参考資料

# TEST DATA OF MHFS6243R3

Regulated DC Power Supply
October 27, 2021

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COSEL CO.,LTD.

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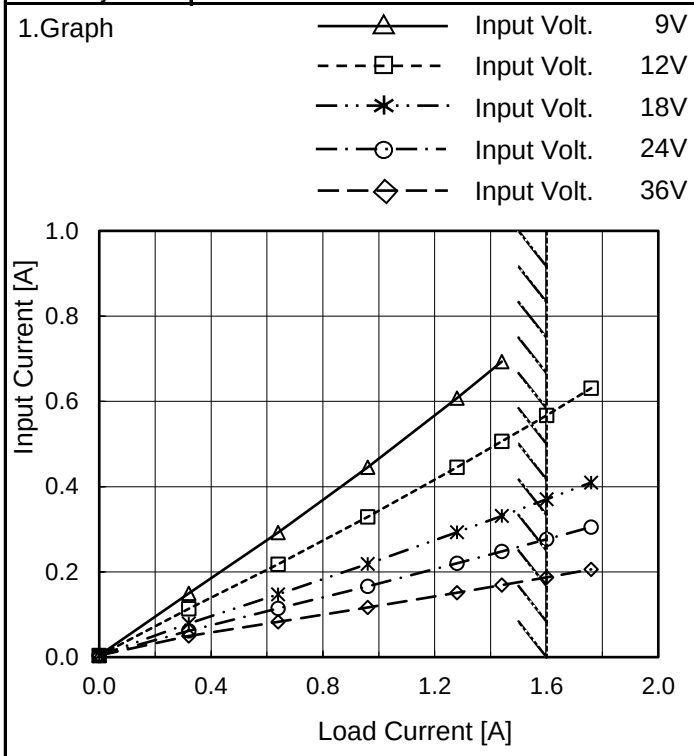
| | |
|---|---|
| Model | MHFS6243R3 |
| Item | Input Current (by Load Current) |
| Object | ——————— |

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. 9[V] | Input Volt. 12[V] | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 0.00 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| 0.32 | 0.149 | 0.114 | 0.079 | 0.062 | 0.050 |
| 0.64 | 0.292 | 0.218 | 0.147 | 0.114 | 0.083 |
| 0.96 | 0.446 | 0.329 | 0.219 | 0.166 | 0.116 |
| 1.28 | 0.607 | 0.445 | 0.293 | 0.220 | 0.151 |
| 1.44 | 0.693 | 0.506 | 0.331 | 0.248 | 0.169 |
| 1.60 | *1 | 0.567 | 0.370 | 0.276 | 0.187 |
| 1.76 | *1 | 0.631 | 0.410 | 0.305 | 0.206 |
| -- | - | - | - | - | - |
| -- | - | - | - | - | - |
| -- | - | - | - | - | - |

*1 Maximum output current at 9V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.



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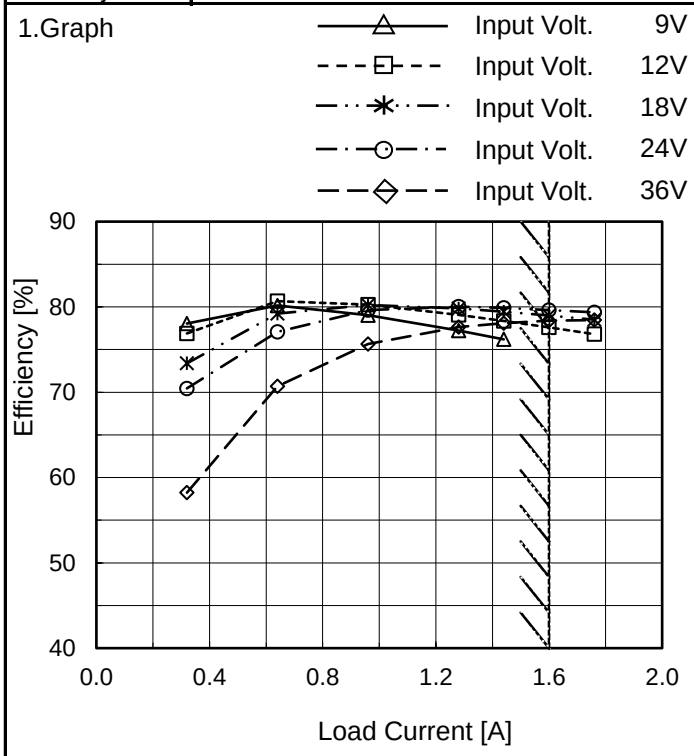
| | |
|---|---|
| Model | MHFS6243R3 |
| Item | Efficiency (by Load Current) |
| Object | ———————— |

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. 9[V] | Input Volt. 12[V] | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 0.00 | - | - | - | - | - |
| 0.32 | 78.0 | 76.9 | 73.4 | 70.5 | 58.2 |
| 0.64 | 80.2 | 80.7 | 79.2 | 77.1 | 70.7 |
| 0.96 | 79.0 | 80.3 | 80.2 | 79.6 | 75.7 |
| 1.28 | 77.2 | 79.1 | 79.8 | 80.0 | 77.6 |
| 1.44 | 76.2 | 78.3 | 79.5 | 79.9 | 78.1 |
| 1.60 | *1 | 77.6 | 79.0 | 79.6 | 78.4 |
| 1.76 | *1 | 76.8 | 78.5 | 79.4 | 78.5 |
| -- | - | - | - | - | - |
| -- | - | - | - | - | - |
| -- | - | - | - | - | - |

*1 Maximum output current at 9V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.

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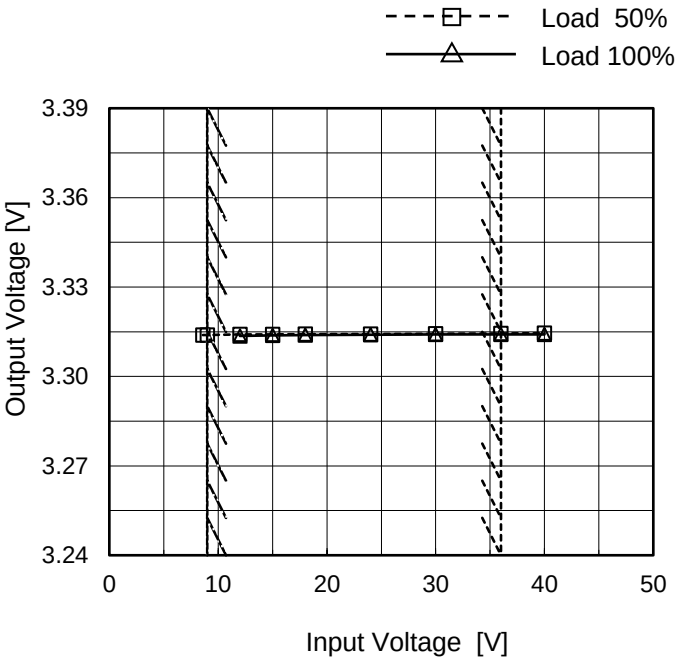
| | |
|---|---|
| Model | MHFS6243R3 |
| Item | Line Regulation |
| Object | +3.3V1.6A |

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% |
| 8.6 | 3.314 | *1 |
| 9.0 | 3.314 | *1 |
| 12.0 | 3.314 | 3.314 |
| 15.0 | 3.314 | 3.314 |
| 18.0 | 3.314 | 3.314 |
| 24.0 | 3.314 | 3.314 |
| 30.0 | 3.314 | 3.314 |
| 36.0 | 3.314 | 3.314 |
| 40.0 | 3.315 | 3.314 |

*1 Maximum output current at 9V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.

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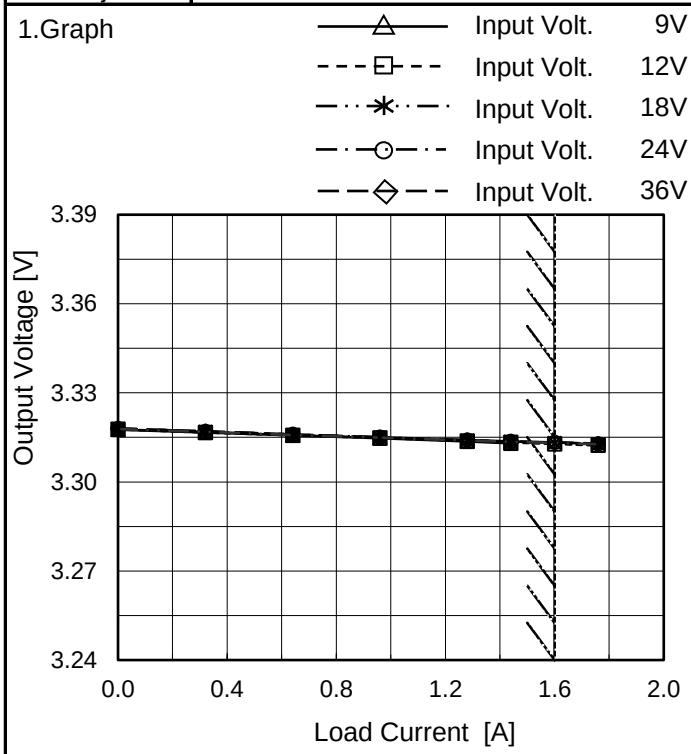
| | |
|---|---|
| Model | MHFS6243R3 |
| Item | Load Regulation |
| Object | +3.3V1.6A |

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. 9[V] | Input Volt. 12[V] | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 0.00 | 3.318 | 3.318 | 3.318 | 3.318 | 3.318 |
| 0.32 | 3.317 | 3.317 | 3.317 | 3.317 | 3.317 |
| 0.64 | 3.316 | 3.316 | 3.316 | 3.316 | 3.316 |
| 0.96 | 3.315 | 3.315 | 3.315 | 3.315 | 3.315 |
| 1.28 | 3.314 | 3.314 | 3.314 | 3.314 | 3.314 |
| 1.44 | 3.313 | 3.313 | 3.314 | 3.314 | 3.314 |
| 1.60 | *1 | 3.313 | 3.313 | 3.313 | 3.313 |
| 1.76 | *1 | 3.312 | 3.313 | 3.313 | 3.313 |
| -- | - | - | - | - | - |
| -- | - | - | - | - | - |
| -- | - | - | - | - | - |

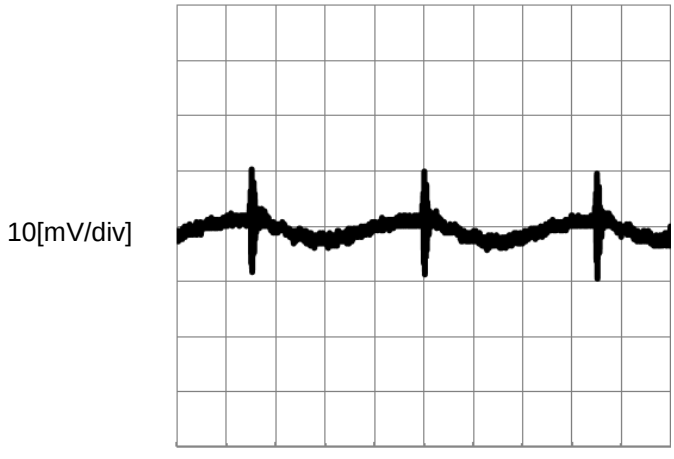
*1 Maximum output current at 9V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.

| | |
|---|---|
| Item | Ripple-Noise |
| Object | +3.3V1.6A |

Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 24V
Load 100%



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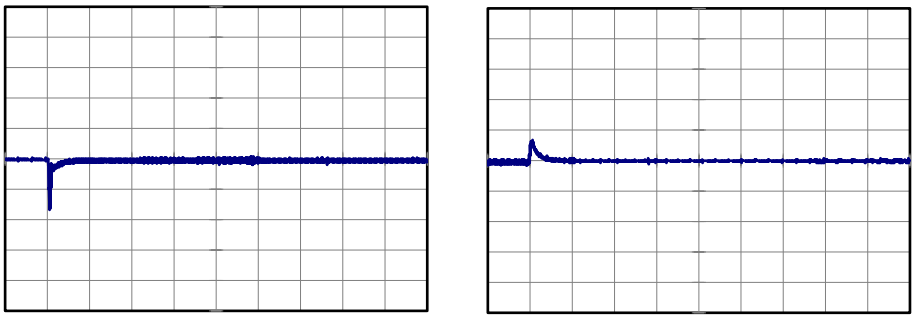
| | | |
|---|---|---|
| Model | MHFS6243R3 | |
| Item | Dynamic Load Response | Temperature 25°C<br>Testing Circuitry Figure A |
| Object | +3.3V1.6A | |

Input Volt. 24 V

Cycle 100 ms

Response. t1=t2=50μs. Typ


Min.Load (0A)←→
Load 100% (1.6A)

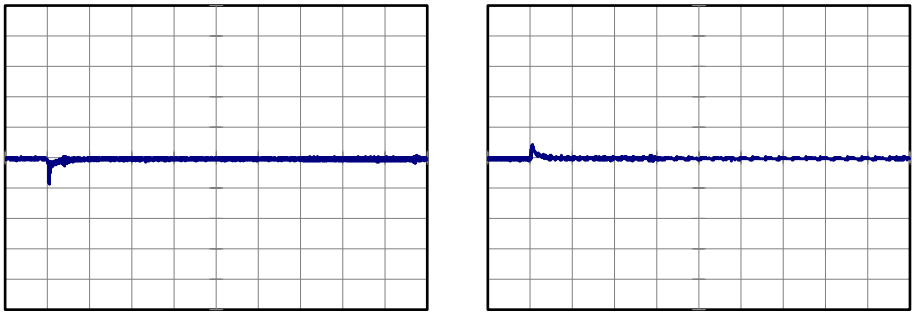


200 mV/div

1 ms/div

1 ms/div

Min.Load (0A)←→
Load 50% (0.8A)



200 mV/div

1 ms/div

1 ms/div

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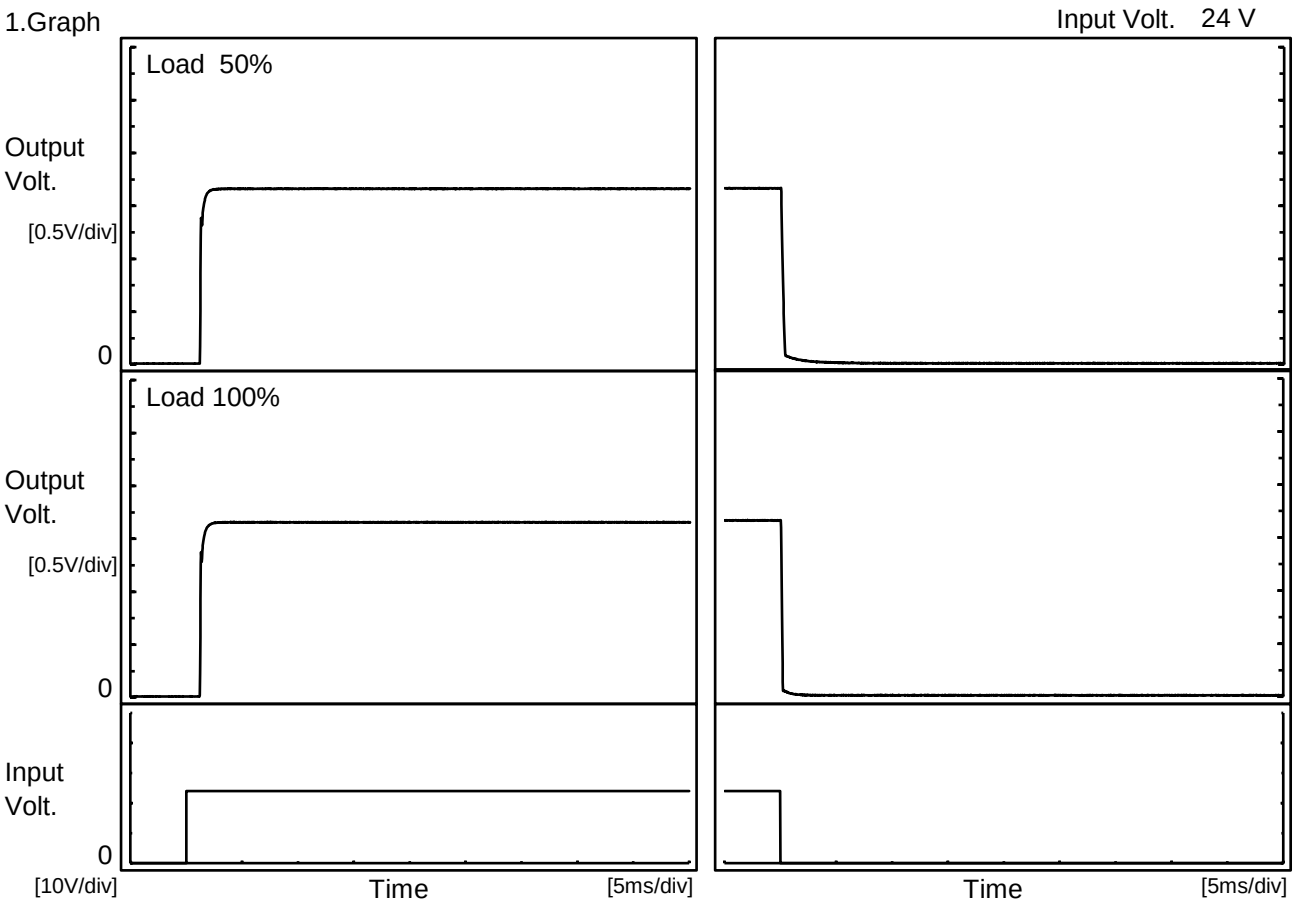
|---|---|---|
| Model | MHFS6243R3 | |
| Item | Rise and Fall Time | Temperature 25°C<br>Testing Circuitry Figure A |
| Object | +3.3V1.6A | |

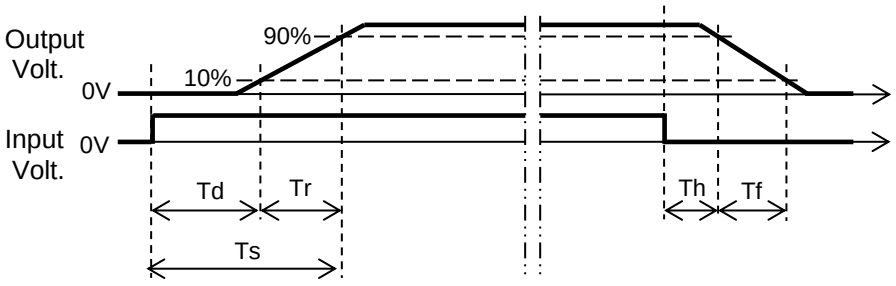
1.Graph




2.Values

[ms]

| Load \ Time | Td | Tr | Ts | Th | Tf |
|---|---|---|---|---|---|
| 50 % | 1.3 | 0.3 | 1.6 | 0.1 | 0.3 |
| 100 % | 1.2 | 0.4 | 1.6 | 0.1 | 0.1 |



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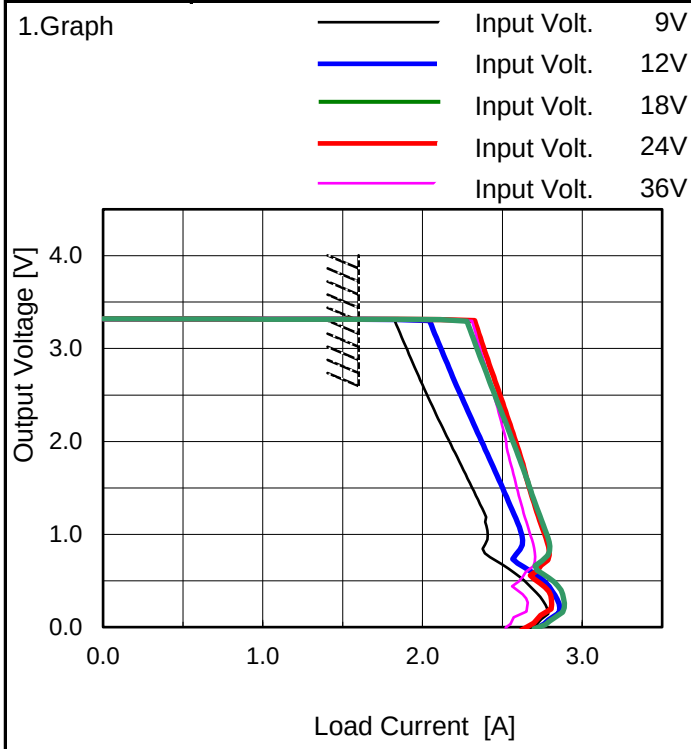
| | |
|---|---|
| Model | MHFS6243R3 |
| Item | Overcurrent Protection |
| Object | +3.3V1.6A |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




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

Maximum output current at 9V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.

2.Values

| Output Voltage [V] | Load Current [A] | | | | |
|---|---|---|---|---|---|
| | Input Volt. 9[V] | Input Volt. 12[V] | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 3.14 | 1.870 | 2.088 | 2.308 | 2.362 | 2.333 |
| 2.97 | 1.824 | 2.121 | 2.338 | 2.389 | 2.365 |
| 2.64 | 1.986 | 2.201 | 2.410 | 2.455 | 2.414 |
| 2.31 | 2.073 | 2.284 | 2.494 | 2.520 | 2.477 |
| 1.98 | 2.164 | 2.369 | 2.568 | 2.584 | 2.524 |
| 1.65 | 2.257 | 2.455 | 2.639 | 2.643 | 2.569 |
| 1.32 | 2.361 | 2.537 | 2.705 | 2.698 | 2.618 |
| 0.99 | 2.409 | 2.615 | 2.775 | 2.763 | 2.676 |
| 0.66 | 2.502 | 2.594 | 2.746 | 2.741 | 2.704 |
| 0.33 | 2.713 | 2.829 | 2.878 | 2.803 | 2.626 |
| 0.00 | 2.673 | 2.706 | 2.699 | 2.618 | 2.520 |
| -- | - | - | - | - | - |

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| | | |
|---|---|---|
| Model | MHFS6243R3 | |
| Item | Ambient Temperature Drift | Testing Circuitry Figure A |
| Object | +3.3V1.6A | |

1.Values

Load 100%

| Ambient Temperature[℃] | Output Voltage [V] | | | | |
|---|---|---|---|---|---|
| | Input Volt. 9V*1 | Input Volt. 12V | Input Volt. 18V | Input Volt. 24V | Input Volt. 36V |
| -40 | 3.306 | 3.306 | 3.306 | 3.306 | 3.306 |
| 25 | 3.312 | 3.312 | 3.313 | 3.313 | 3.313 |
| 50 | 3.315 | 3.315 | 3.315 | 3.315 | 3.315 |

*1 Load 80%

| | | |
|---|---|---|
| Item | Minimum Input Voltage for Regulated Output Voltage | Testing Circuitry Figure A |
| Object | +3.3V1.6A | |

1.Values

| Ambient Temperature[℃] | Input Voltage [V] | |
|---|---|---|
| | Load 50% | Load 80% |
| -40 | 7.3 | 7.2 |
| 25 | 7.1 | 7.1 |
| 50 | 7.1 | 7.0 |

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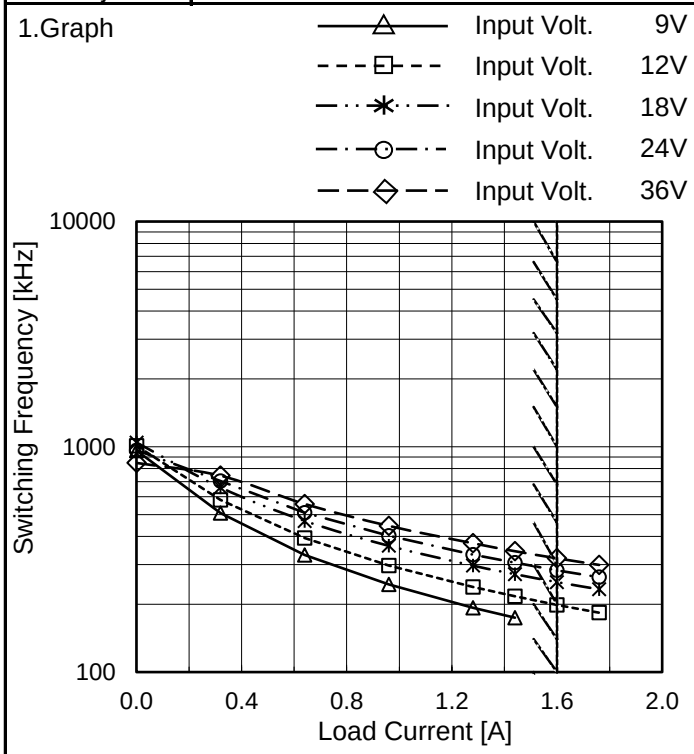
| | |
|---|---|
| Model | MHFS6243R3 |
| Item | Switching frequency (by Load Current) |
| Object | +3.3V1.6A |

Temperature 25°C
Testing Circuitry Figure A

1.Graph




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

When load current is low, MH operates intermittently, so switching frequency would not become constant.

2.Values

| Load Current [A] | Switching Frequency [kHz] | | | | |
|---|---|---|---|---|---|
| | Input Volt. 9[V] | Input Volt. 12[V] | Input Volt. 18[V] | Input Volt. 24[V] | Input Volt. 36[V] |
| 0.00 | 963 | 1011 | 1045 | 966 | 848 |
| 0.32 | 507 | 581 | 660 | 704 | 744 |
| 0.64 | 331 | 394 | 469 | 510 | 558 |
| 0.96 | 245 | 297 | 364 | 402 | 446 |
| 1.28 | 193 | 239 | 297 | 332 | 373 |
| 1.44 | 174 | 217 | 272 | 306 | 344 |
| 1.60 | *1 | 199 | 251 | 283 | 320 |
| 1.76 | *1 | 183 | 233 | 264 | 299 |
| -- | - | - | - | - | - |
| -- | - | - | - | - | - |
| -- | - | - | - | - | - |

*1 Maximum output current at 9V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.

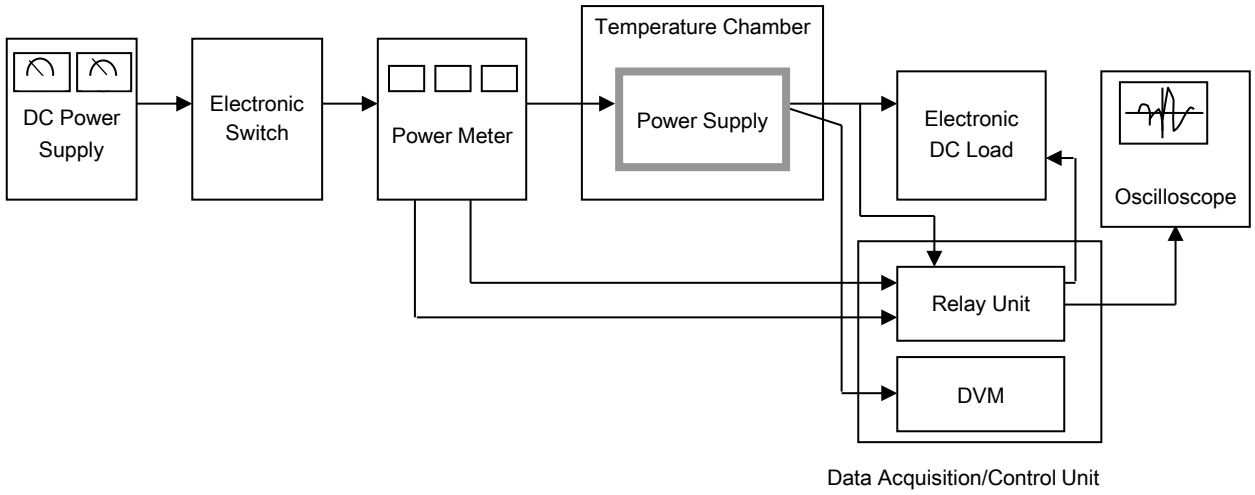



Figure A

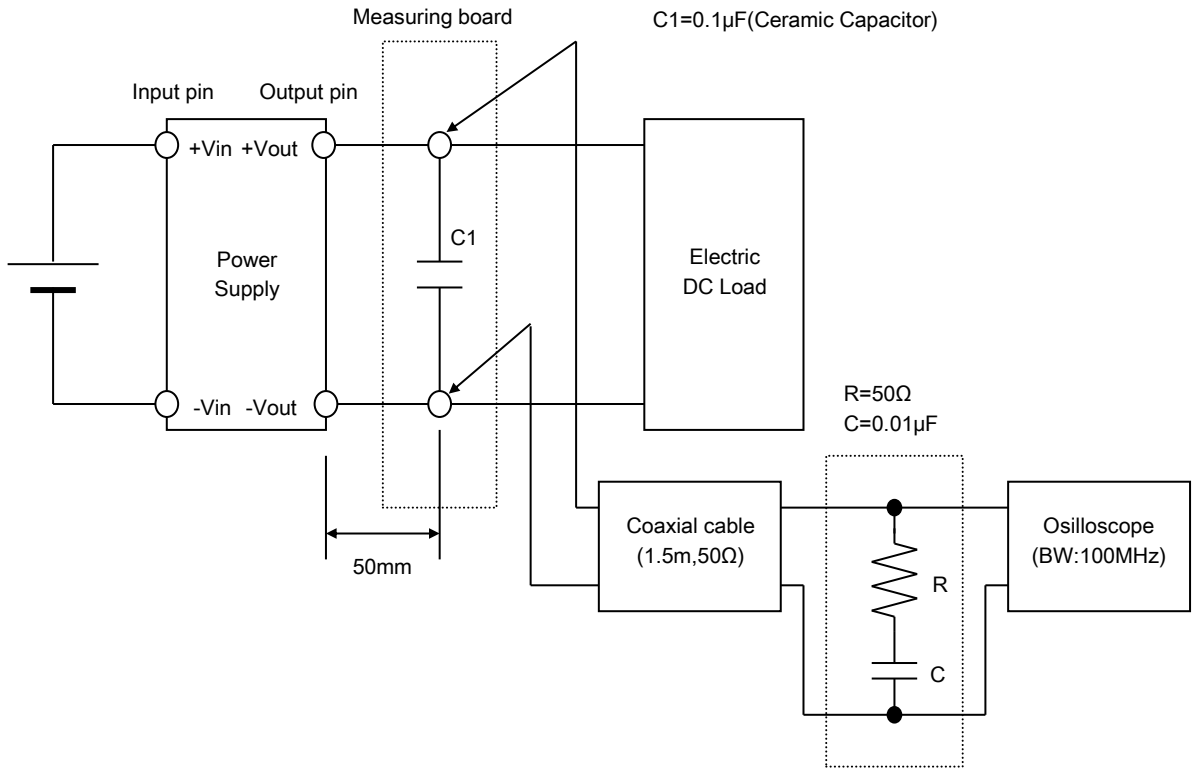



Figure B