

|                                                                          |  |                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maxim CSA Device Number: <div>MAX9922</div> <div>Reset</div>             |  |                                                                                                                                                                                                                                                                                                                      |
| Error Budget: <div>0.64%</div> <div>Calculate</div> <div>Clear</div>     |  |                                                                                                                                                                                                                                                                                                                      |
| USER INPUT PARAMETERS (ENTER DATA SPECIFIC TO THE APPLICATION CIRCUIT)   |  |                                                                                                                                                                                                                                                                                                                      |
| Current Sense Resistor, R <sub>SENSE</sub> - must be >= 0.0001 ohms      |  | Enter All Values: <div><div>0.001</div> Ohms<div>0.5</div> %<div>50</div> Amps<div>4.5</div> Volts<div>5.5</div> Volts<div>12</div> Volts<div>18</div> Volts</div> <div>Output Voltage too high. Reduce current, gain, or resistance.</div> <div>Output Voltage too high. Reduce current, gain, or resistance.</div> |
| Sense Resistor Tolerance - from resistor datasheet - range: 0 to 10 %    |  |                                                                                                                                                                                                                                                                                                                      |
| Load Current, I <sub>SENSE</sub> - must be greater than zero             |  |                                                                                                                                                                                                                                                                                                                      |
| Minimum Power Supply - range: 2.85 to 5.5 volts                          |  |                                                                                                                                                                                                                                                                                                                      |
| Maximum Power Supply - range: 2.85 to 5.5 volts                          |  |                                                                                                                                                                                                                                                                                                                      |
| Minimum Input Common Mode Voltage - range: 1.9 to 28 volts               |  |                                                                                                                                                                                                                                                                                                                      |
| Maximum Input Common Mode Voltage - range: 1.9 to 28 volts               |  |                                                                                                                                                                                                                                                                                                                      |
| DATA SHEET PARAMETERS                                                    |  |                                                                                                                                                                                                                                                                                                                      |
| CS Amplifier Gain - value is adjustable                                  |  | 100 v/v                                                                                                                                                                                                                                                                                                              |
| CS Amplifier Maximum Gain Error - default is at T=25° C                  |  | 0.4 %                                                                                                                                                                                                                                                                                                                |
| CS Amplifier Maximum Offset Error - default is at T=25° C                |  | 10 μV                                                                                                                                                                                                                                                                                                                |
| PSRR - default is at T=25° C                                             |  | 99 dB                                                                                                                                                                                                                                                                                                                |
| CMRR - default is at T=25° C                                             |  | 140 dB                                                                                                                                                                                                                                                                                                               |
| Operating Temperature Range                                              |  | -40 to 85 °C                                                                                                                                                                                                                                                                                                         |
| CALCULATED CSA MEASUREMENT ERRORS                                        |  |                                                                                                                                                                                                                                                                                                                      |
| CS Ideal Output Voltage (csiv) - range: 0.03 to 4.47                     |  | 5 volts                                                                                                                                                                                                                                                                                                              |
| Input Sense Voltage, V <sub>SENSE</sub> (csvin) - full scale: 0.15 volts |  | 0.05 volts                                                                                                                                                                                                                                                                                                           |
| Output Referred Offset Error (oroe)                                      |  | 0.001 volts                                                                                                                                                                                                                                                                                                          |
| Output Referred Gain Error (orge)                                        |  | 0.02 volts                                                                                                                                                                                                                                                                                                           |
| Output Referred CMRR Error (orcmrre)                                     |  | 0.00006 volts                                                                                                                                                                                                                                                                                                        |
| Output Referred PSRR Error (orpsrre)                                     |  | 0.002468 volts                                                                                                                                                                                                                                                                                                       |
| CALCULATED ERROR DUE TO SENSE RESISTOR                                   |  |                                                                                                                                                                                                                                                                                                                      |
| Sense Resistor Tolerance Error - ref. to Isense output (sre)             |  | 0.025 volts                                                                                                                                                                                                                                                                                                          |
| Total Error - ref. to Isense output (toterror)                           |  | 0.032126 volts                                                                                                                                                                                                                                                                                                       |
| ERROR BUDGET (% of Ideal Output Voltage)                                 |  | 0.64%                                                                                                                                                                                                                                                                                                                |
|                                                                          |  | Error Budget = 100*(toterror/csiv)                                                                                                                                                                                                                                                                                   |

[JavaScript Application]

!

Warning: Device constraints are not satisfied.  
The result was calculated but may be invalid.  
Please adjust the specified values and try again.

OK