

Current Sensing Resistors, Metal Foil Type



Type: **ERJ MFBA**

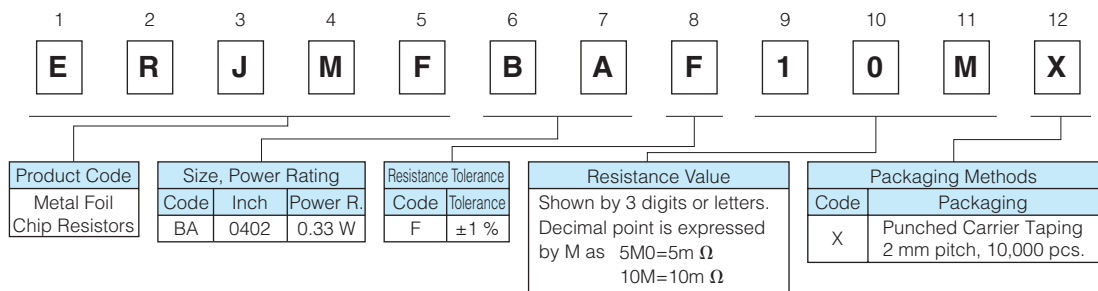
Features

- Suitable for current sensing for smartphones and other small devices
- Unique metal foil process achieved high power and low temperature coefficient
- RoHS compliant
- ISO9001 certified

As for Packaging Methods, Soldering Conditions and Safety Precautions,

Please see Data Files

Explanation of Part Numbers



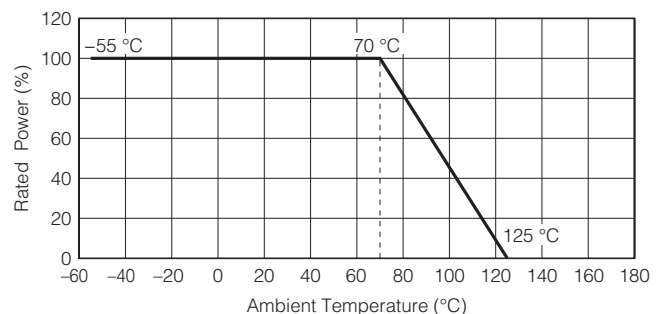
Ratings

Part No. (inch size)	Power Rating at 70 °C (W)	Resistance Range* (mΩ)	Resistance Tolerance (%)	T.C.R. (×10 ⁻⁶ /°C)	Category Temperature Range (°C)
ERJMFBA (0402)	0.33	5, 10, 20	F : ±1	±150	-55 to +125

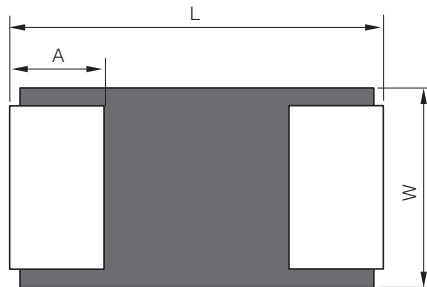
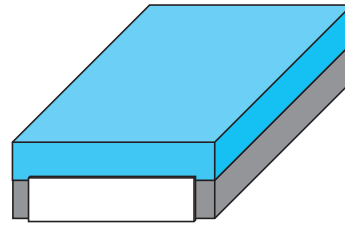
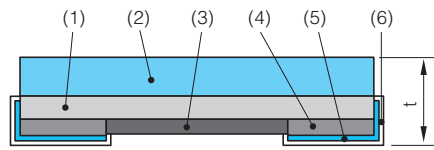
* Use it on the condition that the case temperature is below 125 °C.

Power Derating Curve

If the ambient temperature of the resistor is more than ambient temperature upper limit value of the rated table, please reduce the rated power according to the Power Derating Curve shown in the figure on the right.



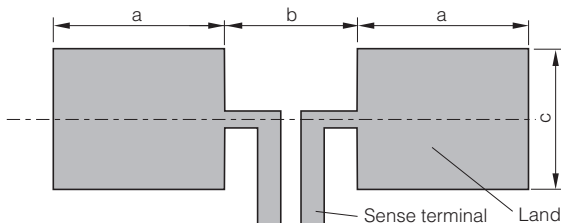
Construction, Dimensions in mm (not to scale)



	Name
(1)	Resistive element
(2)	Base material
(3)	Protective Resin
(4)	Electrode (Inner)
(5)	Electrode (Between)
(6)	Electrode (Outer)

Part No.	Dimension (mm)				Mass (Weight) (g/1000 pcs.)
	L	W	A	t	
ERJMFBA	1.00±0.10	0.55±0.10	0.25±0.10	0.30±0.10	0.73

Recommended Land Pattern, Sense terminal-Layout



Part No.	Recommended Land Pattern (mm)		
	a	b	c
ERJMFBA	0.40	0.50	0.50

Performance

Test Item	Test Condition	Specification	Typical value
Thermal Shock	-55 °C/125 °C, 5 cycles	±2 %	0.20 %
Overload	3 × Rated Power, 5 sec	±2 %	0.20 %
Solderability	245 °C, 3 sec	> 95% coverage	> 95% coverage
Resistance to Solvents	MIL-STD-202 method 215, 2.1a, 2.1d	No damage	No damage
Low Temperature Storage and Operation	-65 °C, 24 h	±1 %	0.10 %
Resistance to Soldering Heat	MIL-STD-202 method 210 (260 °C, 10 s)	±1 %	0.10 %
Moisture Resistance	MIL-STD-202 method 106	±1 %	0.10 %
Shock	MIL-STD-202 method 213-A	±1 %	0.10 %
Vibration, High Frequency	10 to 2000 (Hz)	±1 %	0.10 %
Life	70 °C, Rated Power, 1000 h	±3 %	0.30 %
Storage Life at Elevated Temperature	125 °C, 1000 h	±1 %	0.10 %
Frequency Characteristics	Inductance	< 5 nH	< 2 nH