COSEL

TEST DATA OF MHFS61205

Regulated DC Power Supply
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Model	MHFS61205
Item	Input Current (by Load Current)
Object	————————
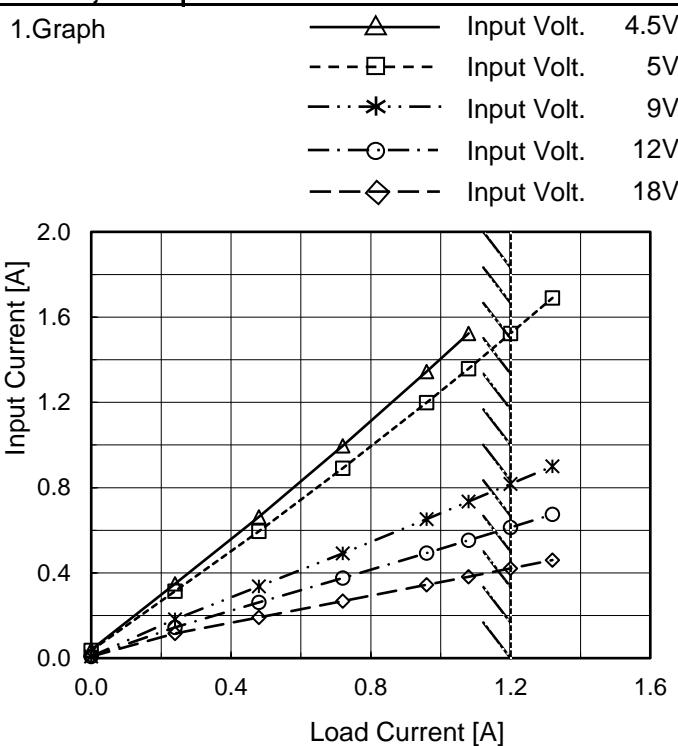
Temperature 25°C
Testing Circuitry Figure A

1.Graph

——△—— Input Volt. 4.5V
---⊟--- Input Volt. 5V
—··✳··—· Input Volt. 9V
—·—○—·· Input Volt. 12V
——◇—— Input Volt. 18V

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

2.Values

Load Current [A]	Input Current [A]				
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	0.039	0.036	0.008	0.008	0.008
0.24	0.348	0.315	0.182	0.144	0.116
0.48	0.662	0.595	0.337	0.261	0.190
0.72	0.996	0.891	0.492	0.375	0.268
0.96	1.344	1.199	0.652	0.492	0.344
1.08	1.524	1.358	0.734	0.553	0.382
1.20	*1	1.524	0.817	0.613	0.421
1.32	*1	1.690	0.900	0.674	0.460
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

*1 Maximum output current at 4.5V input
Voltage is 80% of rated load current.
Refer to instruction manuals for details of
input derating.

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Model	MHFS61205
Item	Efficiency (by Load Current)
Object	————————

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

—△—	Input Volt.	4.5V
- - -□- - -	Input Volt.	5V
—··—✳··—·	Input Volt.	9V
—·—○—··	Input Volt.	12V
— —◇— —	Input Volt.	18V

Efficiency [%] vs Load Current [A]

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

2.Values

Load Current	Efficiency [%]				
	Input Volt.	Input Volt.	Input Volt.	Input Volt.	Input Volt.
[A]	4.5[V]	5[V]	9[V]	12[V]	18[V]
0.00	-	-	-	-	-
0.24	77.7	77.5	74.4	70.4	58.3
0.48	81.7	81.8	80.2	77.6	71.0
0.72	81.5	82.0	82.3	81.0	75.6
0.96	80.3	81.1	82.8	82.3	78.7
1.08	79.6	80.5	82.8	82.6	79.5
1.20	*1	79.8	82.7	82.7	80.3
1.32	*1	79.1	82.5	82.7	80.7
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

*1 Maximum output current at 4.5V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.

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Model	MHFS61205
Item	Line Regulation
Object	+5V1.2A

Temperature 25°C
Testing Circuitry Figure A

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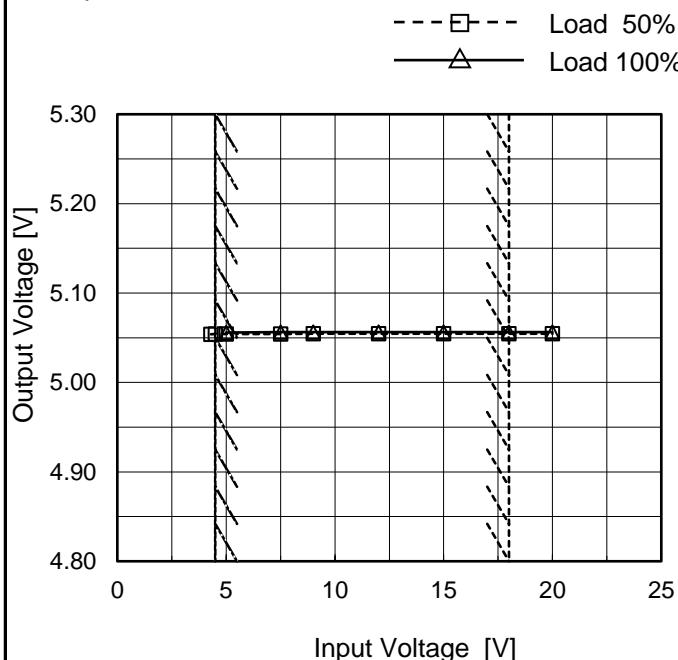
Note: Slanted line shows the range of the rated
input voltage.

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
4.3	5.054	*1
4.5	5.054	*1
5.0	5.054	5.056
7.5	5.054	5.056
9.0	5.054	5.056
12.0	5.054	5.056
15.0	5.054	5.056
18.0	5.055	5.056
20.0	5.055	5.056

*1 Maximum output current at 4.5V input
Voltage is 80% of rated load current.
Refer to instruction manuals for details of
input derating.

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Model	MHFS61205
Item	Load Regulation
Object	+5V1.2A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

	Input Volt.	4.5V
—△—	Input Volt.	4.5V
---⊟---	Input Volt.	5V
—··✳··—·	Input Volt.	9V
—·—○—·—	Input Volt.	12V
——◇——	Input Volt.	18V

Output Voltage [V] vs Load Current [A]

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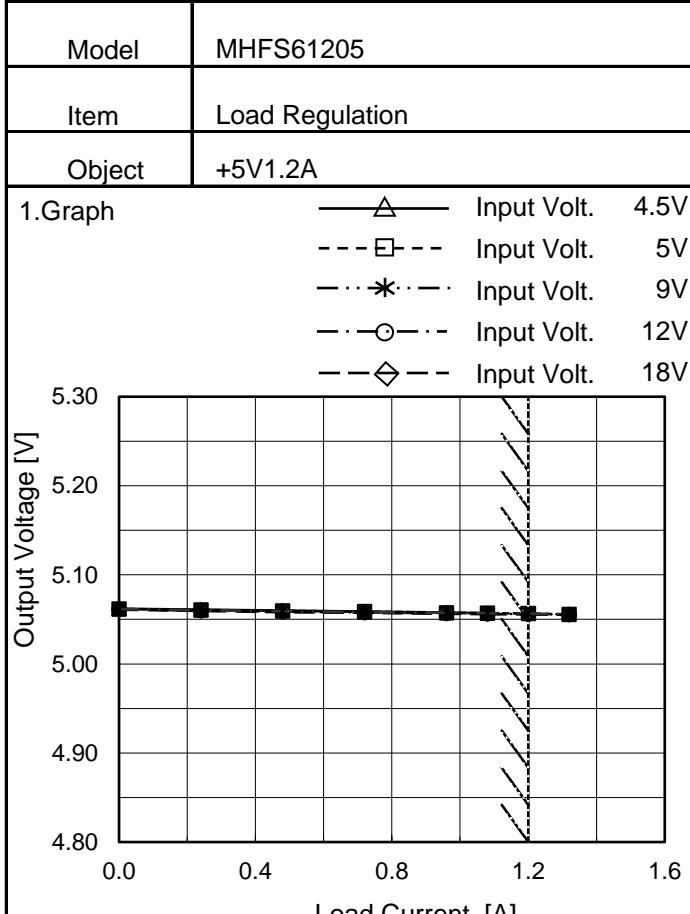
2.Values

Load Current	Output Voltage [V]				
	Input Volt.	Input Volt.	Input Volt.	Input Volt.	Input Volt.
[A]	4.5[V]	5[V]	9[V]	12[V]	18[V]
0.00	5.062	5.062	5.062	5.061	5.061
0.24	5.061	5.061	5.060	5.060	5.060
0.48	5.060	5.060	5.059	5.059	5.058
0.72	5.059	5.059	5.058	5.058	5.057
0.96	5.058	5.058	5.057	5.057	5.056
1.08	5.057	5.057	5.057	5.056	5.056
1.20	*1	5.057	5.056	5.056	5.056
1.32	*1	5.056	5.056	5.056	5.055
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

*1 Maximum output current at 4.5V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.

Item	Ripple-Noise
Object	+5V1.2A
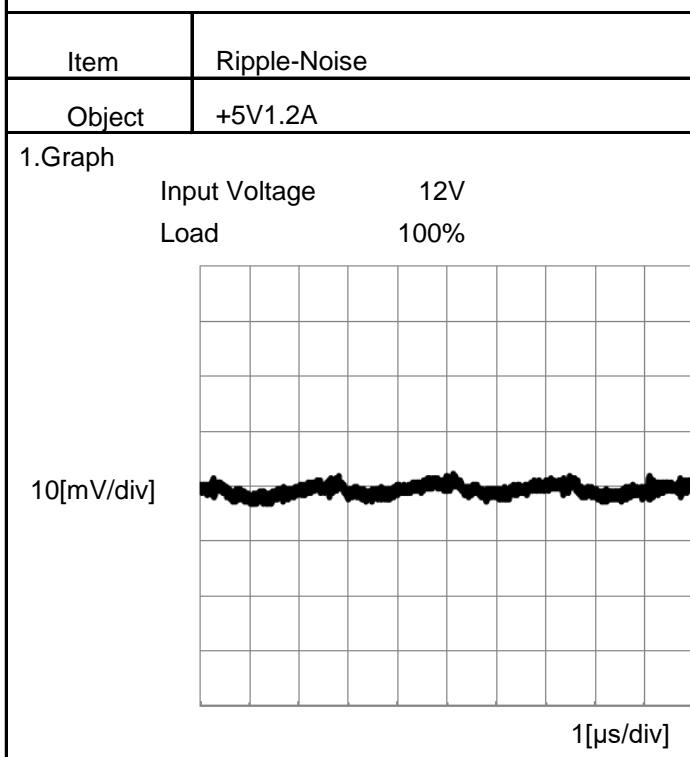
Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 12V
Load 100%

10[mV/div]

1[μs/div]

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Model	MHFS61205
Item	Dynamic Load Response
Object	+5V1.2A

Temperature 25°C
Testing Circuitry Figure A

Input Volt. 12 V
Cycle 100 ms

Response. t1=t2=50μs. Typ

Load Current

t1   t2

Min.Load (0A)←→
Load 100% (1.2A)

200 mV/div

1 ms/div   1 ms/div

Min.Load (0A)←→
Load 50% (0.6A)

200 mV/div

1 ms/div   1 ms/div

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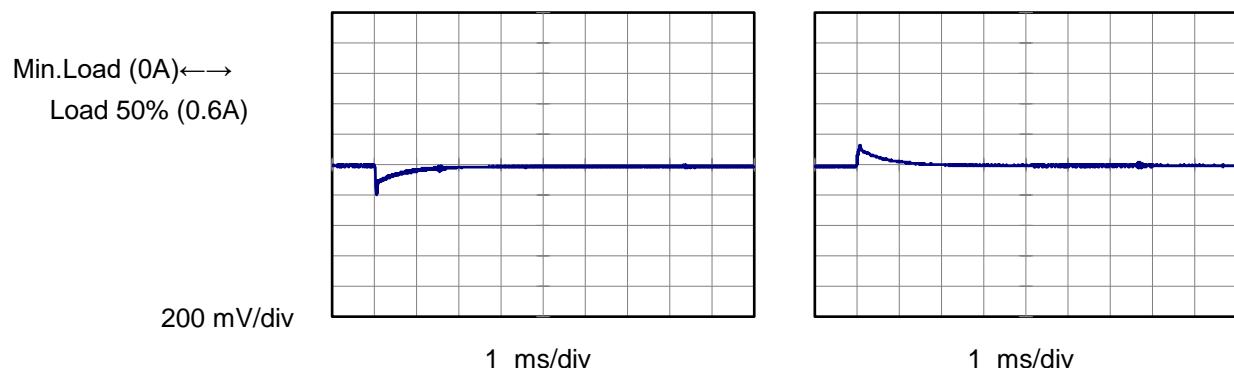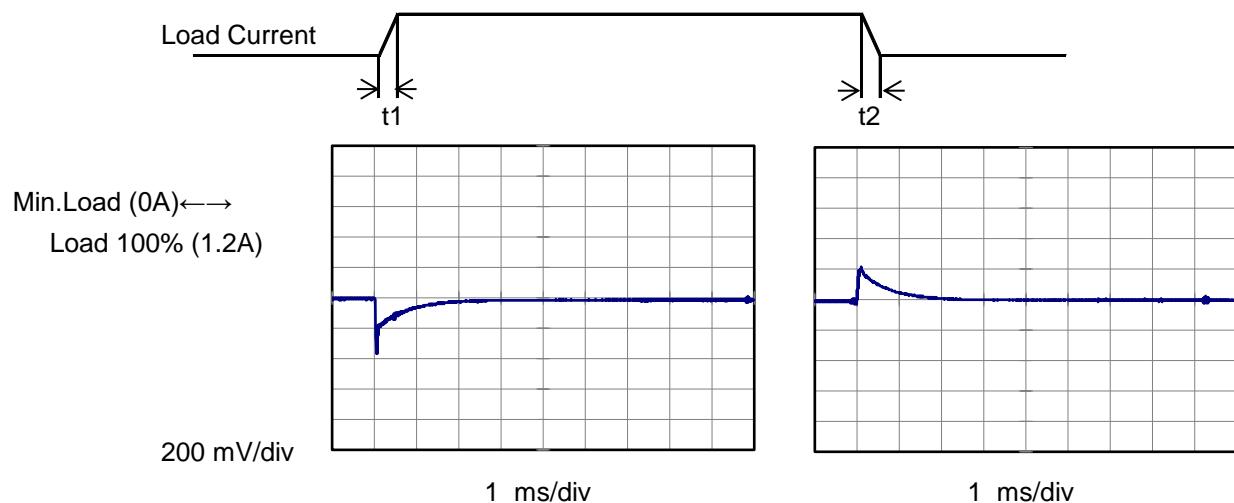
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Model	MHFS61205
Item	Rise and Fall Time
Object	+5V1.2A

Temperature　　25°C
Testing Circuitry　　Figure A

1.Graph

Input Volt.　12 V

Load 50%

Output Volt.

[1V/div]

0

Load 100%

Output Volt.

[1V/div]

0

Input Volt.

0

[5V/div]　　　　Time　　　　[5ms/div]　　　　Time　　　　[5ms/div]
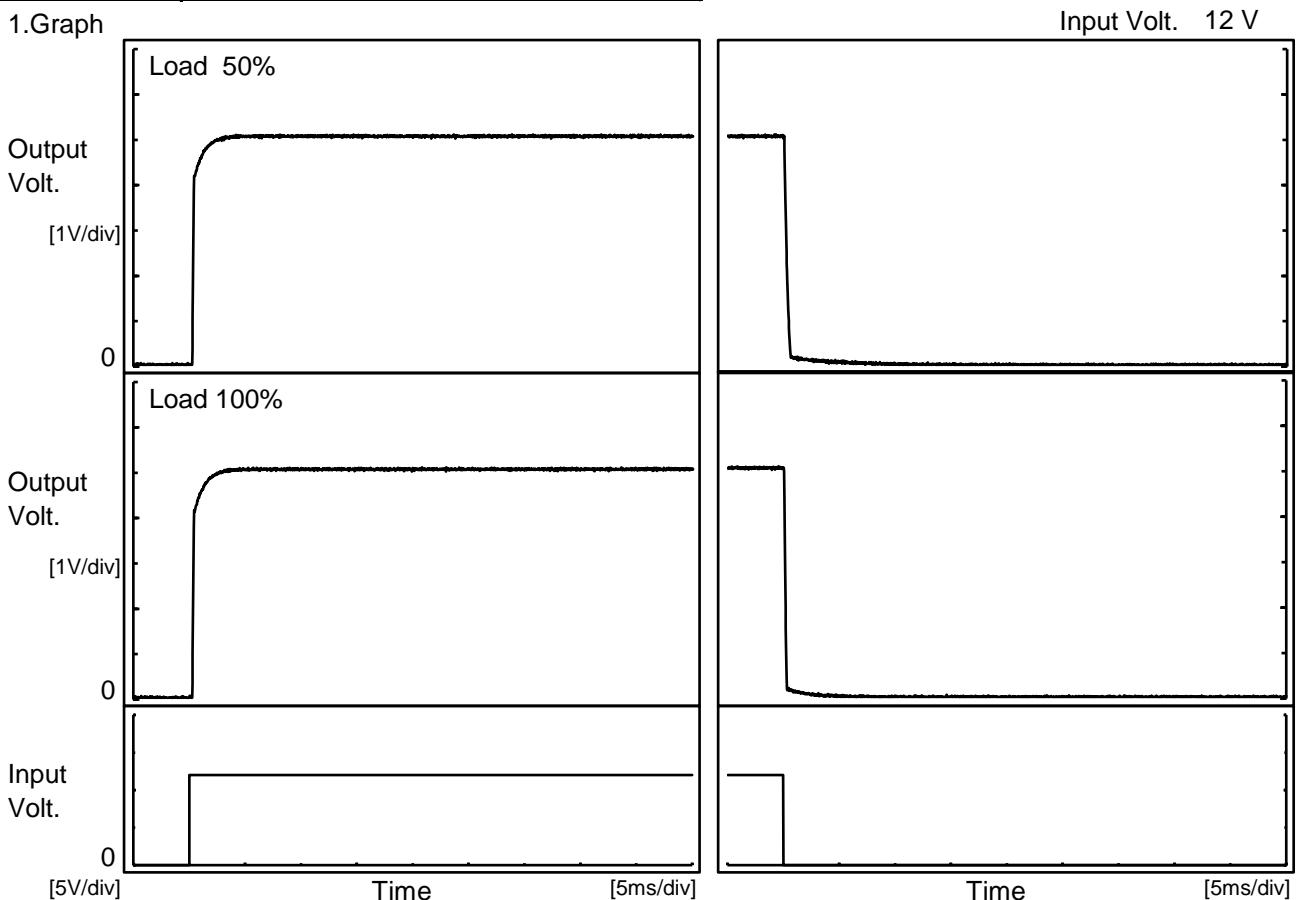
2.Values

[ms]

Load ╲ Time	Td	Tr	Ts	Th	Tf
50 %	0.3	0.7	1.0	0.1	0.5
100 %	0.3	0.7	1.0	0.1	0.2

Output Volt.

90%

10%

0V

Input Volt. 0V

Td　Tr　　Th　Tf

Ts

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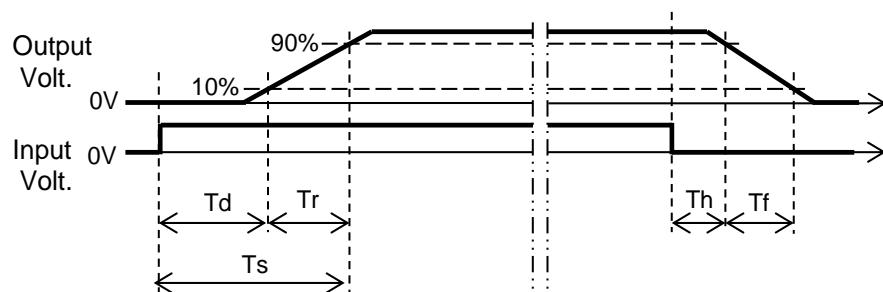
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Model	MHFS61205
Item	Overcurrent Protection
Object	+5V1.2A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

———	Input Volt. 4.5V
———	Input Volt. 5V
———	Input Volt. 9V
———	Input Volt. 12V
———	Input Volt. 18V

Load Current [A]

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

Maximum output current at 4.5V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.
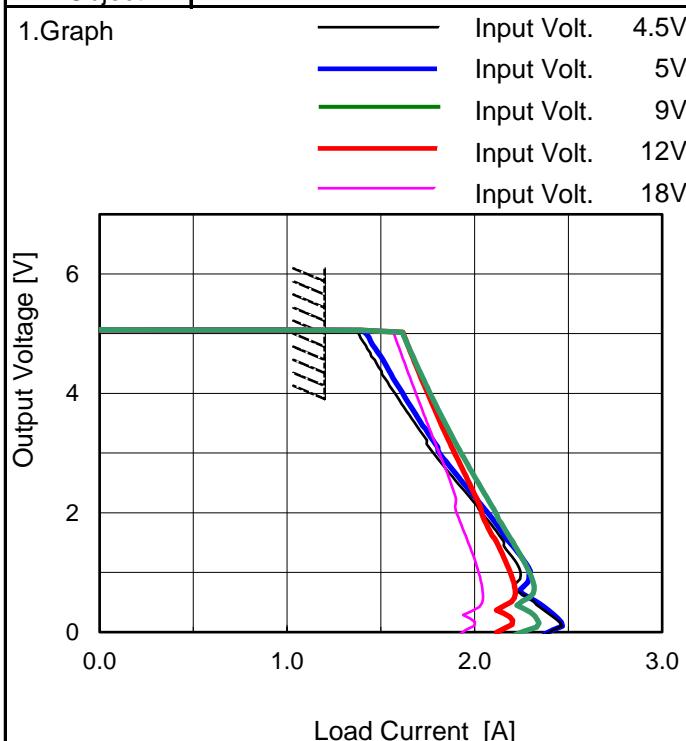
2.Values

Output Voltage [V]	Load Current [A]				
	Input Volt. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
4.75	1.429	1.470	1.649	1.648	1.596
4.50	1.371	1.401	1.684	1.679	1.625
4.00	1.574	1.614	1.757	1.745	1.684
3.50	1.678	1.709	1.836	1.814	1.744
3.00	1.772	1.805	1.920	1.887	1.806
2.50	1.898	1.926	2.009	1.963	1.869
2.00	2.023	2.070	2.111	2.034	1.900
1.50	2.156	2.185	2.202	2.118	1.961
1.00	2.243	2.298	2.289	2.189	2.017
0.50	2.313	2.323	2.254	2.196	2.044
0.00	2.382	2.373	2.209	2.118	1.925
--	-	-	-	-	-

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Model	MHFS61205
Item	Ambient Temperature Drift
Object	+5V1.2A

Testing Circuitry　Figure A

1.Values　　　　　　　　　　　　　　　　　　　　　　　Load　100%

Ambient Temperature[°C]	Output Voltage　[V]				
	Input Volt. 4.5V*1	Input Volt. 5V	Input Volt. 9V	Input Volt. 12V	Input Volt. 18V
-40	5.035	5.036	5.037	5.037	5.037
25	5.052	5.053	5.054	5.054	5.054
50	5.059	5.058	5.059	5.059	5.059

*1 Load 80%

Item	Minimum Input Voltage for Regulated Output Voltage
Object	+5V1.2A

Testing Circuitry　Figure A

1.Values

Ambient Temperature[°C]	Input　Voltage　　[V]	
	Load　50%	Load　80%
-40	3.5	3.7
25	3.6	3.5
50	3.5	3.6

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Model	MHFS61205
Item	Switching frequency (by Load Current)
Object	+5V1.2A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

	Input Volt.	4.5V
—△—	Input Volt.	5V
---⊟---	Input Volt.	9V
—··✳··—·	Input Volt.	12V
—·—○—··	Input Volt.	18V
——◇——	Input Volt.	18V

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. 4.5[V]	Input Volt. 5[V]	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]
0.00	1202	1255	1265	1265	1250
0.24	627	670	879	940	992
0.48	418	453	642	705	780
0.72	309	340	516	571	646
0.96	242	269	420	480	550
1.08	217	243	386	445	513
1.20	*1	221	358	414	479
1.32	*1	203	333	388	451
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-

*1 Maximum output current at 4.5V input Voltage is 80% of rated load current. Refer to instruction manuals for details of input derating.

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Figure A

Figure B

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