

How to Choose a Shunt Resistor

TI Precision Labs – Current Sense Amplifiers

Quiz

How to choose a shunt resistor – quiz

1. Which is **not** a primary factor driving R_{shunt} value selection?
 - a) Maximum current accuracy
 - b) Minimum current accuracy
 - c) Resistor size and cost
 - d) Maximum power dissipation

2. Error due to amplifier offset voltage (V_{OS}) _____ as R_{shunt} increases.
 - a) Increases
 - b) Decreases
 - c) Stays the same
 - d) None of the above

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3. Power dissipation at max load current _____ as R_{shunt} decreases.
- a) Increases
 - b) Decreases
 - c) Stays the same
 - d) None of the above
4. A $5\text{ m}\Omega$ resistor with 5% tolerance can have a value from _____.
- a) $4.95\text{ m}\Omega$ to $5.05\text{ m}\Omega$
 - b) $4.50\text{ m}\Omega$ to $5.50\text{ m}\Omega$
 - c) $4.90\text{ m}\Omega$ to $5.10\text{ m}\Omega$
 - d) $4.75\text{ m}\Omega$ to $5.25\text{ m}\Omega$

How to choose a shunt resistor – quiz

5. What is the offset error (%) when $V_{os} = 1 \text{ mV}$ and $V_{sense} = 5 \text{ mV}$?
- a) 2.5%
 - b) 5%
 - c) 10%
 - d) 20%
6. As resistor power handling and size increases, price typically _____.
- a) Increases
 - b) Decreases
 - c) Stays the same
 - d) None of the above

Answers

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1. Which is **not** a primary factor driving R_{shunt} value selection?

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