	16	8	0.063W/Element*	25	J (±5%)	±200	10Ω to 1MΩ (E24 series)		YES
MNR35	3216 (1206)x5	10	8	0.063W/Element	50	J (±5%)	±200	56Ω to 100kΩ (E12 series)		YES

*Power for a packing Max 0.25W in all elements

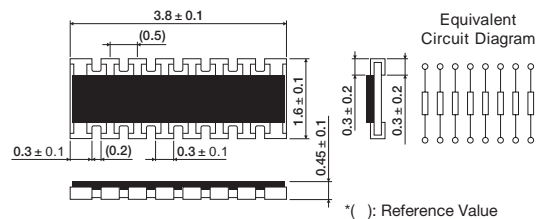
Jumper type					
Part No.	Size Code mm (inch)	Rated Current	Resistance	Operating Temperature (°C)	Automotive Grade AEC-Q200
MNR18	1605 (0602)x8	1A/Element	50mΩ Max	-55 to +125	YES

Dimensions (Unit: mm)

MNR15

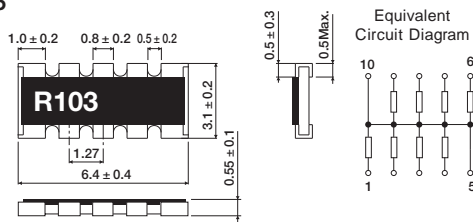


MNR18

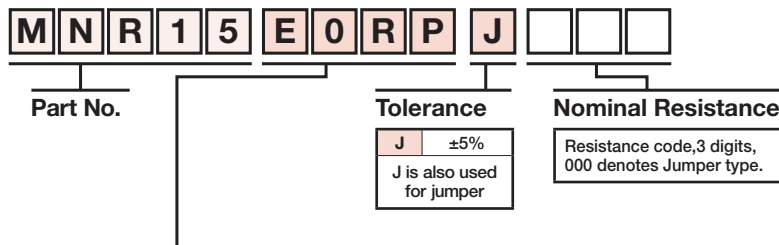


(): Reference Value

MNR35



Part No. Explanation



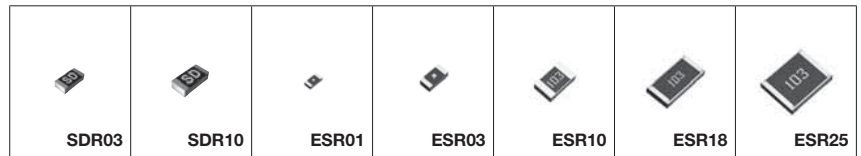
Packaging Specifications Code

Part No.	Code	Tolerance	Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)			
MNR15	E0RP		Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
MNR18	E0AP		Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
MNR35	J5R		Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Thick Film Chip Resistors (High Reliability series) High Anti-surge Chip Resistors (SDR series) Anti-surge Chip Resistors (ESR series)

- Exclusive resistive element pattern and laser trimming technology results in significantly improved surge resistance characteristics.
- Superior power ratings.



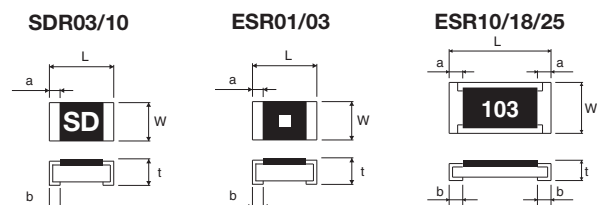
SDR series								
Part No.	Size Code mm (inch)	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
SDR03	1608 (0603)	0.3W	150	J (±5%)	±200	1Ω to 10MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±200 ±100	1Ω to 9.76Ω (E24, E96 series) 10Ω to 10MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		
New SDR10	2012 (0805)	0.5W	400	J (±5%)	±200	1Ω to 10MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±100	1Ω to 10MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		

ESR series								
Part No.	Size Code mm (inch)	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
ESR01	1005 (0402)	0.2W	50	J (±5%)	+500/-250 ±200	1Ω to 9.1Ω (E24 series) 10Ω to 10MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±100	10Ω to 976kΩ (E24, E96 series) 1MΩ to 2.2MΩ (E24 series)		
ESR03	1608 (0603)	0.25W	150	J (±5%)	±200	1Ω to 10MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±200 ±100	1Ω to 9.76Ω (E24, E96 series) 10Ω to 10MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		
ESR10	2012 (0805)	0.4W	150	J (±5%)	±200	1Ω to 30MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±100	1Ω to 10MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		
ESR18	3216 (1206)	0.5W	200	J (±5%)	±200	1Ω to 15MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±100	1Ω to 10MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		
ESR25	3225 (1210)	0.66W (2/3W)	200	J (±5%)	±200	1Ω to 10MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±100	1Ω to 10MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		

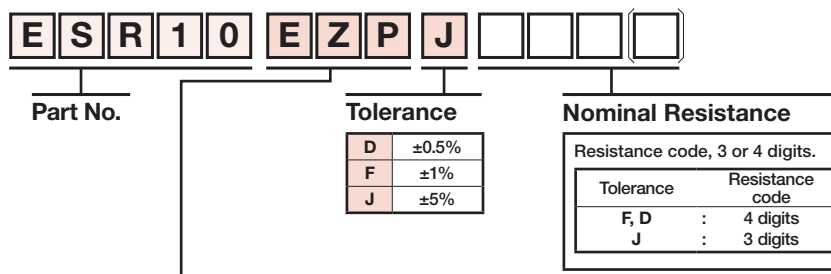
*E24: Standard products E96: Custom products

Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
SDR03	1608 (0603)	1.6±0.1	0.8±0.1	0.45±0.1	0.25±0.1	0.25±0.1
SDR10	2012 (0805)	2.0±0.1	1.25±0.1	0.55±0.1	0.25±0.1	0.4 ±0.2
ESR01	1005 (0402)	1.0±0.05	0.5±0.05	0.35±0.05	0.2±0.1	0.25 ^{+0.05} _{-0.1}
ESR03	1608 (0603)	1.6±0.1	0.8±0.1	0.45±0.1	0.3±0.2	0.3 ±0.2
ESR10	2012 (0805)	2.0±0.1	1.25±0.1	0.55±0.1	0.3±0.2	0.4 ±0.2
ESR18	3216 (1206)	3.2±0.15	1.6±0.15	0.55±0.1	0.3±0.25	0.5 ±0.25
ESR25	3225 (1210)	3.2±0.15	2.5±0.15	0.55±0.1	0.3±0.25	0.5 ±0.25



Part No. Explanation



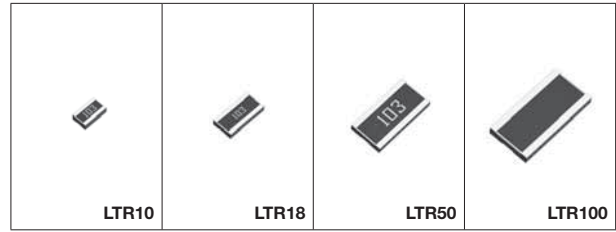
Packaging Specifications Code

Part No.	Code	Tolerance			Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)	D (±0.5%)			
SDR03	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
SDR10	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
ESR01	MZP			—	Paper tape (4mm Pitch)	φ180mm (7inch)	10,000
ESR03	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
ESR10	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
ESR18	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
ESR25	JZP				Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Thick Film Chip Resistors (High Reliability series) High Power Chip Resistors <Wide Terminal type> (LTR series)

- High joint reliability with long side terminations.
- Highest power ratings in their class.
- Guaranteed anti-surge characteristic in all series.

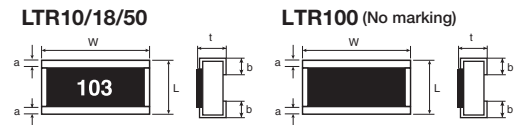


LTR series								
Part No.	Size Code mm (inch)	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
LTR10	1220 (0508)	0.25W	150	J (±5%)	±200	1Ω to 1MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±100	1Ω to 1MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		
LTR18	1632 (0612)	0.75W	200	J (±5%)	±200	1Ω to 1MΩ (E24 series)		
				F (±1%)	±100	1Ω to 1MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		
		1.5W	200	J (±5%)	±200	1Ω to 1MΩ (E24 series)		
				F (±1%)	±100	1Ω to 1MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		
LTR50	2550 (1020)	1W	200	J (±5%)	±200	1Ω to 1MΩ (E24 series)		YES
				F (±1%)	±100	1Ω to 1MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		
LTR100	3264 (1225)	2W	200	J (±5%)	±200	1Ω to 1MΩ (E24 series)	YES	
				F (±1%)	±100	1Ω to 1MΩ (E24, E96 series)		
				D (±0.5%)	±100	10Ω to 1MΩ (E24, E96 series)		

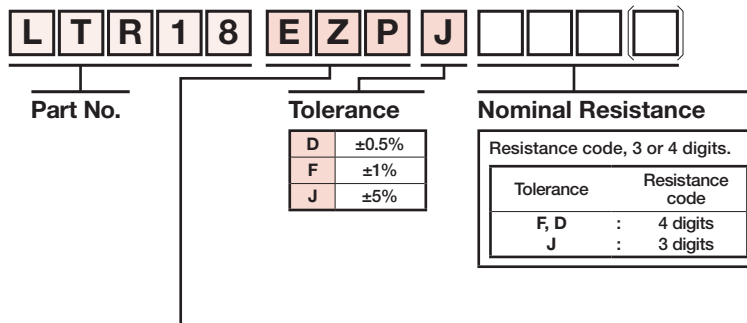
: Under Development
*E24: Standard products E96: Custom products

Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
LTR10	1220 (0508)	1.2±0.1	2.0±0.1	0.55±0.1	0.25±0.1	0.35±0.2
LTR18	1632 (0612)	1.6±0.15	3.2±0.15	0.55±0.1	0.3±0.2	0.5±0.2
LTR50	2550 (1020)	2.5±0.15	5.0±0.15	0.55±0.1	0.38±0.2	0.9±0.2
LTR100	3264 (1225)	3.2±0.15	6.4±0.15	0.55±0.15	0.4±0.25	1.13±0.25



Part No. Explanation



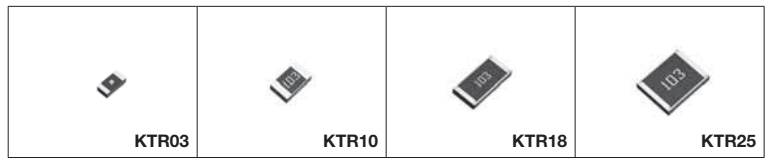
Packaging Specifications Code

Part No.	Code	Tolerance			Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)	D (±0.5%)			
LTR10	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
LTR18	EZP				Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
LTR50	UZP				Embossed tape (4mm Pitch)	φ180mm (7inch)	5,000
LTR100	JZP				Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Thick Film Chip Resistors (High Reliability series) High Voltage Resistance Chip Resistors (KTR series)

- Twice the rated voltage of conventional products.
- Perfect for use in Camera Flash circuit, etc.

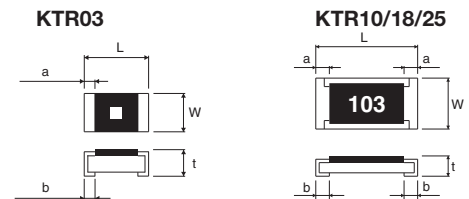


KTR series											
Part No.	Size Code mm (inch)	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200			
KTR03	1608 (0603)	0.1W	350	J (±5%)	±200	1Ω to 10MΩ (E24 series)	-55 to +155	YES			
				F (±1%)	±100	1Ω to 10MΩ (E24, E96 series)					
KTR10	2012 (0805)	0.125W	400	J (±5%)	±200	1Ω to 10MΩ (E24 series)		-55 to +155	YES		
				F (±1%)	±100	1Ω to 10MΩ (E24, E96 series)					
KTR18	3216 (1206)	0.25W	500	J (±5%)	±200	1Ω to 10MΩ (E24 series)			-55 to +155	YES	
				F (±1%)	±100	1Ω to 10MΩ (E24, E96 series)					
KTR25	3225 (1210)	0.33W (1/3W)	600	J (±5%)	±200	1Ω to 10MΩ (E24 series)				-55 to +155	YES
				F (±1%)	±100	1Ω to 10MΩ (E24, E96 series)					

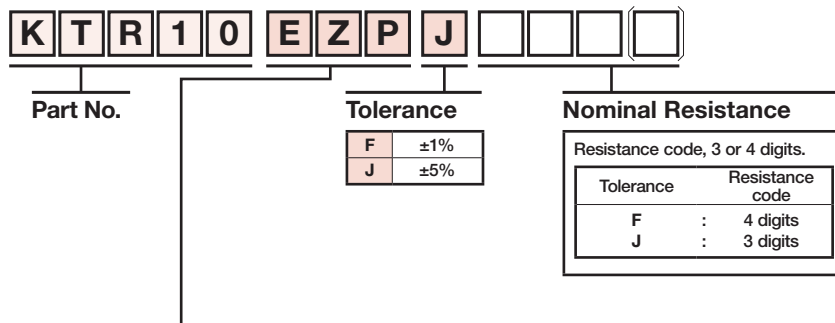
*E24: Standard products E96: Custom products

Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
KTR03	1608 (0603)	1.6±0.1	0.8±0.1	0.45±0.1	0.3±0.2	0.3±0.2
KTR10	2012 (0805)	2.0±0.1	1.25±0.1	0.55±0.1	0.3±0.2	0.4±0.2
KTR18	3216 (1206)	3.2±0.15	1.6±0.15	0.55±0.1	0.3±0.25	0.5±0.25
KTR25	3225 (1210)	3.2±0.15	2.5±0.15	0.55±0.1	0.3±0.25	0.5±0.25



Part No. Explanation



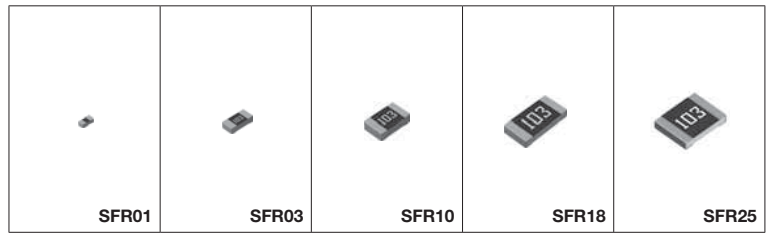
Packaging Specifications Code

Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)			
KTR03	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
KTR10	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
KTR18	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
KTR25	JZP			Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Thick Film Chip Resistors (High Reliability series) Tolerance for Sulfurization Chip Resistor (SFR series)

- Improved Anti-sulfur reliability by ROHM original structure.



SFR series								
Part No.	Size Code mm (inch)	Rated Power (70°C)	Limiting Element Voltage (V)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
SFR01	1005 (0402)	0.063W (1/16W)	50	J (±5%)	+500/-250 ±200	1Ω to 9.1Ω (E24 series) 10Ω to 10MΩ (E24 series)	-55 to +155	YES
				F (±1%)	±100	10Ω to 2.2MΩ (E24, E96 series)		
SFR03	1608 (0603)	0.1W	50	J (±5%)	±400 ±200	1Ω to 9.1Ω (E24 series) 10Ω to 10MΩ (E24 series)		YES
				F (±1%)	±100	10Ω to 10MΩ (E24, E96 series)		
SFR10	2012 (0805)	0.125W	150	J (±5%)	±400 ±200	1Ω to 9.1Ω (E24 series) 10Ω to 10MΩ (E24 series)		YES
				F (±1%)	±100	10Ω to 2.2MΩ (E24, E96 series)		
SFR18	3216 (1206)	0.25W	200	J (±5%)	±400 ±200	1Ω to 9.1Ω (E24 series) 10Ω to 10MΩ (E24 series)		YES
				F (±1%)	±100	10Ω to 2.2MΩ (E24, E96 series)		
SFR25	3225 (1210)	0.5W	200	J (±5%)	±200	1Ω to 1MΩ (E24 series)	YES	
				F (±1%)	±100	10Ω to 1MΩ (E24, E96 series)		

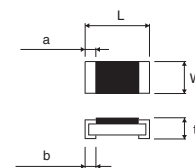
*E24: Standard products E96: Custom products

Jumper type					
Part No.	Size Code mm (inch)	Rated Current (A)	Resistance	Operating Temperature (°C)	Automotive Grade AEC-Q200
SFR01	1005 (0402)	1	50mΩ Max	-55 to +155°C	YES
SFR03	1608 (0603)	1			YES
SFR10	2012 (0805)	2			YES
SFR18	3216 (1206)	2			YES
SFR25	3225 (1210)	2			YES

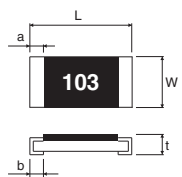
Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
SFR01	1005 (0402)	1.0±0.05	0.5±0.05	0.35±0.05	0.33±0.08	0.25 ^{+0.05} _{-0.10}
SFR03	1608 (0603)	1.6±0.1	0.8±0.1	0.45±0.1	0.4±0.2	0.3 ±0.2
SFR10	2012 (0805)	2.0±0.1	1.25±0.1	0.55±0.1	0.4±0.2	0.4 ±0.2
SFR18	3216 (1206)	3.2 ^{+0.15} _{-0.20}	1.6±0.15	0.55±0.1	0.5±0.25	0.5 ±0.25
SFR25	3225 (1210)	3.2 ^{+0.15} _{-0.20}	2.5±0.15	0.55±0.1	0.55±0.25	0.5 ±0.25

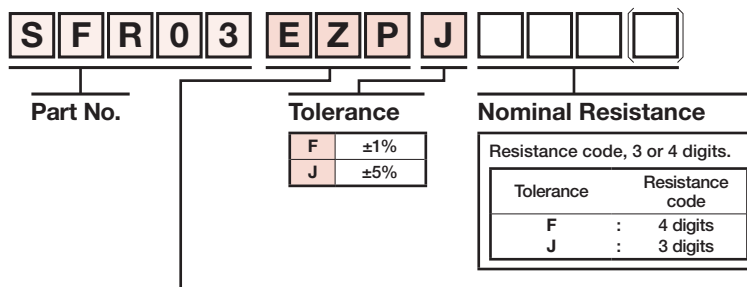
SFR01



SFR03/10/18/25



Part No. Explanation



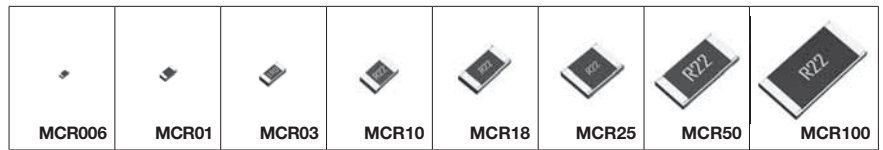
Packaging Specifications Code

Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)			
SFR01	MZP			Paper tape (2mm Pitch)	φ180mm (7inch)	10,000
SFR03	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
SFR10	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
SFR18	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
SFR25	JZP			Embossed tape (4mm Pitch)	φ180mm (8inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Chip Resistors for Current Detection (Thick Film type) Chip Resistors (Low Ohmic MCR series)

- Very-low ohmic resistance from 47m Ohm is in lineup by thick-film resistive element.
- High-reliability chip resistor employing metal glaze as resistive element.



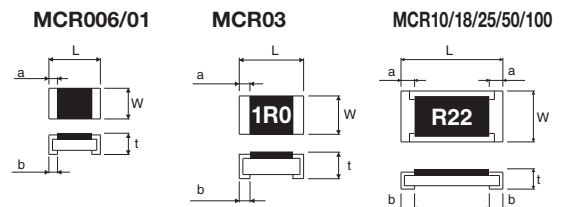
Low Ohmic MCR series							
Part No.	Size Code mm (inch)	Rated Power (70°C)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
MCR006	0603 (0201)	0.05W	F (±1%)	+600/-200	1Ω to 9.1Ω (E24 series)	-55 to +155	YES
MCR01	1005 (0402)	0.063W (1/16W)	F (±1%)	±400	1Ω to 9.1Ω (E24 series)		YES
MCR03	1608 (0603)	0.1W	F (±1%)	±400	1Ω to 9.1Ω (E24 series)		YES
MCR10	2012 (0805)	0.25W	J (±5%)	*Table 1	0.047Ω to 0.91Ω (E24 series)		YES
MCR18	3216 (1206)	0.25W	J (±5%)	*Table 1	0.047Ω to 0.91Ω (E24 series)		YES
			F (±1%)	*Table 1	0.047Ω to 9.1Ω (E24 series)		
MCR25	3225 (1210)	0.5W	J (±5%)	300±300	0.047Ω to 0.091Ω (E24 series)		YES
				±200	0.1Ω to 0.91Ω (E24 series)		
				300±300	0.047Ω to 0.091Ω (E24 series)		
MCR50	5025 (2010)	0.5W	J (±5%)	*Table 1	0.047Ω to 0.91Ω (E24 series)		YES
				*Table 1	0.047Ω to 9.1Ω (E24 series)		
MCR100	6432 (2512)	1W	J (±5%)	*Table 1	0.047Ω to 0.91Ω (E24 series)	-55 to +125	YES
				*Table 1	0.047Ω to 9.1Ω (E24 series)		

*Table 1

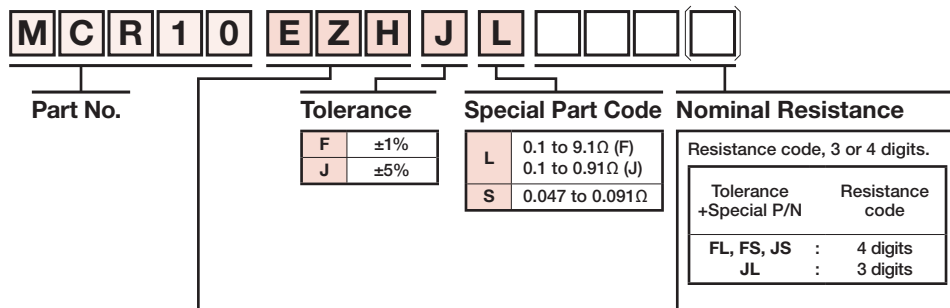
Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range
J (±5%) F (±1%)	500±300	0.047Ω to 0.091Ω (E24 Series)
	400±200	0.1Ω to 0.13Ω (E24 Series)
	±250	0.15Ω to 9.1Ω (E24 Series)

Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
MCR006	0603 (0201)	0.6±0.03	0.3±0.03	0.23±0.03	0.1±0.05	0.15±0.05
MCR01	1005 (0402)	1.0±0.05	0.5±0.05	0.35±0.05	0.2±0.1	0.25 ^{+0.05} _{-0.1}
MCR03	1608 (0603)	1.6±0.1	0.8±0.1	0.45±0.1	0.3±0.2	0.3±0.2
MCR10	2012 (0805)	2.0±0.1	1.25±0.1	0.55±0.1	0.4±0.2	0.4±0.2
MCR18	3216 (1206)	3.2±0.15	1.6±0.15	0.55±0.1	0.5±0.25	0.5±0.25
MCR25	3225 (1210)	3.2±0.15	2.5±0.15	0.55±0.15	0.5±0.25	0.5±0.25
MCR50	5025 (2010)	5.0±0.15	2.5±0.15	0.55±0.15	0.6±0.25	0.6±0.25
MCR100	6432 (2512)	6.3±0.15	3.2±0.15	0.55±0.15	0.6±0.25	0.6±0.25



Part No. Explanation



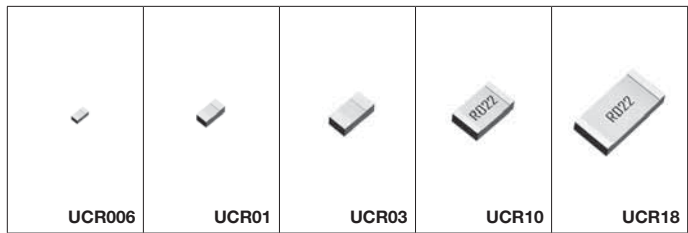
Packaging Specifications Code

Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)			
MCR006	YLP	—	—	Paper tape (2mm Pitch)	φ180mm (7inch)	15,000
MCR01	MZP	—	—	Paper tape (2mm Pitch)	φ180mm (7inch)	10,000
MCR03	EZP	—	—	Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
MCR10	EZH	—	—	Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
MCR18	EZH	—	—	Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
MCR25	JZH	—	—	Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000
MCR50	JZH	—	—	Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000
MCR100	JZH	—	—	Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Chip Resistors for Current Detection (Thick Film type) Low Ohmic Chip Resistors <Face Down type> (UCR series)

- Chip resistors for current detection. (11mΩ or more)
- Resistive element is located at bottom side, which reduces the resistance shift during mounting process.
- ROHM's unique structure achieved improvement of heat.

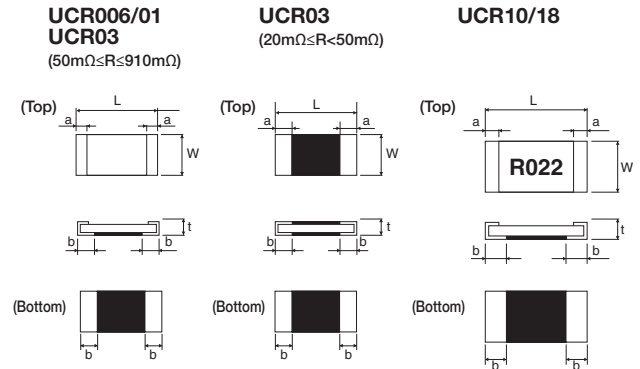


UCR series								
Part No.	Size Code mm (inch)	Rated Power (70°C)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200	
UCR006	0603 (0201)	0.1W	J (±5%)	0 to 300	100mΩ to 910mΩ (E24 series)	-55 to +155	YES	
			F (±1%)					
UCR01	1005 (0402)	0.125W	J (±5%)	0 to 300	68mΩ to 91mΩ (E24 series)		YES	
			F (±1%)	0 to 250	100mΩ to 200mΩ (E24 series)			
UCR03	1608 (0603)	0.25W	J (±5%)	0 to 250	20mΩ to 47mΩ (E24 series)		YES*	
			F (±1%)	0 to 200	51mΩ to 91mΩ (E24 series)			
		0.2W	J (±5%)	0 to 150	220mΩ to 910mΩ (E24 series)			
			F (±1%)					
UCR10	2012 (0805)	0.33W (1/3W)	J (±5%)	250±200	11mΩ to 18mΩ (E24 series)	YES		
			F (±1%)	0 to 250	20mΩ to 47mΩ (E24 series)			
UCR18	3216 (1206)	New 1W	J (±5%)	0 to 350	11mΩ to 18mΩ (E24 series)	YES		
			F (±1%)	0 to 200	20mΩ to 39mΩ (E24 series)			
		0.5W	J (±5%)	0 to 150	43mΩ to 100mΩ (E24 series)		YES	
			F (±1%)					

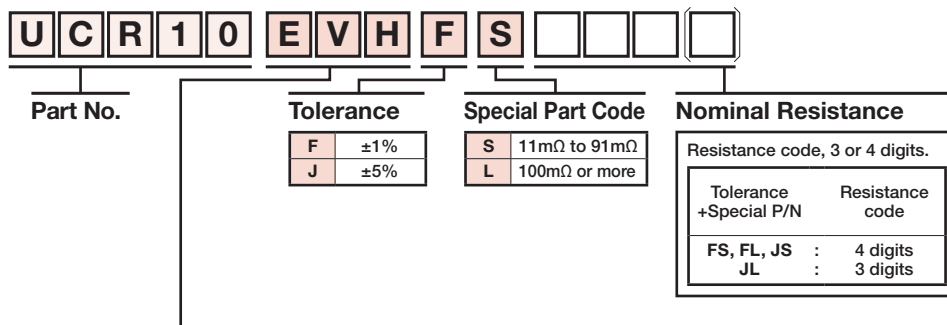
*Limited to 100mΩ and higher

Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
UCR006	0603 (0201)	0.62±0.05	0.32±0.05	0.24±0.05	0.18±0.1	0.22±0.1
UCR01	1005 (0402)	1.0±0.1	0.55±0.1	0.37±0.05	0.28±0.1	0.34±0.1
UCR03	1608 (0603)	1.6±0.1	0.87±0.1	0.5±0.1	0.45±0.2	0.45±0.2
UCR10	2012 (0805)	2.0±0.1	1.25±0.1	0.55±0.1	0.24±0.2	0.5±0.2
UCR18	3216 (1206)	3.2±0.15	1.6±0.15	0.55±0.1	0.3±0.2	0.9±0.25



Part No. Explanation



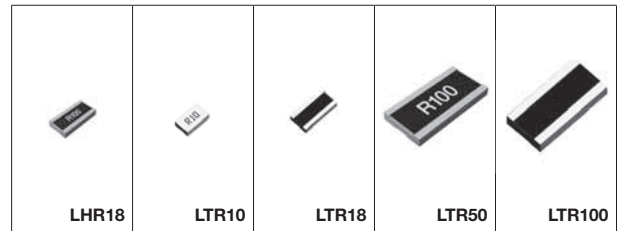
Packaging Specifications Code

Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)	Remarks
		J (±5%)	F (±1%)				
UCR006	YVP			Paper tape (2mm Pitch)	φ180mm (7inch)	15,000	—
UCR01	MVP			Paper tape (2mm Pitch)	φ180mm (7inch)	10,000	—
UCR03	EWP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000	20mΩ to 47mΩ
	EVP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000	51mΩ to 910mΩ
UCR10	EVH			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000	—
UCR18	EVH			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000	—

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Chip Resistors for Current Detection (Thick Film type) High Power Chip Resistors <Wide Terminal type> <Low TCR> (LHR series) High Power Chip Resistors <Wide Terminal type> (Low Ohmic LTR series)

- Chip resistors for current detection. (10mΩ or more)
- High joint reliability with long side terminations.
- Improvement of rated power enables to displace smaller size of resistors, and it contributes space savings in your set.



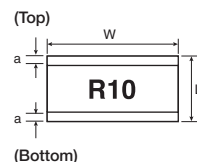
LHR series							
Part No.	Size Code mm (inch)	Rated Power (70°C)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Range	Operating Temperature (°C)	Automotive Grade AEC-Q200
LHR18	1632 (0612)	1.25W	J (±5%)	0 to 125	33mΩ to 39mΩ (E24 series)	-55 to +155	YES
			F (±1%)	0 to 100 0 to 75	43mΩ to 270mΩ (E24 series) 300mΩ to 1Ω (E24 series)		
Low Ohmic LTR series							
LTR10	1220 (0508)	0.5W	J (±5%) F (±1%)	±150	47mΩ to 9.1Ω (E24 series)	-55 to +155	YES
LTR18	1632 (0612)	1W	J (±5%)	0 to 300	10mΩ to 18mΩ (E24 series)		YES
			F (±1%)	0 to 200 0 to 150 ±100	20mΩ to 47mΩ (E24 series) 51mΩ to 470mΩ (E24 series) 510mΩ to 1Ω (E24 series)		
LTR50	2550 (1020)	2W	J (±5%)	0 to 300	10mΩ to 18mΩ (E24 series)		YES
			F (±1%)	0 to 200 0 to 150 ±100	20mΩ to 47mΩ (E24 series) 51mΩ to 91mΩ (E24 series) 100mΩ to 910mΩ (E24 series)		
LTR100	3264 (1225)	2W	J (±5%)	±200	100mΩ to 910mΩ (E24 series)	YES	
			F (±1%)	0 to 150	100mΩ to 200mΩ (E24 series)		
		3W	J (±5%)	0 to 300	10mΩ to 18mΩ (E24series)		
			F (±1%)	0 to 200 0 to 150	20mΩ to 47mΩ (E24series) 51mΩ to 91mΩ (E24series)		

: Under Development

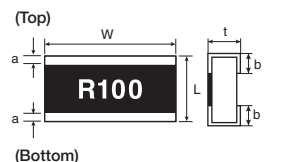
Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
LHR18	1632 (0612)	1.6±0.1	3.2±0.1	0.58±0.1	0.3±0.2	0.5±0.2
LTR10	1220 (0508)	1.2±0.1	2.0±0.1	0.55±0.1	0.3±0.2	0.35±0.2
LTR18	1632 (0612)	1.6±0.1	3.2±0.1	0.58±0.1	0.5±0.2	0.5±0.2
LTR50	2550 (1020)	2.5±0.15	5.0±0.15	0.58±0.15	0.38±0.2	0.9±0.2
LTR100	3264 (1225)	3.2±0.15	6.4±0.15	0.55±0.15	0.4±0.25	1.13±0.25

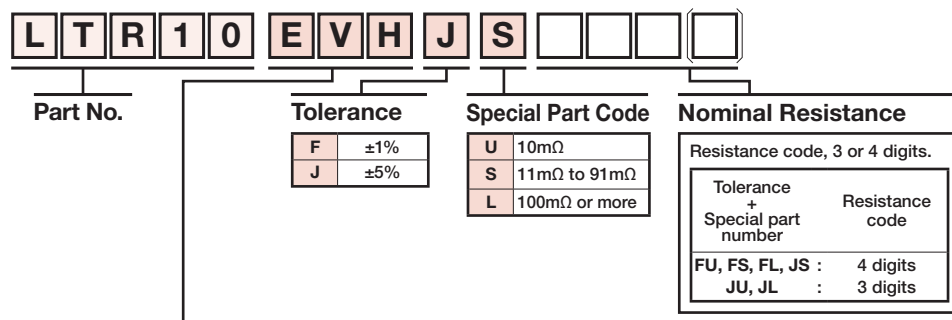
LTR10



LHR18/LTR50 (marking) LTR18/LTR100 (No marking)



Part No. Explanation



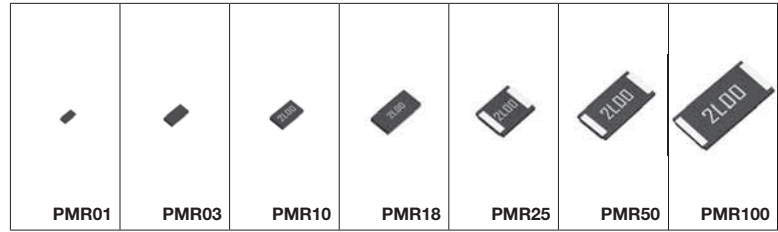
Packaging Specifications Code

Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)			
LHR18	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
LTR10	EVH			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
LTR18	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
LTR50	UZP			Embossed tape (4mm Pitch)	φ180mm (7inch)	5,000
LTR100	JZP			Embossed tape (4mm Pitch)	φ180mm (7inch)	4,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Chip Resistors for Current Detection (Metal Plate type) Ultra Low Ohmic Chip Shunt Resistors (PMR series)

- Ultra low-ohmic resistance range (1mΩ or more)
- Improved current detection accuracy by trimming-less structure.
Highly recommended for large current/
High speed switching circuit.
- Special low resistance temperature coefficient (TCR) alloy utilized for the resistive element.



PMR series							
Part No.	Size Code mm (inch)	Rated Power (70°C)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Value (mΩ)	Operating Temperature (°C)	Automotive Grade AEC-Q200
PMR01	1005 (0402)	0.2W	J (±5%)	0 to 200	10	-55 to +155	YES
PMR03	1608 (0603)	0.25W	J (±5%) F (±1%)	0 to 150	10 (5)		YES
PMR10	2012 (0805)	0.5W	J (±5%) F (±1%)	±150	2, 3, 4, 5, 6, 7, 8, 9, 10		YES
PMR18	3216 (1206)	1W	J (±5%) F (±1%)	±100	1, 2, 3, 4, 5, 6, 7, 8, 9, 10		YES
PMR25	3225 (1210)	1W	J (±5%) F (±1%)	±100	1, 2, 3, 4, 5		YES
PMR50	5025 (2010)	1W	J (±5%) F (±1%)	±100	1, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10		YES
PMR100	6432 (2512)	2W	J (±5%) F (±1%)	±150	1, 2		YES
		3W	J (±5%) F (±1%)	±100	3, 4, 5, 6, 7, 8, 9, 10		

: Under Development

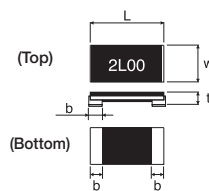
Large Current Jumper type					
Part No.	Size Code mm (inch)	Rated Current (A)	Resistance	Operating Temperature (°C)	Automotive Grade AEC-Q200
PMR01	1005 (0402)	20.0	0.5mΩ Max	-55 to +155	YES
PMR03	1608 (0603)	22.4			YES
PMR10	2012 (0805)	31.6			YES
PMR18	3216 (1206)	38.7			YES
PMR25	3225 (1210)	44.7			YES
PMR50	5025 (2010)	50.0			YES
PMR100	6432 (2512)	63.2			YES

Dimensions (Unit: mm)

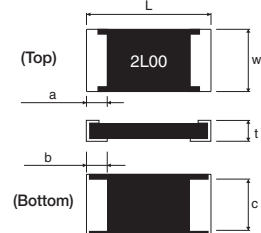
Part No.	Size Code mm (inch)	L	W	t	a	b	c
PMR01	1005 (0402)	1.0±0.05	0.5±0.05	0.25±0.1	—	0.30±0.10	—
PMR03	1608 (0603)	1.6±0.15	0.8±0.15	0.25±0.1	—	0.35±0.15	—
PMR10	2012 (0805)	2.0±0.15	1.2±0.15	0.42 to 0.28*±0.15	—	0.75 to 0.35*±0.25	—
PMR18	3216 (1206)	3.2±0.15	1.6±0.15	0.42 to 0.28*±0.15	—	1.20 to 0.5 *±0.25	—
PMR25	3225 (1210)	3.2±0.2	2.5±0.2	0.52 to 0.32*±0.15	0.5±0.2	1.00 to 0.8 *±0.2	1.95±0.2
PMR50	5025 (2010)	5.0±0.2	2.5±0.2	0.52 to 0.32*±0.15	0.5±0.2	1.85 to 0.9 *±0.2	1.95±0.2
PMR100	6432 (2512)	6.4±0.25	3.2±0.25	0.52 to 0.32*±0.15	0.5±0.25	2.3 to 1.1 *±0.25	2.65±0.25

*Each value range varies with the resistance. Please contact a ROHM sales representative for further details.

PMR01/03 (No marking)
PMR10/18



PMR25/50/100



Part No. Explanation



Part No.

Tolerance

F	±1%
J	±5%

Special Part Code

U	5 to 10mΩ
V	1 to 4mΩ

*Jumper type doesn't have a special part code

Nominal Resistance

Resistance code, 3 or 4 digits.	
Tolerance	Resistance code
F	: 4 digits
J	: 3 digits

Packaging Specifications Code

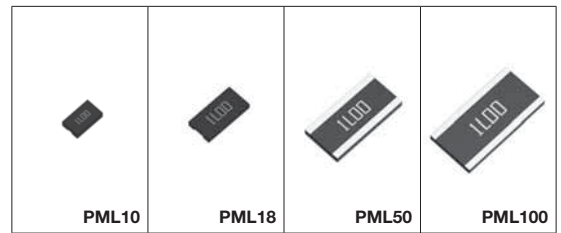
Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	F (±1%)			
PMR01	ZZP		—	Embossed tape (2mm Pitch)	φ180mm (7inch)	10,000
PMR03	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
PMR10	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
PMR18	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
PMR25	HZP			Embossed tape (4mm Pitch)	φ180mm (7inch)	2,000
PMR50	HZP			Embossed tape (4mm Pitch)	φ180mm (7inch)	2,000
PMR100	HZP			Embossed tape (4mm Pitch)	φ180mm (7inch)	2,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Resistance Value (Ω)	Tolerance	
	J	F
Jumper	000	—
1mΩ	1L0	1L00
2mΩ	2L0	2L00
3mΩ	3L0	3L00
4mΩ	4L0	4L00
5mΩ	5L0	5L00
6mΩ	6L0	6L00
7mΩ	7L0	7L00
8mΩ	8L0	8L00
9mΩ	9L0	9L00
10mΩ	10L	10L0

Chip Resistors for Current Detection (Metal Plate type) Ultra Low Ohmic Chip Shunt Resistors <Wide Terminal type> (PML series)

- Ultra-low resistance range (0.5mΩ or more).
- Wide terminal configuration for high joint reliability.
- Improved current detection accuracy by trimming-less structure.

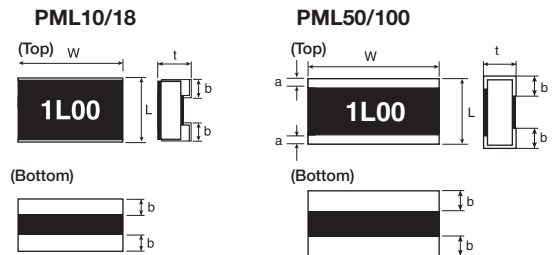


PML series							
Part No.	Size Code mm (inch)	Rated Power (70°C)	Tolerance	Temperature Coefficient (ppm/°C)	Resistance Value (mΩ)	Operating Temperature (°C)	Automotive Grade AEC-Q200
PML10	1220 (0508)	0.66W	J (±5%) G (±2%)	±200	1.0, 1.5, 2.0, 2.5	-55 to +155	YES
PML18	1632 (0612)	1W	J (±5%) G (±2%)	±150	0.5, 1.0, 1.5, 2.0, 2.5		YES
PML50	2550 (1020)	2W	J (±5%)	±200	0.5, 2.2		YES
PML100	3264 (1225)	2W (3W at 25°C)	J (±5%)	±100	1.0, 1.5, 2.0, 2.2		YES
		2W		±150	0.5		

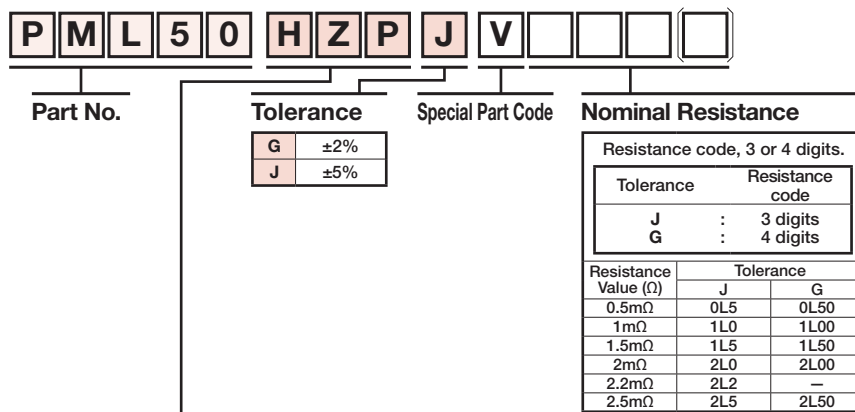
Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	a	b
PML10	1220 (0508)	1.2±0.15	2.0±0.15	0.42±0.15	—	0.45 to 0.3* ±0.2
PML18	1632 (0612)	1.6±0.15	3.2±0.15	0.42 to 0.28* ±0.15	—	0.55 to 0.3* ±0.2
PML50	2550 (1020)	2.5±0.2	5.0±0.2	0.5 to 0.36* ±0.15	0.4±0.2	0.75 to 0.7* ±0.2
PML100	3264 (1225)	3.2±0.25	6.4±0.25	0.5 to 0.36* ±0.15	0.45±0.25	0.9 to 0.7* ±0.25

*Each value range varies with the resistance. Please contact a ROHM sales representative for further details.



Part No. Explanation



Packaging Specifications Code

Part No.	Code	Tolerance		Packaging Specifications	Reel	Basic Ordering Unit (pcs)
		J (±5%)	G (±2%)			
PML10	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
PML18	EZP			Paper tape (4mm Pitch)	φ180mm (7inch)	5,000
PML50	HZP		—	Embossed tape (4mm Pitch)	φ180mm (7inch)	2,000
PML100	HZP		—	Embossed tape (4mm Pitch)	φ180mm (7inch)	2,000

Reel (φ180mm): Compatible with JEITA standard "EIAJ ET-7200B"
: Standard product

Chip Resistors for Current Detection (Metal Plate type) High Power Ultra Low Ohmic Chip Shunt Resistors (PSR series)

- High power 3W to 5W
- Ultra low resistance range (0.1mΩ or more).
- Excellent TCR characteristics
- Convex structure



PSR series							
Part No.	Size Code mm (inch)	Rated Power (70°C)	Tolerance	Temperature* coefficient (ppm/°C)	Resistance Range (mΩ)	Operating Temperature (°C)	Automotive Grade AEC-Q200
PSR100	6432 (2512)	3W	F (±1%)	±150	0.3	-55 to +170 (-65 to +175)	YES
				±115	0.5		
				±100	1.0		
PSR400	10×5.2 (3921)	4W	F (±1%)	±50	2.0, 3.0		
				125±50	New 0.2		
				±175	0.3, 0.5		
PSR500	15×7.75 (5931)	5W	F (±1%)	±75	1.0, 2.0, 3.0		
				200±50	New 0.1		
				±225	0.2		
				±150	0.3, 0.4, 0.5		
				±75	1.0, 2.0		YES

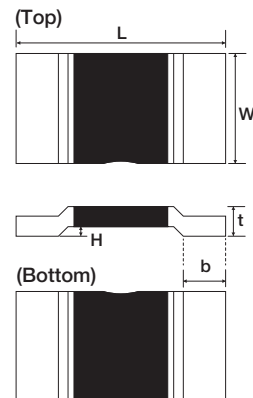
Rated Power Up PSR series							
Part No.	Size Code mm (inch)	Rated Power (Rated Terminal Temperature)	Tolerance	Temperature* coefficient (ppm/°C)	Resistance Range (mΩ)	Operating Temperature (°C)	Automotive Grade AEC-Q200
PSR100	6432 (2512)	4W (140°C), 8W (75°C)	F (±1%)	0 to +150	0.3	-65 to +175	YES
				0 to +115	0.5		
		0 to +100		1.0			
		0 to +50		2.0			
PSR400	10×5.2 (3921)	3W (140°C), 4W (75°C)	F (±1%)	0 to +50	3.0		
				5W (130°C), 12W (75°C)	125±50		
		5W (130°C), 10W (75°C)		0 to +100	0.3, 0.5		
		5W (130°C), 8W (75°C)		0 to +75	1.0		
		5W (130°C), 6W (75°C)		0 to +75	2.0		
PSR500	15×7.75 (5931)	3W (130°C), 5W (75°C)	F (±1%)	0 to +75	3.0		
				10W (120°C), 15W (70°C)	200±50	0.1	
		7W (120°C), 10W (70°C)		0 to +100	0.2		
		6W (120°C), 10W (70°C)		0 to +100	0.3, 0.4, 0.5		
		4W (120°C), 8W (70°C)		0 to +75	1.0		
				0 to +75	2.0		YES

: Under Development * (+20°C to +125°C)

Dimensions (Unit: mm)

Part No.	Resistance	L	W	t	H	b
PSR100	0.3mΩ	6.35±0.15	3.05±0.25	1.45±0.15	0.35±0.15	1.12±0.3
	0.5mΩ			1.15±0.15		
	1.0mΩ			0.75±0.15		
	2.0mΩ			1.00±0.15		
	3.0mΩ			0.75±0.15		
PSR400	0.2mΩ	10±0.3	5.2±0.3	1.9±0.15	0.5±0.15	2.0±0.6
	0.3mΩ			1.85±0.15		
	0.5mΩ			1.3±0.15		
	1.0mΩ			0.9±0.15		
	2.0mΩ			1.1±0.15		
PSR500	0.3mΩ	15±0.3	7.75±0.3	0.9±0.15	0.5±0.15	4.0±0.6
	0.1mΩ			1.96±0.15		
	0.2mΩ			1.85±0.15		
	0.3mΩ			1.4±0.15		
	0.4mΩ			1.15±0.15		
	0.5mΩ			1.05±0.15		
	1.0mΩ			1.35±0.15		
2.0mΩ	0.9±0.15					

PSR100/400/500



Part No. Explanation



Part No.

Tolerance

Special Part Code

Nominal Resistance

F 1%

B	0.1mΩ	F	0.5mΩ
C	0.2mΩ	H	1.0mΩ
D	0.3mΩ	J	2.0mΩ
E	0.4mΩ	L	3.0mΩ

Resistance code, 4 digits.	
Tolerance	Resistance code
F	: 4 digits

Packaging Specifications Code

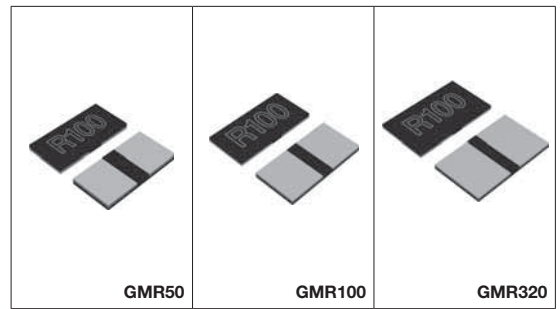
Part No.	Code	Tolerance F (±1%)	Packaging Specifications	Reel	Basic Ordering Unit (pcs)
PSR100	KTQ		Embossed tape (8mm Pitch)	φ330mm (13inch)	5,000
PSR400	ITQ		Embossed tape (8mm Pitch)	φ330mm (13inch)	3,000
PSR500	HTQ		Embossed tape (12mm Pitch)	φ330mm (13inch)	2,000

: Standard product Reel (φ330mm): Compatible with JEITA standard "EIAJ ET-7200B"

Resistance	F
0.1mΩ	0L10
0.2mΩ	0L20
0.3mΩ	0L30
0.4mΩ	0L40
0.5mΩ	0L50
1.0mΩ	1L00
2.0mΩ	2L00
3.0mΩ	3L00

Chip Resistors for Current Detection (Metal Plate type) High Power Low Ohmic Chip Shunt Resistors (GMR series)

- High power (3W to 10W)
- High heat dissipation
- Excellent TCR characteristics
- Low ohmic (5mΩ to 220mΩ)

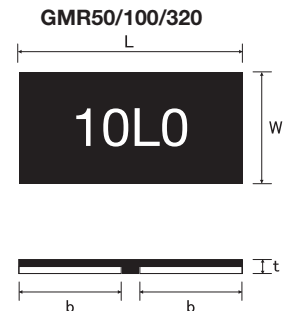


GMR series							
Part No.	Size Code mm (inch)	Rated Power (70°C)	Tolerance	Temperature Coefficient ppm/°C	Resistance Range (mΩ)	Operating Temperature (°C)	Automotive Grade AEC-Q200
New GMR50	5025 (2010)	3W (110°C), 4W (90°C)	F (±1%)	0 to +25 ±25	5mΩ 10mΩ to 220mΩ (E6 series*2*3)	-55 to +170 (-65 to +170)	YES
GMR100	6432 (2512)	3W (110°C)	F (±1%)	0 to +25 ±20	5mΩ 10mΩ to 220mΩ (E6 series*2)		YES
		5W (110°C), 7W (70°C)	F (±1%)	0 to +25 ±20	5mΩ 10mΩ to 220mΩ (E6 series*2*3)		YES
GMR320	7142 (2817)	7W (110°C), 10W (70°C)	F (±1%)	0 to +25	5mΩ		YES
				±25	10mΩ to 100mΩ (E6 series*2*3)		

*1 (+20°C to +60°C)
 *2 Please contact us for another standard nominal resistance values.
 *3 Development schedule will vary depending on resistance value.
 : Under Development (Development schedule will vary depending on resistance value. Please contacts us.)

Dimensions (Unit: mm)

Part No.	Size Code mm (inch)	L	W	t	b
GMR50	5025 (2010)	5.00±0.25	2.50±0.25	0.40±0.15	2.05±0.25
GMR100	6432 (2512)	6.40±0.25	3.20±0.25	0.40±0.15	2.75±0.25
GMR320	7142 (2817)	7.10±0.25	4.20±0.25	0.40±0.15	3.10±0.25



Part No. Explanation

G M R 1 0 0 H J B F A

Part No.	Special Part Code I	Tolerance	Special Part Code II	Nominal Resistance																																														
	<table border="1"> <tr><td>JB</td><td>10mΩ to 68mΩ</td></tr> <tr><td>JC</td><td>100mΩ to 220mΩ</td></tr> </table>	JB	10mΩ to 68mΩ	JC	100mΩ to 220mΩ	<table border="1"> <tr><td>F</td><td>±1%</td></tr> </table>	F	±1%	<table border="1"> <tr><td>A</td><td>10mΩ, 100mΩ</td></tr> <tr><td>E</td><td>15mΩ, 150mΩ</td></tr> <tr><td>I</td><td>22mΩ, 220mΩ</td></tr> <tr><td>M</td><td>33mΩ</td></tr> <tr><td>Q</td><td>47mΩ</td></tr> <tr><td>U</td><td>68mΩ</td></tr> </table>	A	10mΩ, 100mΩ	E	15mΩ, 150mΩ	I	22mΩ, 220mΩ	M	33mΩ	Q	47mΩ	U	68mΩ	<table border="1"> <tr><td colspan="2">Resistance code, 4 digits.</td></tr> <tr><td>Tolerance</td><td>Resistance code</td></tr> <tr><td>F</td><td>: 4 digits</td></tr> <tr><td colspan="2">Resistance</td></tr> <tr><td>5mΩ</td><td>5L00</td></tr> <tr><td>10mΩ</td><td>10L0</td></tr> <tr><td>15mΩ</td><td>R015</td></tr> <tr><td>22mΩ</td><td>R022</td></tr> <tr><td>33mΩ</td><td>R033</td></tr> <tr><td>47mΩ</td><td>R047</td></tr> <tr><td>68mΩ</td><td>R068</td></tr> <tr><td>100mΩ</td><td>R100</td></tr> <tr><td>150mΩ</td><td>R150</td></tr> <tr><td>220mΩ</td><td>R220</td></tr> </table>	Resistance code, 4 digits.		Tolerance	Resistance code	F	: 4 digits	Resistance		5mΩ	5L00	10mΩ	10L0	15mΩ	R015	22mΩ	R022	33mΩ	R033	47mΩ	R047	68mΩ	R068	100mΩ	R100	150mΩ	R150	220mΩ	R220
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*Product No. of 5mΩ is an exception.
 GMR50HJAAF5L00
 GMR100HJAAF5L00
 GMR320HJAAF5L00

Packaging Specifications Code

Part No.	Code	Tolerance F (±1%)	Packaging Specifications	Reel	Basic Ordering Unit (pcs)
GMR50	H		Embossed tape (4mm Pitch)	φ180mm	2,000
GMR100	H		Embossed tape (8mm Pitch)	φ180mm	2,000
GMR320	H		Embossed tape (8mm Pitch)	φ180mm	2,000

: Standard product