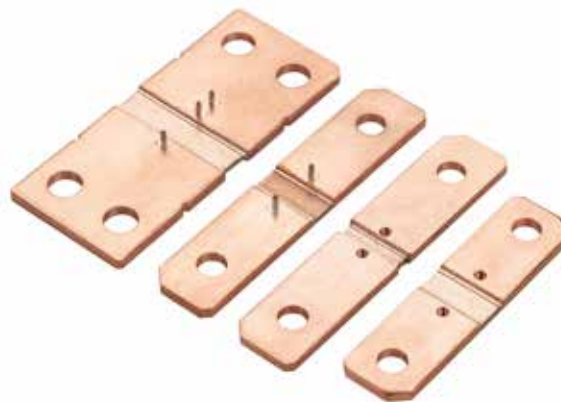


# SHA Series

## Precision manganin copper alloy shunt

The Ohmite SHA series shunts can support up to 1KA of rated current. Due to its special alloy material, the SHA series has good long-term stability and can withstand pulse current several times higher than the rated current. The special heat treatment process of the SHA series enables a low current coefficient providing stability in high current applications. The SHA series has thermal potential of less than 0.5pV/°C to copper, and has little effect on the voltage output of the millivolt level. The flat structure of the SHA series makes the inductance less than 3nH creating a shunt compatible with high frequency applications.



### FEATURES

- Four terminal Kelvin connection
- Rated power: 6918 25W, 8518 36W, 8536 50W
- Extremely low inductance
- Excellent long-term stability and frequency characteristics
- Low thermal EMF
- Small resistance shift under load
- AEC-Q200 Compliant

### APPLICATIONS

- Battery management system
- Electronic power
- Frequency converter
- UPS
- Motor control
- Electronic load equipment

### SERIES SPECIFICATIONS

Part Series	Resistance (μΩ)	TCR (ppm/°C)	Rated Current (A)	Current Coefficient	Rated Power (watts)	Weight (g)
SH6918	50	175ppm (-60°C - 175°C) 100ppm (20°C - 60°C)	700	<10ppm/A	25	35
	100	125ppm (-60°C - 175°C) 100ppm (20°C - 60°C)	500	<7ppm/A		
SH8518	50	175ppm (-60°C - 175°C) 100ppm (20°C - 60°C)	840	<10ppm/A	36	40
	100	100ppm (-60°C - 175°C) 50ppm (20°C - 60°C)	600	<7ppm/A		
SH8536	50	100ppm (-60°C - 175°C) 50ppm (20°C - 60°C)	1000	<10ppm/A	50	80

(continued)

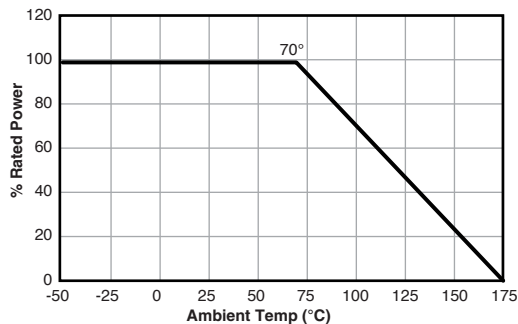
# SHA Series

## Precision manganin copper alloy shunt

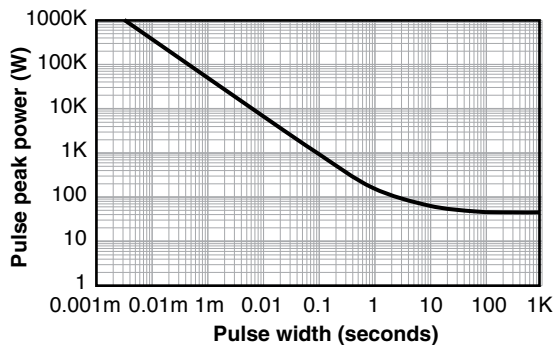
### CHARACTERISTICS

<b>Rated power</b>	25W, 36W, 50W	
<b>Tolerance</b>	±0.5%, ±1%, ±5%	
<b>Resistance</b>	50μΩ, 100μΩ, 125μΩ, 250μΩ Other resistance values can be customized	
<b>Thermal shock</b>	-55°C / 150°C, 1000 cycles, 15 minutes each	±0.5% ΔR
<b>Short-time overload</b>	5 times rated power, 5 seconds	±0.5% ΔR
<b>Low temp. storage</b>	-55°C for 24 hours	±0.5% ΔR
<b>High temp. exposure</b>	170°C for 1000 hours	±1.0% ΔR
<b>Bias humidity</b>	+85°C, 85% RH 0.1 times rated power, 1000 hours	±0.5% ΔR
<b>Mechanical shock</b>	100G 6mS, 5 times	±0.5% ΔR
<b>Vibration</b>	Frequency varied 10Hz to 2000Hz in 1 minute, X-Y-Z direction, 12 hours	±0.5% ΔR
<b>Load life stability</b>	Rated power, 70°C, 1.5 hours on, 0.5 hours off, 1000 hours	±1.0% ΔR
<b>Weight</b>	35g, 40g, 80g	
<b>Pin type</b>	Tin plated, interference fit	

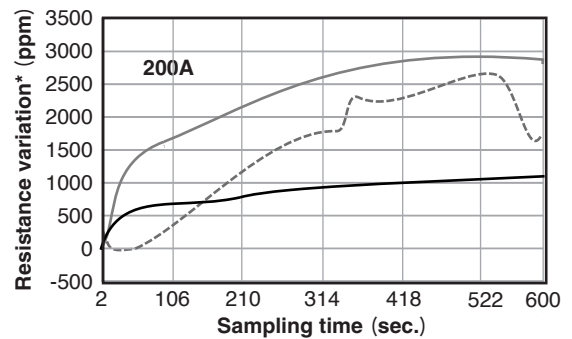
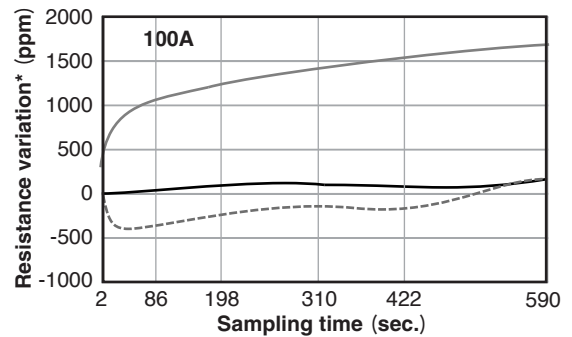
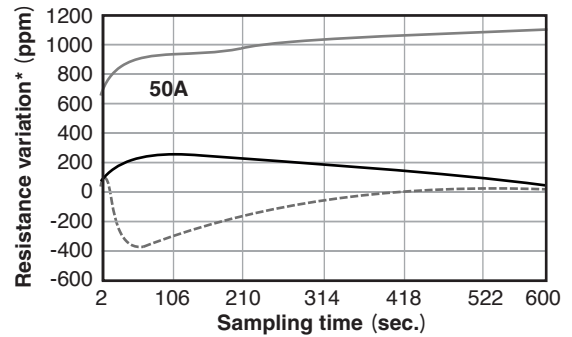
### Derating



### Pulse Power



### Thermal balance time and resistance shift



— Ohmite — Competitor 1 - - - - - Competitor 2

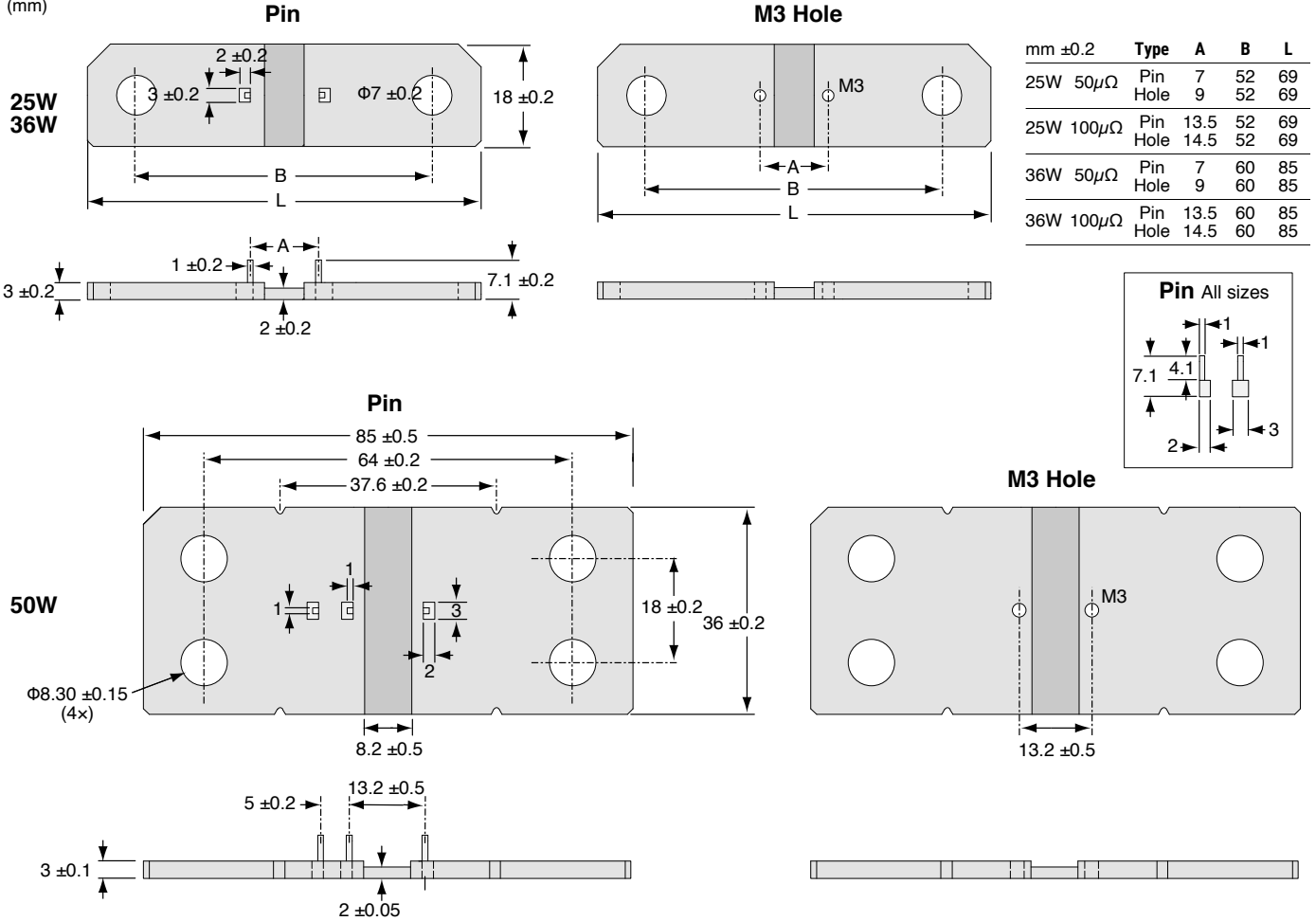
\*Resistance shift=(Rt-Ro)/Ro\*1000000, Rt is the resistance measured at the each sampling time, and Ro is the initial value with power

# SHA Series

## Precision manganin copper alloy shunt

### DIMENSIONS

(mm)



### ORDERING INFORMATION

<b>Series</b>	<b>Resistance</b> A = 50uΩ B = 100uΩ	<b>RoHS</b> Compliant	<b>Modifier</b> P = std. config. M = 9.5mm hole
<b>S H 6 9 1 8 F 5 0 0 A H E P</b>			
<b>Size (mm)</b> 6918 = 69x18 (25W) 8518 = 85x18 (36W) 8536 = 85x36 (50W)	<b>Tolerance</b> D = 0.5% F = 1% J = 5%	<b>Rated Current</b> 500 = 500A 600 = 600A 700 = 700A 800 = 840A 1K0 = 1000A	<b>Configuration</b> H = M3 holes P = Pins