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参考資料

# TEST DATA OF SUS62415
# SUCS62415

Regulated DC Power Supply
Feb 17, 2005

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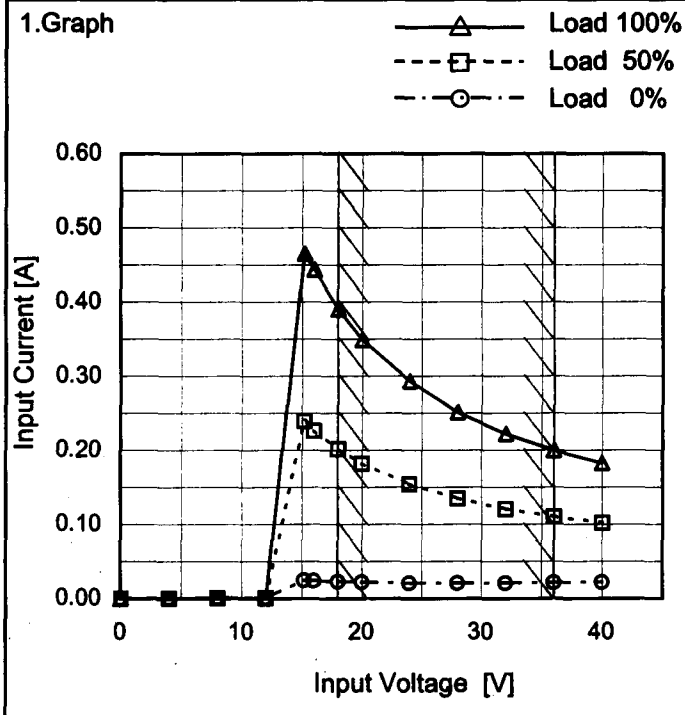
| | |
|---|---|
| Model | SUS62415/SUCS62415 |
| Item | Input Current (by Input Voltage) |
| Object | ———————— |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated input voltage.

2.Values

| Input Voltage [V] | Input Current [A] | | |
|---|---|---|---|
| | Load 0% | Load 50% | Load 100% |
| 0.0 | 0.000 | 0.000 | 0.000 |
| 4.0 | 0.001 | 0.001 | 0.001 |
| 8.0 | 0.001 | 0.001 | 0.001 |
| 12.0 | 0.001 | 0.001 | 0.001 |
| 15.2 | 0.025 | 0.240 | 0.466 |
| 16.0 | 0.024 | 0.226 | 0.444 |
| 18.0 | 0.023 | 0.202 | 0.390 |
| 20.0 | 0.022 | 0.182 | 0.349 |
| 24.0 | 0.021 | 0.154 | 0.294 |
| 28.0 | 0.021 | 0.135 | 0.252 |
| 32.0 | 0.021 | 0.121 | 0.223 |
| 36.0 | 0.021 | 0.110 | 0.200 |
| 40.0 | 0.022 | 0.102 | 0.183 |
| — | - | - | - |
| — | - | - | - |
| — | - | - | - |

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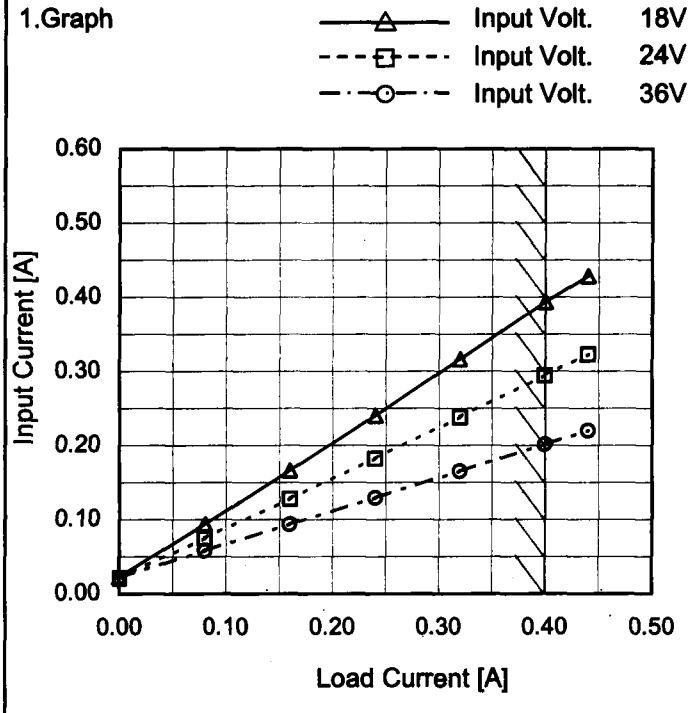
| Model | SUS62415/SUCS62415 |
|---|---|
| Item | Input Current (by Load Current) |
| Object | ——————— |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated load current.

2.Values

| Load Current [A] | Input Current [A] | | |
|---|---|---|---|
| | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 0.00 | 0.023 | 0.021 | 0.022 |
| 0.08 | 0.094 | 0.075 | 0.058 |
| 0.16 | 0.166 | 0.128 | 0.094 |
| 0.24 | 0.241 | 0.183 | 0.129 |
| 0.32 | 0.317 | 0.238 | 0.165 |
| 0.40 | 0.394 | 0.294 | 0.202 |
| 0.44 | 0.428 | 0.323 | 0.220 |
| — | - | - | - |
| — | - | - | - |
| — | - | - | - |
| — | - | - | - |

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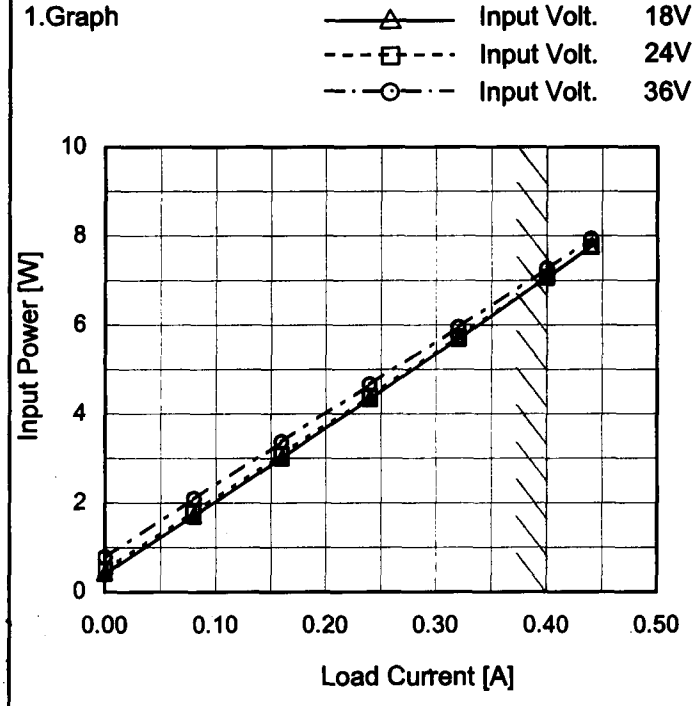
| Model | SUS62415/SUCS62415 |
|---|---|
| Item | Input Power (by Load Current) |
| Object | ———————— |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated load current.

2.Values

| Load Current [A] | Input Power [W] | | |
|---|---|---|---|
| | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 0.00 | 0.41 | 0.50 | 0.77 |
| 0.08 | 1.71 | 1.79 | 2.10 |
| 0.16 | 3.01 | 3.09 | 3.37 |
| 0.24 | 4.34 | 4.40 | 4.66 |
| 0.32 | 5.69 | 5.73 | 5.95 |
| 0.40 | 7.07 | 7.07 | 7.26 |
| 0.44 | 7.77 | 7.75 | 7.93 |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |

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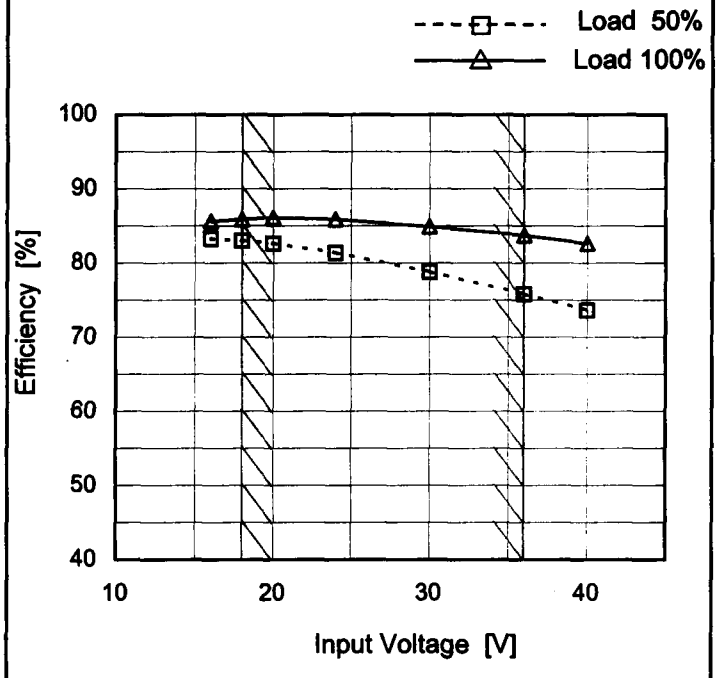
| | |
|---|---|
| Model | SUS62415/SUCS62415 |
| Item | Efficiency (by Input Voltage) |
| Object | ——————————— |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated input voltage.

2.Values

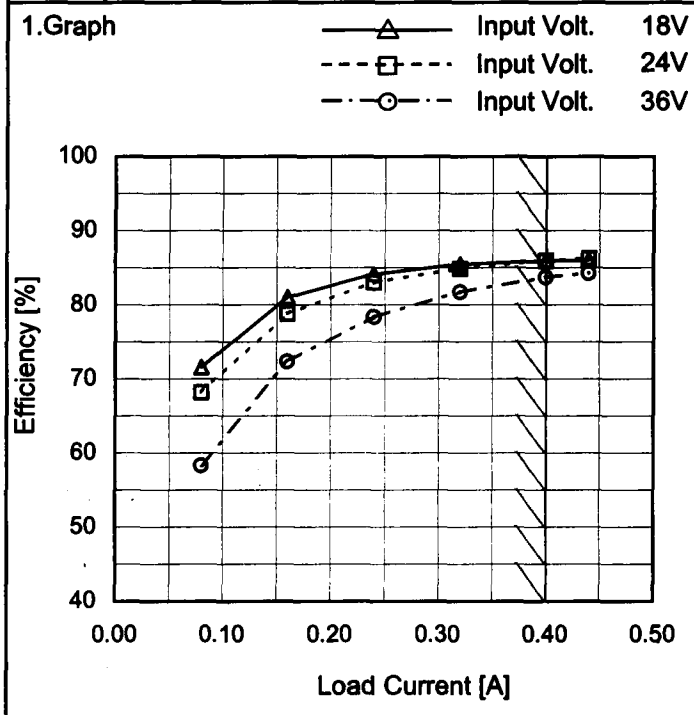
| Input Voltage [V] | Efficiency [%] | |
|---|---|---|
| | Load 50% | Load 100% |
| 16 | 83.3 | 85.6 |
| 18 | 83.0 | 85.9 |
| 20 | 82.6 | 86.1 |
| 24 | 81.4 | 85.9 |
| 30 | 78.8 | 84.9 |
| 36 | 75.8 | 83.7 |
| 40 | 73.6 | 82.6 |
| – | - | - |
| – | - | - |

COSEL

| | |
|---|---|
| Model | SUS62415/SUCS62415 |
| Item | Efficiency (by Load Current) |
| Object | ——————— |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated load current.

2.Values

| Load Current [A] | Efficiency [%] Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
|---|---|---|---|
| 0.00 | - | - | - |
| 0.08 | 71.6 | 68.2 | 58.3 |
| 0.16 | 81.0 | 78.8 | 72.3 |
| 0.24 | 84.2 | 83.0 | 78.4 |
| 0.32 | 85.5 | 84.9 | 81.7 |
| 0.40 | 86.0 | 85.9 | 83.7 |
| 0.44 | 86.0 | 86.2 | 84.3 |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |

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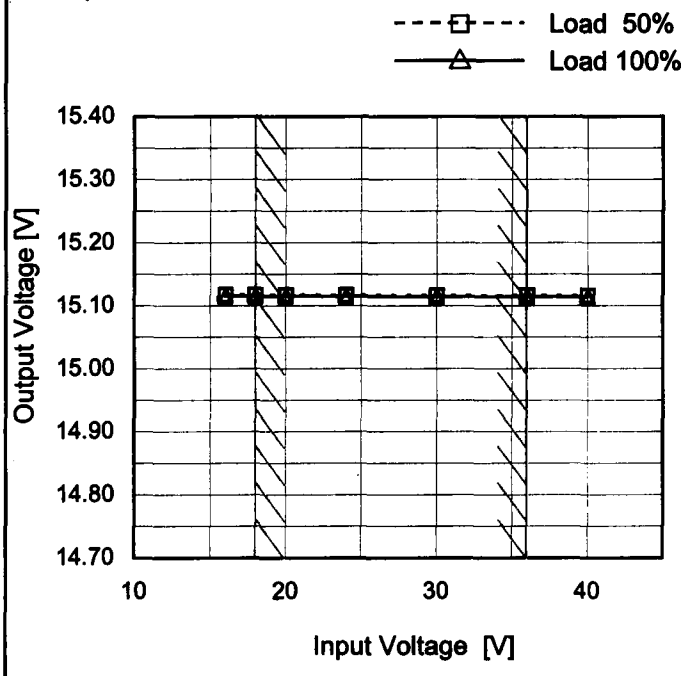
| Model | SUS62415/SUCS62415 |
|---|---|
| Item | Line Regulation |
| Object | +15V0.4A |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated input voltage.

2.Values

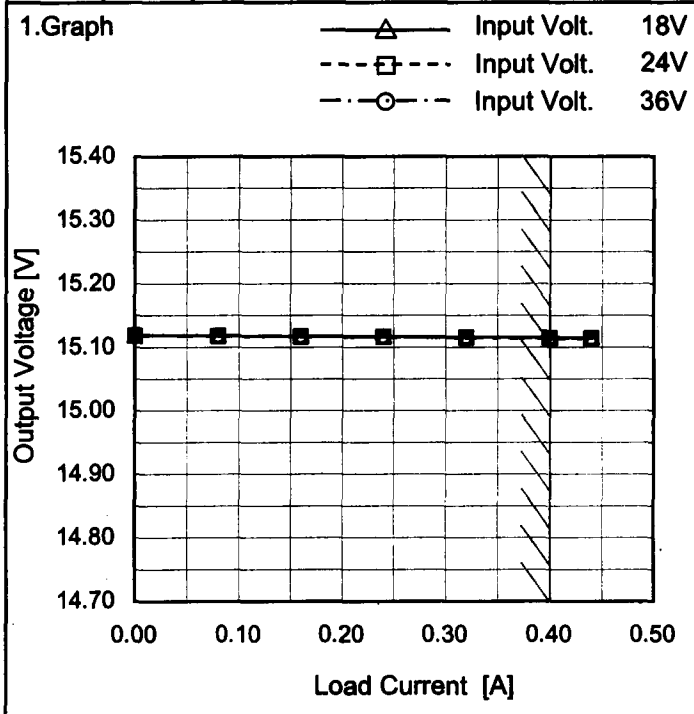
| Input Voltage [V] | Output Voltage [V] | |
|---|---|---|
| | Load 50% | Load 100% |
| 16 | 15.117 | 15.115 |
| 18 | 15.117 | 15.116 |
| 20 | 15.117 | 15.116 |
| 24 | 15.117 | 15.115 |
| 30 | 15.116 | 15.115 |
| 36 | 15.116 | 15.114 |
| 40 | 15.116 | 15.114 |
| – | - | - |
| – | - | - |

COSEL

| | |
|---|---|
| Model | SUS62415/SUCS62415 |
| Item | Load Regulation |
| Object | +15V0.4A |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated load current.

2.Values

| Load Current [A] | Output Voltage [V] | | |
|---|---|---|---|
| | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 0.00 | 15.119 | 15.119 | 15.119 |
| 0.08 | 15.118 | 15.118 | 15.118 |
| 0.16 | 15.118 | 15.117 | 15.117 |
| 0.24 | 15.117 | 15.116 | 15.116 |
| 0.32 | 15.116 | 15.115 | 15.115 |
| 0.40 | 15.115 | 15.115 | 15.114 |
| 0.44 | 15.115 | 15.114 | 15.113 |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |

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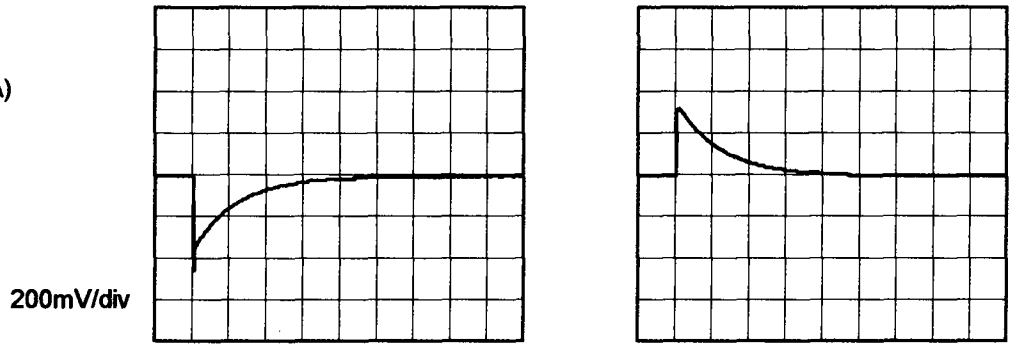
| | |
|---|---|
| Model | SUS62415/SUCS62415 |
| Item | Dynamic Load Response |
| Object | +15V0.4A |

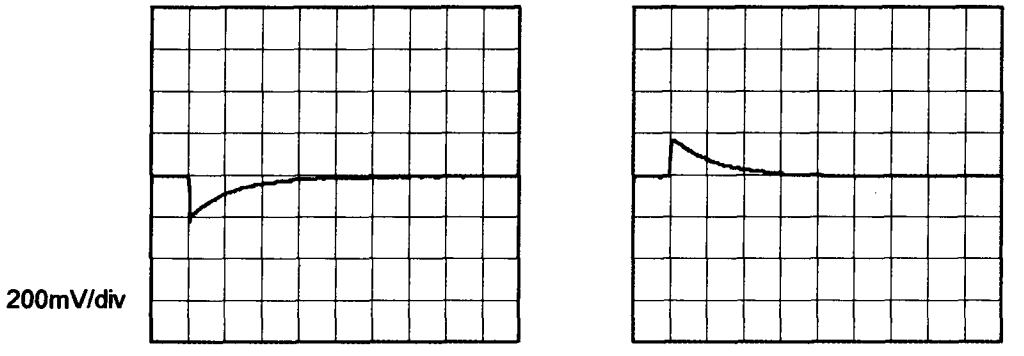
Temperature 25°C
Testing Circuitry Figure A

Input Volt. 24 V
Cycle 100 mS

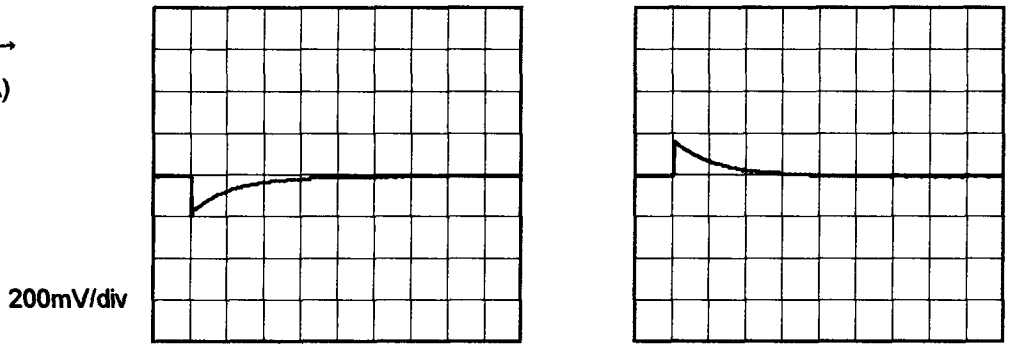

Min. Load (0A) ⟷ Load 100% (0.4A)




Min. Load (0A) ⟷ Load 50% (0.2A)




Load 50% (0.2A) ⟷ Load 100% (0.4A)



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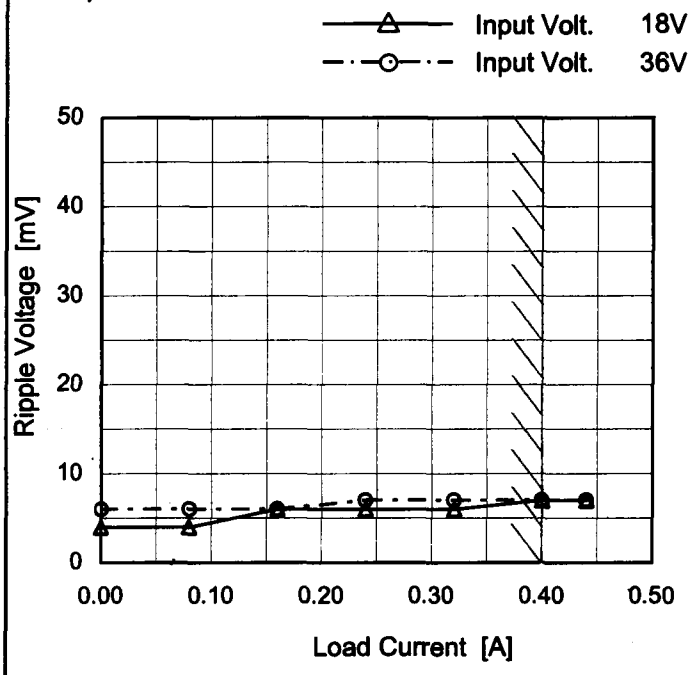
| | |
|---|---|
| Model | SUS62415/SUCS62415 |
| Item | Ripple Voltage (by Load Current) |
| Object | +15V0.4A |

Temperature 25°C
Testing Circuitry Figure B

1.Graph




Measured by 100 MHz Oscilloscope.
Ripple Voltage is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

Ripple [mVp-p]

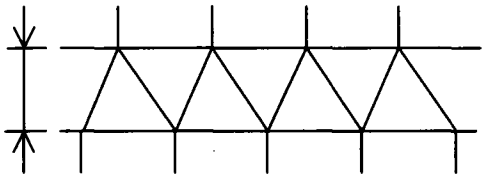


Fig.Complex Ripple Wave Form

2.Values

| Load Current [A] | Ripple Voltage [mV] Input Volt. 18 [V] | Input Volt. 36 [V] |
|---|---|---|
| 0.00 | 4 | 6 |
| 0.08 | 4 | 6 |
| 0.16 | 6 | 6 |
| 0.24 | 6 | 7 |
| 0.32 | 6 | 7 |
| 0.40 | 7 | 7 |
| 0.44 | 7 | 7 |
| – | - | - |
| – | - | - |
| – | - | - |
| – | - | - |

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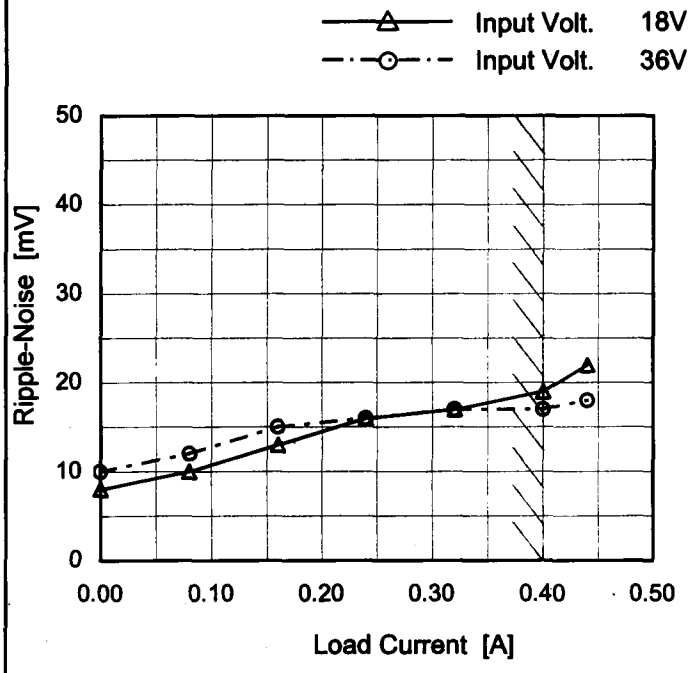
| Model | SUS62415/SUCS62415 |
|---|---|
| Item | Ripple-Noise |
| Object | +15V0.4A |

Temperature 25°C
Testing Circuitry Figure B

1.Graph




Measured by 100 MHz Oscilloscope.
Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

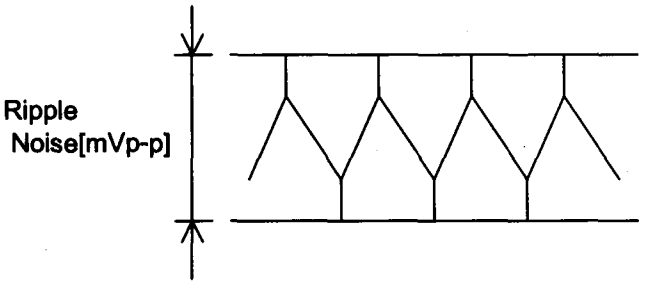



Fig.Complex Ripple Noise Wave Form

2.Values

| Load Current [A] | Ripple-Noise [mV] | |
|---|---|---|
| | Input Volt. 18 [V] | Input Volt. 36 [V] |
| 0.00 | 8 | 10 |
| 0.08 | 10 | 12 |
| 0.16 | 13 | 15 |
| 0.24 | 16 | 16 |
| 0.32 | 17 | 17 |
| 0.40 | 19 | 17 |
| 0.44 | 22 | 18 |
| -- | - | - |
| -- | - | - |
| -- | - | - |
| -- | - | - |

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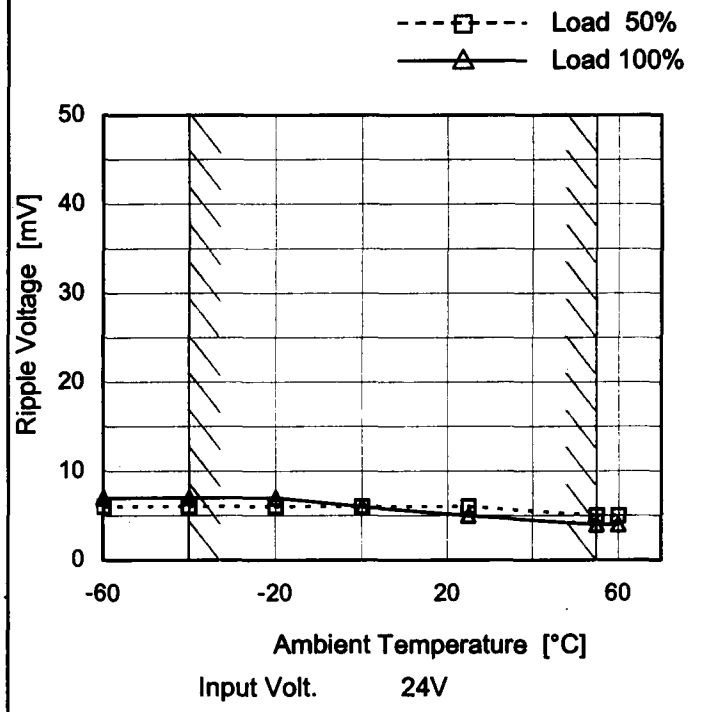
| Model | SUS62415/SUCS62415 |
|---|---|
| Item | Ripple Voltage (by Ambient Temp.) |
| Object | +15V0.4A |

Testing Circuitry Figure B

1.Graph




Input Volt. 24V

Measured by 100 MHz Oscilloscope.

Note: Slanted line shows the range of the rated ambient temperature.

2.Values

| Ambient Temperature [°C] | Ripple Voltage [mV] | |
|---|---|---|
| | Load 50% | Load 100% |
| -60 | 6 | 7 |
| -40 | 6 | 7 |
| -20 | 6 | 7 |
| 0 | 6 | 6 |
| 25 | 6 | 5 |
| 55 | 5 | 4 |
| 60 | 5 | 4 |
| – | - | - |
| – | - | - |
| – | - | - |
| – | - | - |

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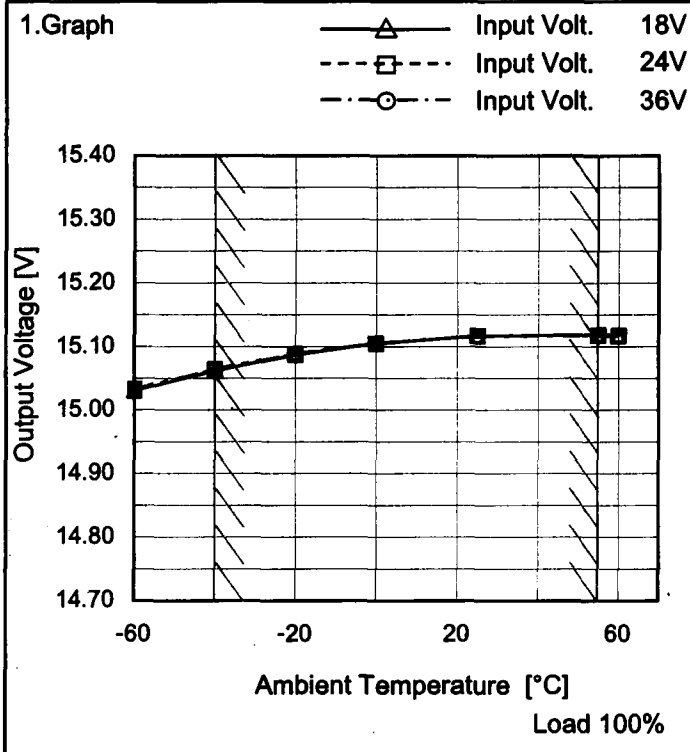
| Model | SUS62415/SUCS62415 |
|---|---|
| Item | Ambient Temperature Drift |
| Object | +15V0.4A |

Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated ambient temperature.

2.Values

| Ambient Temperature [°C] | Output Voltage [V] | | |
|---|---|---|---|
| | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| -60 | 15.031 | 15.033 | 15.032 |
| -40 | 15.062 | 15.064 | 15.064 |
| -20 | 15.087 | 15.088 | 15.088 |
| 0 | 15.105 | 15.105 | 15.105 |
| 25 | 15.117 | 15.117 | 15.116 |
| 55 | 15.119 | 15.118 | 15.117 |
| 60 | 15.118 | 15.117 | 15.116 |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |

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| | | |
|---|---|---|
| Model | SUS62415/SUCS62415 | |
| Item | Output Voltage Accuracy | Testing Circuitry Figure A |
| Object | +15V0.4A | |

1.Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -40 - 55°C
Input Voltage : 18 - 36V
Load Current : 0 - 0.4A

* Output Voltage Accuracy = ±(Maximum of Output Voltage - Minimum of Output Voltage) / 2

$$\text{* Output Voltage Accuracy (Ration)} = \frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$$

2.Values

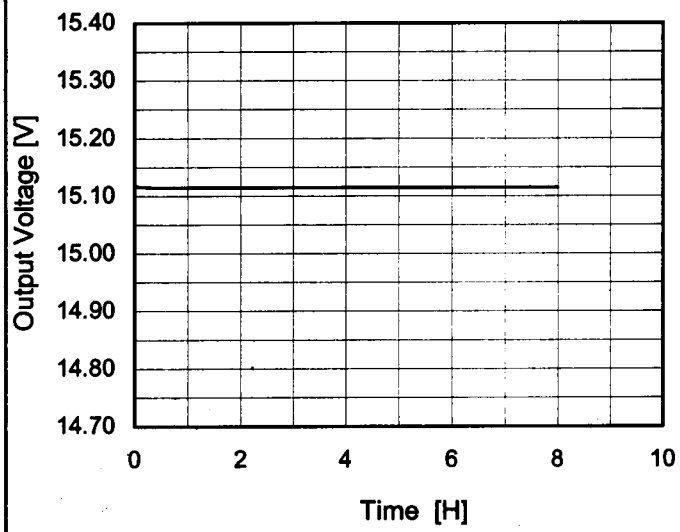
| Item | Temperature [°C] | Input Voltage[V] | Output | | Output Voltage Accuracy | |
|---|---|---|---|---|---|---|
| | | | Current[A] | Voltage[V] | Value [mV] | Ration [%] |
| Maximum Voltage | 55 | 36 | 0 | 15.123 | ±31 | ±0.2 |
| Minimum Voltage | -40 | 24 | 0 | 15.062 | | |

COSEL

| | |
|---|---|
| Model | SUS62415/SUCS62415 |
| Item | Time Lapse Drift |
| Object | +15V0.4A |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Input Volt. 24V
Load 100%

2.Values

| Time since start [H] | Output Voltage [V] |
|---|---|
| 0.0 | 15.117 |
| 0.5 | 15.115 |
| 1.0 | 15.115 |
| 2.0 | 15.115 |
| 3.0 | 15.115 |
| 4.0 | 15.115 |
| 5.0 | 15.115 |
| 6.0 | 15.115 |
| 7.0 | 15.115 |
| 8.0 | 15.115 |

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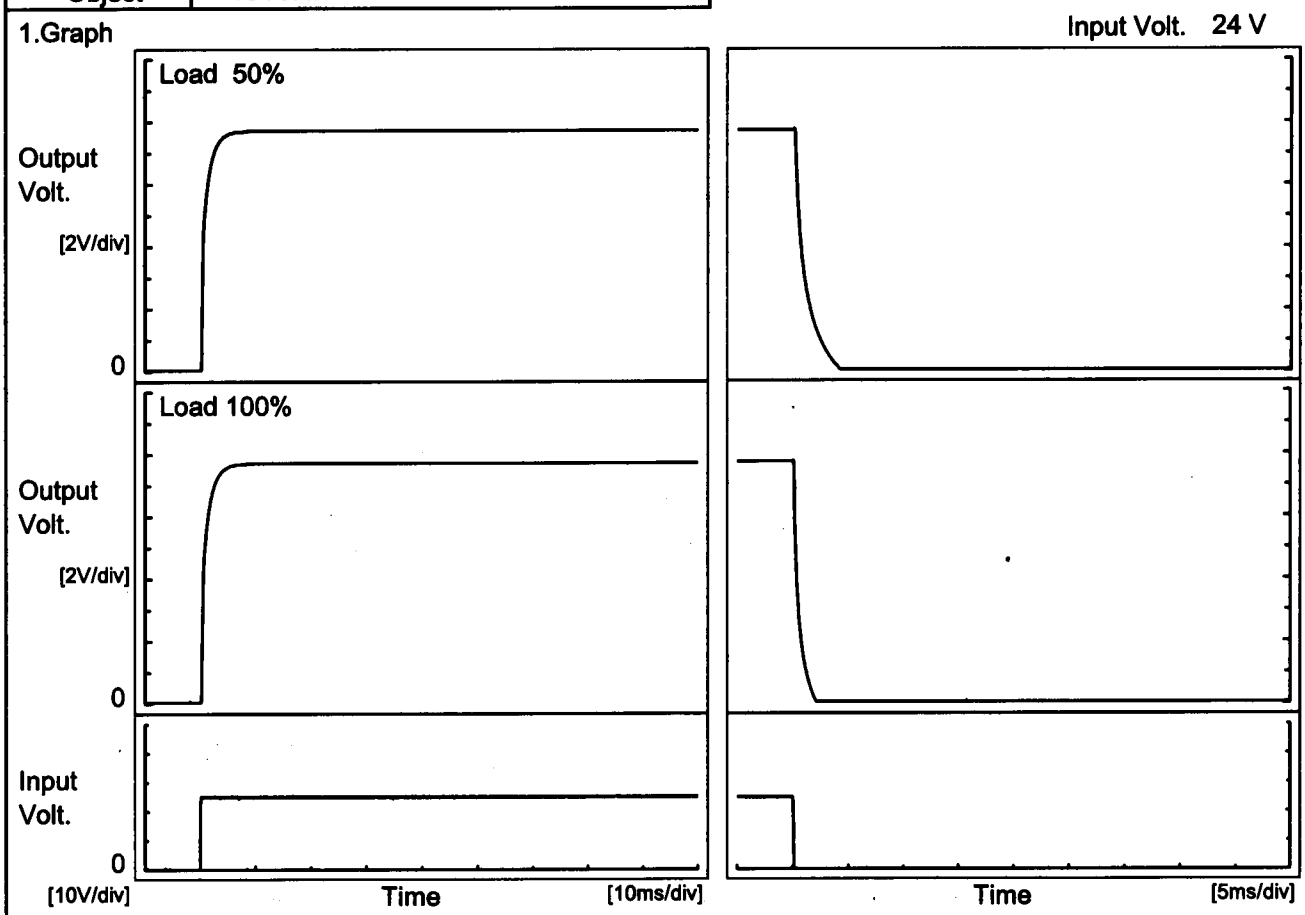
| | |
|---|---|
| Model | SUS62415/SUCS62415 |
| Item | Rise and Fall Time |
| Object | +15V0.4A |

Temperature 25°C
Testing Circuitry Figure A

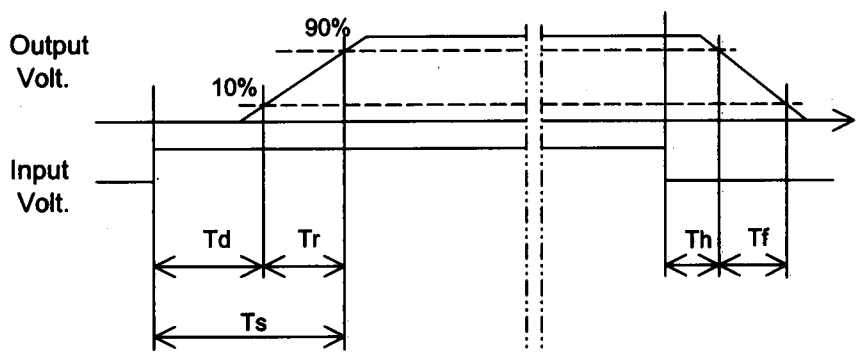
1.Graph




2.Values

[ms]

| Load \ Time | Td | Tr | Ts | Th | Tf |
|---|---|---|---|---|---|
| 50 % | 0.3 | 2.0 | 2.3 | 0.2 | 2.5 |
| 100 % | 0.3 | 2.0 | 2.3 | 0.1 | 1.3 |

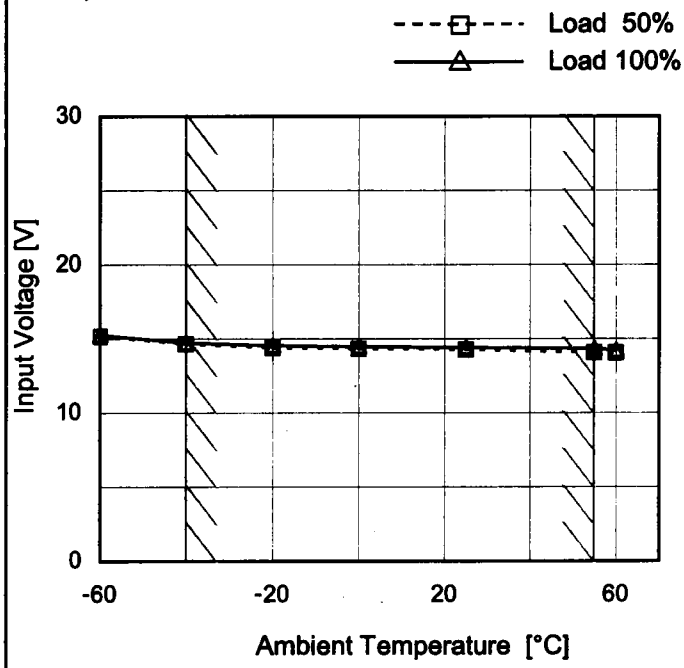


COSEL

| Model | SUS62415/SUCS62415 |
|---|---|
| Item | Minimum Input Voltage for Regulated Output Voltage |
| Object | +15V0.4A |

Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated ambient temperature.

2.Values

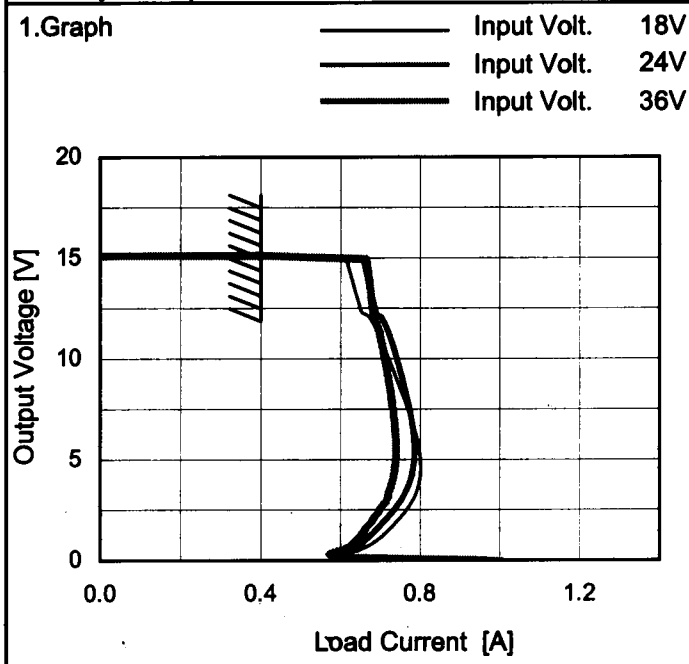
| Ambient Temperature [°C] | Input Voltage [V] | |
|---|---|---|
| | Load 50% | Load 100% |
| -60 | 15.2 | 15.3 |
| -40 | 14.7 | 14.8 |
| -20 | 14.4 | 14.6 |
| 0 | 14.4 | 14.5 |
| 25 | 14.3 | 14.5 |
| 55 | 14.1 | 14.4 |
| 60 | 14.1 | 14.3 |
| – | - | - |
| – | - | - |
| – | - | - |
| – | - | - |

COSEL

| Model | SUS62415/SUCS62415 |
|---|---|
| Item | Overcurrent Protection |
| Object | +15V0.4A |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




Note: Slanted line shows the range of the rated load current.

2.Values

| Output Voltage [V] | Load Current [A] | | |
|---|---|---|---|
| | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 15.0 | 0.40 | 0.40 | 0.40 |
| 14.3 | 0.62 | 0.67 | 0.67 |
| 13.5 | 0.63 | 0.67 | 0.67 |
| 12.0 | 0.68 | 0.71 | 0.68 |
| 10.5 | 0.71 | 0.73 | 0.71 |
| 9.0 | 0.74 | 0.76 | 0.72 |
| 7.5 | 0.77 | 0.77 | 0.73 |
| 6.0 | 0.79 | 0.78 | 0.74 |
| 4.5 | 0.80 | 0.78 | 0.74 |
| 3.0 | 0.78 | 0.75 | 0.72 |
| 1.5 | 0.72 | 0.69 | 0.66 |
| 0.0 | 1.02 | 1.01 | 0.97 |

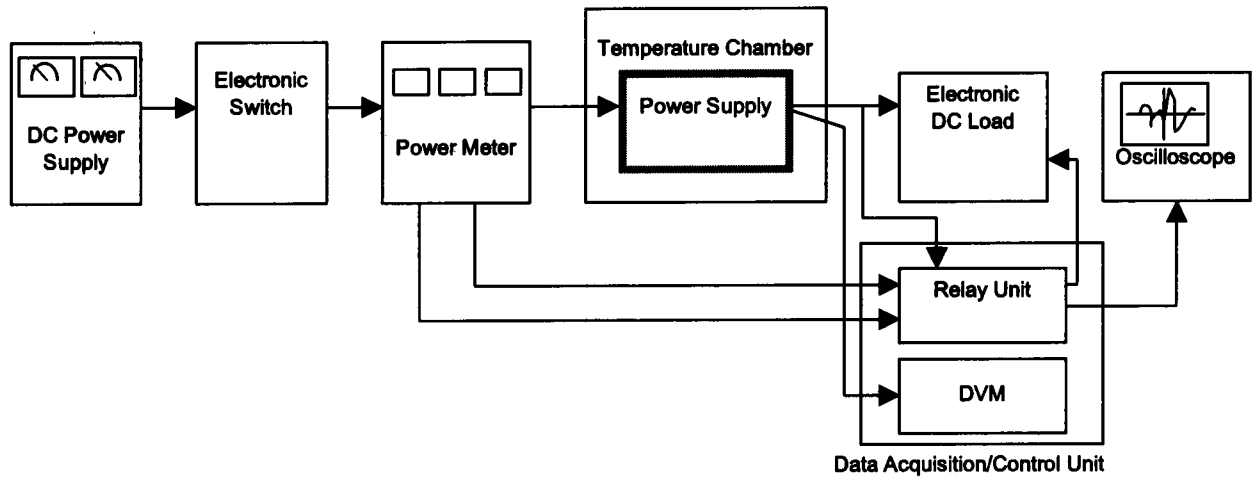



Figure A

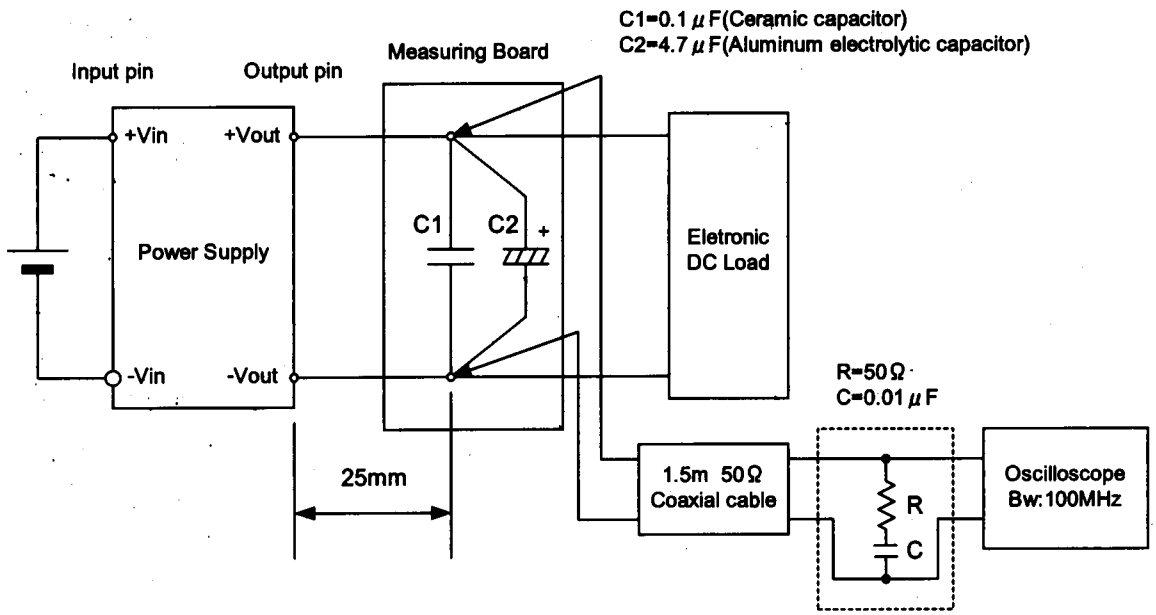



Figure B (Ripple and Ripple noise Characteristic)