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)

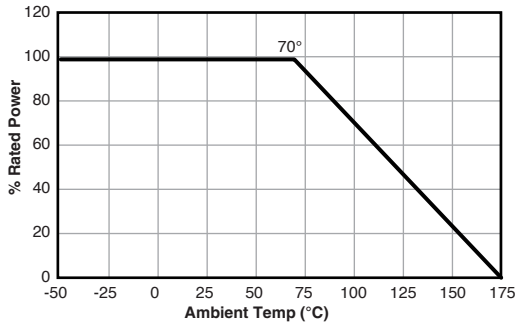
SHA Series

Precision manganin copper alloy shunt

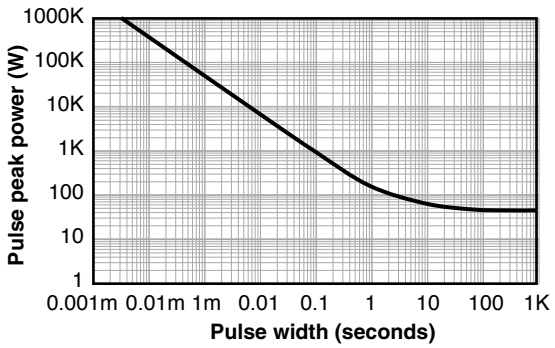
CHARACTERISTICS

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

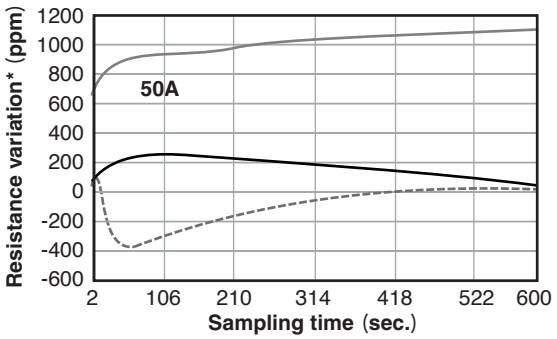
Derating

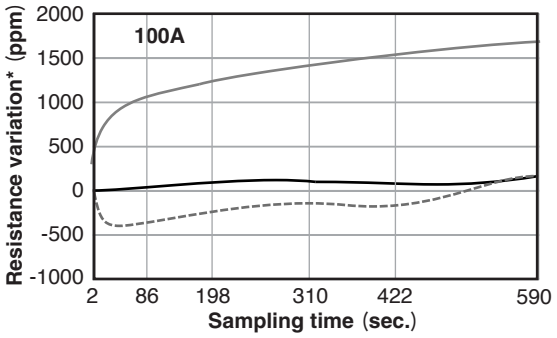


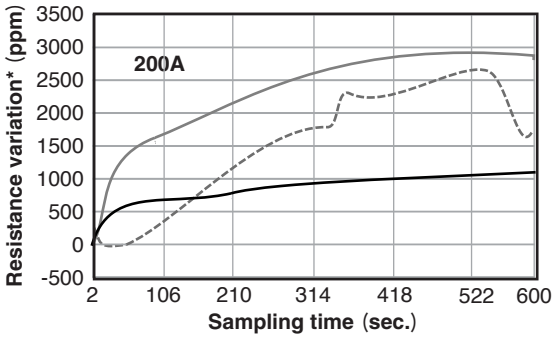
Pulse Power



Thermal balance time and resistance shift







Ohmite — Competitor 1 - - - Competitor 2

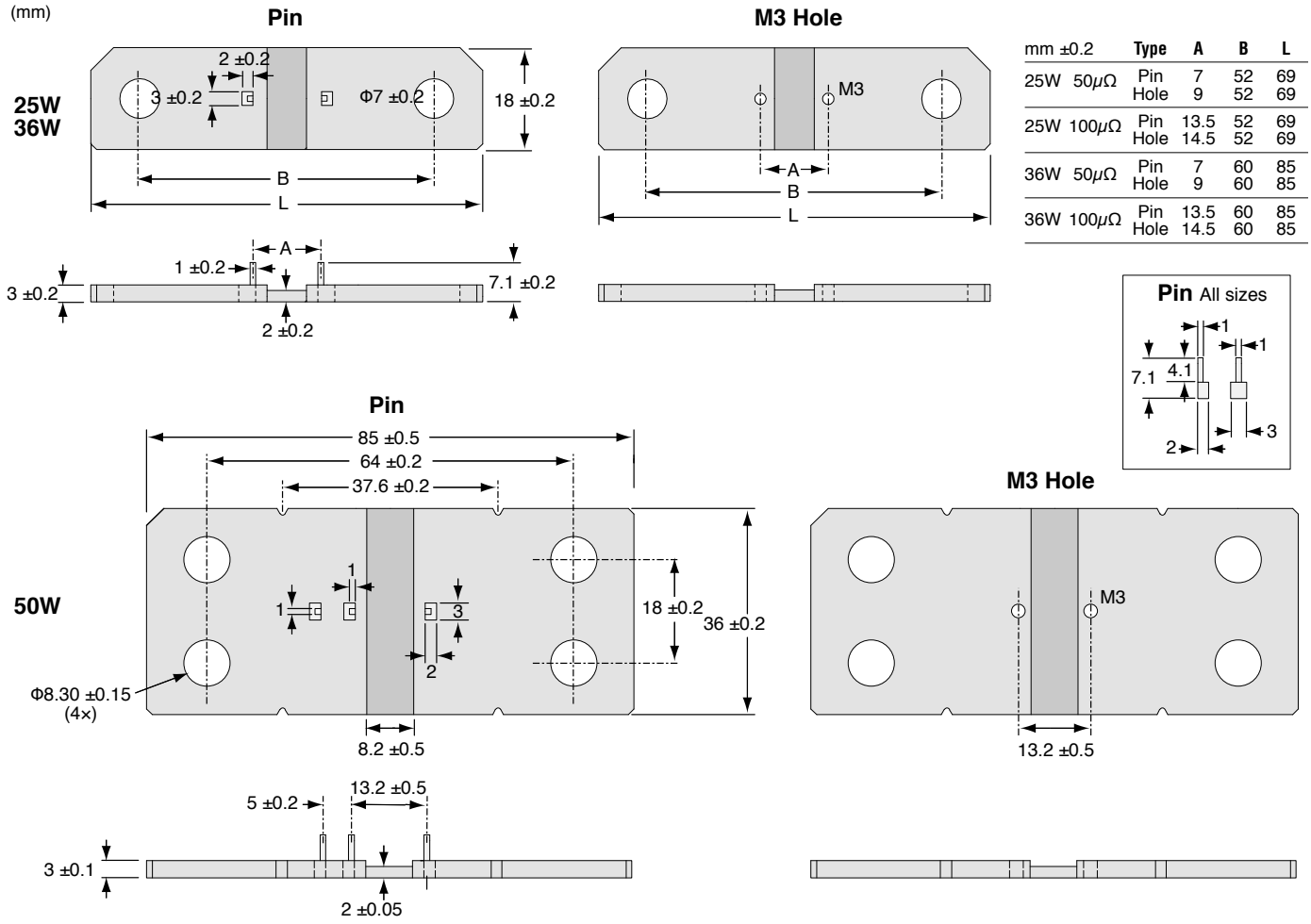
*Resistance shift=(Rt-Ro)/Ro*1000000, Rt is the resistance measured at the each sampling time, and Ro is the initial value with power

SHA Series

Precision manganin copper alloy shunt

DIMENSIONS

(mm)



mm ±0.2	Type	A	B	L
25W 50μΩ	Pin	7	52	69
	Hole	9	52	69
25W 100μΩ	Pin	13.5	52	69
	Hole	14.5	52	69
36W 50μΩ	Pin	7	60	85
	Hole	9	60	85
36W 100μΩ	Pin	13.5	60	85
	Hole	14.5	60	85

ORDERING INFORMATION

Series | **Resistance** A = 50uΩ, B = 100uΩ | **RoHS Compliant** | **Modifier** P = std. config.

S H 6 9 1 8 F 5 0 0 A H E P

Size (mm)
6918 = 69x18 (25W)
8518 = 85x18 (36W)
8536 = 85x36 (50W)

Tolerance
D = 0.5%
F = 1%
J = 5%

Rated Current
500 = 500A
600 = 600A
700 = 700A
800 = 840A
1K0 = 1000A

Configuration
H = M3 holes
P = Pins

rev 3/21-1

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Ohmite:

SH8518F800AHEP SH8536F1K0AHEP SH8536F1K0APEP SH8518F600BHEP SH6918F500BHEP SH8518F800APEP SH8518F600BPEP SH6918F500BPEP SH6918F700AHEP SH6918F700APEP