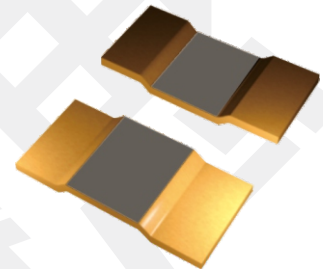


**TCR  $\leq \pm 200 \text{ppm}/^\circ\text{C}$  (-55~+170°C, +20°C Ref), tightest tolerance  $\pm 0.5\%$   
**No trimming & Non-hot-spot design, Low EMF**  
**AEC-Q200 qualified****

### Introduction

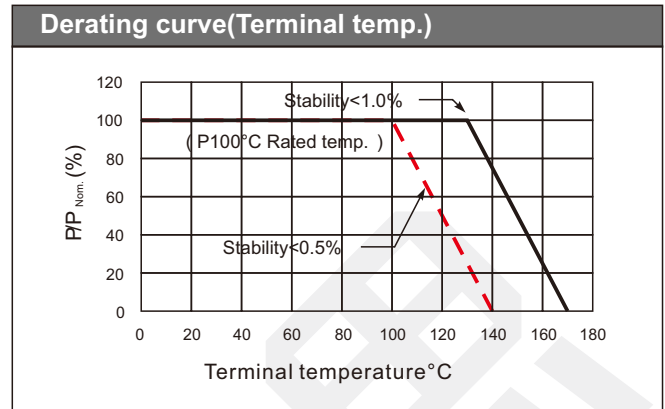
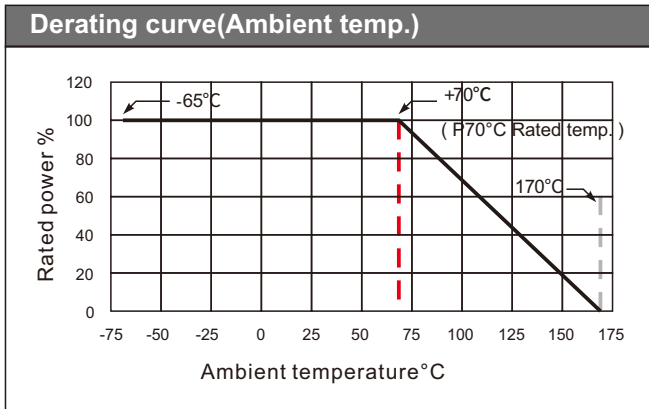
This series is made from a precision Manganin alloy and which is then precisely machined and welded using exclusive EB-Welding equipment designed and manufactured independently by C&B Group. The combination of excellent consistency of metal alloy, the precision machining capability and the efficient welding process allow the product to achieve a tight tolerance up to  $\pm 0.5\%$  without trimming. The "Trimming Free" technology avoids the loss of rated current and the hot-spot due to notches in the trimming process, which greatly increases the reliability of the product. At the same time, the improved welding quality ensures very low EMF and high stability of the product. From the raw material to equipment and core process, whole process is strictly controlled inside of the house to make sure stable quality and timely delivery.

This series is ideal for high current sensing circuits which ask for high precision at the same time. Visit [www.resistor.today](http://www.resistor.today) to learn more.



Specifications (mm)										
Series	Size	Rated Power	Resistance range	Tolerance	TCR	Operating temp	Material	Packaging		
EBWM2512JL500S9	2512	6W	0.5mΩ	±5%	$\leq \pm 200 \text{ppm}/^\circ\text{C}$ (-55~+170°C, +20°C Ref)	-65~+170°C	Manganese-Copper	tape&reel 4000pcs/reel		
EBWM2512FL500S9				±1%						
EBWM2512DL500S9				±0.5%						
EBWM2512J1L00S9			1mΩ	±5%						
EBWM2512F1L00S9				±1%						
EBWM2512D1L00S9				±0.5%						
Dimensions										
Size	Resistance	L	W	A	D	T	H	a	b	c
2512	0.5mΩ	6.3±0.2	3.0±0.2	1.0±0.2	0.35±0.1	0.9±0.1	1.25±0.2	3.9±0.25	3.4±0.25	1.8±0.25
	1mΩ	6.3±0.2	3.0±0.2	1.0±0.2	0.35±0.1	0.4±0.1	0.75±0.2	3.9±0.25	3.4±0.25	1.8±0.25

Part Number Information														
Example, EBWM2512F1L00S9 (EBWM 2512 ±1% 1mΩ ±200ppm/°C Standard)														
E	B	W	M	2	5	1	2	F	1	L	0	0	S	9
Series EBWM			Size 2512		Tolerance D=±0.5% F=±1% J=±5%			Resistance L500=0.5mΩ 1L00=1mΩ		TCR S=±200ppm/°C		Code 9=Standard		



Performance				
Test Item	Test Method	Standard	Typical	Maximum
Short-time overload	5x rated power for 5s,measured 24±2h after test	MIL-STD-202 Method 201	±0.1%	±0.5%
Thermal shock	-55°C~+125°C,1000 cycles,measured 24±2h after test	JESD22 Method JA-104	±0.1%	±0.5%
Moisture resistance	T=24h/cycle,no load,7a and 7b not required,measured 24±2h after test	MIL-STD-202 Method 106	±0.2%	±0.5%
Load life	+70°C,2000h,rated power,measured 24±2h after test	MIL-STD-202 Method 108	±0.5%	±1.0%
Resistance to soldering heat	+260,±5°C,10s±1s,measured 24±2h after test	MIL-STD-202 Method 210	±0.2%	±0.5%
High temp. & high humidity	+85°C,85%RH,10% of rated power,1000h,measured 24±2h after test	MIL-STD-202 Method 103	±0.2%	±0.5%
Low temp. storage	-65°C for 96h,measured 24±2h after test	IEC 60068-2-1	±0.1%	±0.5%
Vibration	Frequency varied 10Hz to 2000Hz in 20 minutes,acceleration 5g X-Y-Z direction°C12 cycles	MIL-STD-202 Method 204	±0.05%	±0.2%
Mechanical shock	100g,6ms,half-sine shock wave,3 times/direction,18 times measured 24±2h after test	MIL-STD-202 Method 107	±0.05%	±0.2%
Resistance to solvent	Immerse in solvent for 3 min and then wipe 10 times 3 cycles of 3 solvents,clean and dry at ambient temperature	MIL-STD-202 Method 215	Clear marking No visible damage	
Solderability	+235°C±5°C,2s±0.5s	J-STD-202	95% covered	
TCR	-55°C and +170°C,+20°C ref.	IEC 60115-1 4.8	Within the nominal value range	
Substrate bending	2mm,for 60s	AEC-Q200-005	±0.01%	±0.1%
Terminal strength	Force 17.7N,hold for 60s	AEC-Q200-006	±0.01%	±0.1%
Low temp. operation	-55°C,no load for 1h,rated voltage load for 45 min,no load for 15 min	IEC 60115-1 4.36	±0.2%	±0.5%

