Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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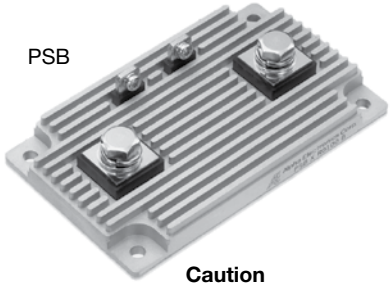
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Alpha Electronics
A VPG Brand

Ultra Precision Shunt Resistor (40 Watts)

PSB



Pb-free Available

RoHS COMPLIANT

Caution
Please screw current terminals
>5N · m, voltage terminal >1N · m

FEATURES

- Excellent temperature characteristics created by Bulk Metal® foil technology
- Accurate value on four-terminal wiring, even in low extremity of resistance
- High heat dissipation due to aluminum-clad construction with fins
- Readiness to mount to heat sink or water-cooled radiator
- Availability of threaded holes to fix cables with screw

APPLICATIONS

- Current-sensing in precise power supply, motor driver, etc.

COMPOSITION OF TYPE NUMBER

Example:

PSB X R0100 B

- B — Tolerance
- R0100 — Resistance Value
- X — TCR
- PSB — Type

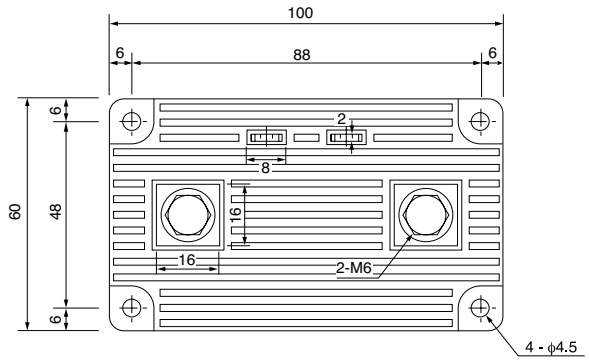
Resistance value in ohm is expressed by a series of four significant digits and an R designating the decimal point.

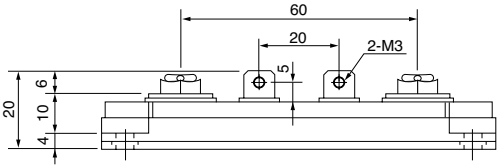
TCR, RESISTANCE RANGE, TOLERANCE, RATED POWER

TCR (ppm/°C) 0°C to +60°C	Resistance Range (Ω)	Resistance Tolerance (%)	Rated Power (W) at 25°C
0±15 (W)	0.001 to 0.005	±0.1 (B) ±0.5 (D) ±1 (F)	12 in free air and 40 On heat sink*
0±5 (X) 0±15 (W)	0.005 to 1		

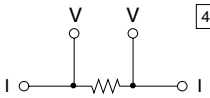
*Thermal resistance of the heat sink 1°C/W.
Available to use higher rated power with elevation of cooling effect.
Please keep temperature of element surface less than 60°C.

CONFIGURATION (DIMENSIONS IN mm)





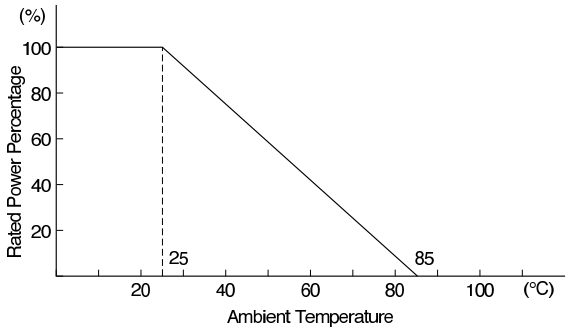
Schematic of PSB Type



4-Terminal Connection

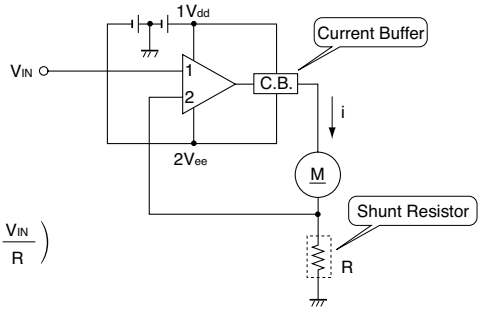
Weight =170g

POWER DERATING CURVE



EXAMPLE OF APPLICATIONS

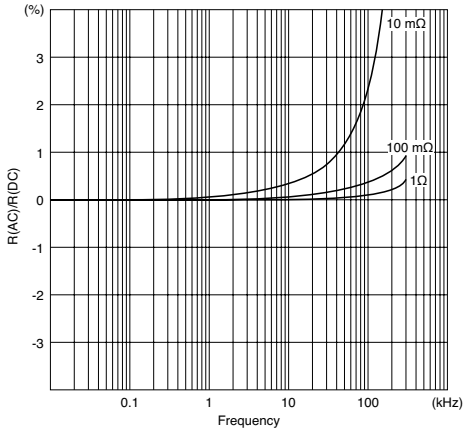
Motor Control Circuit Using Shunt Resistor



$I = \left(\frac{V_{IN}}{R} \right)$

PERFORMANCE			
Parameters	**Test Condition**	**ALPHA Specification**	**ALPHA Typical Test Data**
Maximum Rated Operating Temperature **Working Temperature Range** **Maximum Working Current**		25°C –55°C to +85°C 100A	
Power Conditioning	25°C, Rated Power, 96 hrs.	±0.1%	±0.05%
Low Temperature Storage and Operation	–55°C, No Load, 24 hrs.	±0.1%	±0.05%
Dielectric Withstanding Voltage **Insulation Resistance** **Low Temperature Operation** **Overload**	Atmo. Pres.: AC 750V, 1 min. DC 500V, 2 min. –55°C, Rated Power Rated Power x 2.5, 5 sec.	±0.05% over 10,000 MΩ ±0.1% ±0.1%	±0.01% over 10,000 MΩ ±0.05% ±0.05%
Moisture Resistance	+65°C to –10°C, 90% RH to 98% RH, Rated Voltage, 10 cycles (240 hrs.)	±0.1%	±0.05%
Shock **High Frequency Shock**	30G, 11 ms., Half-Sine Wave, X, Y, Z, 10 shocks each 10 Hz to 50 Hz to 10 Hz, 1 min. X, Y, Z, 2.0 hrs. each	±0.05% ±0.05%	±0.1% ±0.1%
Life	25°C, Rated Power, 1.5 hrs. – ON, 0.5 hrs. – OFF, 2,000 hrs.	±0.2%	±0.05%
High Temperature Exposure	85°C, No Load, 2,000 hrs.	±0.2%	±0.05%
Storage Life	15°C to 35°C, 15% RH to 75% RH, No Load, 10,000 hrs.	±0.05%	±0.01%
Internal Thermal Resistance	Between resistive element and base plate	0.3°C/W	
Thermal Electromotive Force		1 μV/°C	

FREQUENCY CHARACTERISTICS



TEMPERATURE OF RESISTOR SURFACE