

# TEST DATA OF MGFS40243R3

Regulated DC Power Supply  
December 3, 2018

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**COSEL CO.,LTD.**

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(Final Page 20)

Model		MGFS40243R3		Temperature 25°C	
Item		Input Current (by Input Voltage)		Testing Circuitry Figure A	
Object					
1.Graph					
		<div><div><div></div><div>△</div></div><div>Load 100%</div><div><div></div><div>□</div></div><div>Load 50%</div><div><div></div><div>○</div></div><div>Load 0%</div></div>			
<div>Input Current [A]</div>					
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	
7.6		0.004	0.004	- ※	
7.8		0.004	0.004	- ※	
8.0		0.046	2.363	- ※	
8.2		0.046	2.296	- ※	
8.4		0.045	2.297	- ※	
8.6		0.044	2.228	- ※	
8.8		0.043	2.184	- ※	
9.0		0.043	2.071	- ※	
12.0		0.036	1.565	- ※	
18.0		0.015	1.027	2.101	
24.0		0.012	0.771	1.560	
36.0		0.013	0.522	1.034	
40.0		0.013	0.475	0.930	
--		-	-	-	
--		-	-	-	
--		-	-	-	
--		-	-	-	
※During this area, overcurrent protection activates and power supply operates in hiccup mode.					

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BC-11315

Model

MGFS40243R3

Item

Input Current (by Load Current)

Object

1.Graph

—△—

Input Volt.

9V

---□---

Input Volt.

12V

-·-·\*-·-

Input Volt.

18V

-·-○-·-

Input Volt.

24V

--◇--

Input Volt.

36V

Input Current [A]

8.0

6.4

4.8

3.2

1.6

0.0

0

4

8

12

Load Current [A]

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	0.043	0.036	0.015	0.012	0.013
2	0.829	0.627	0.422	0.322	0.226
4	1.629	1.225	0.816	0.618	0.422
5	2.071	1.565	1.027	0.771	0.522
6	2.487	1.824	1.228	0.920	0.620
7	2.945	2.140	1.434	1.074	0.723
8	- ※1	2.495	1.643	1.229	0.825
10	- ※1	- ※2	2.101	1.560	1.034
11	- ※1	- ※2	2.306	1.718	1.145
--	-	-	-	-	-
--	-	-	-	-	-

※1 Maximum output current at minimum input Voltage is 70% of rated load current.

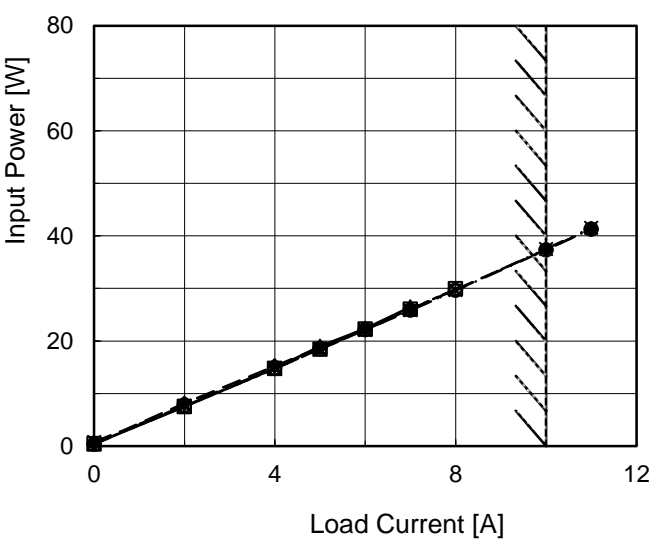
※2 Maximum output current at 12V input Voltage is 80% of rated load current.

Refer to instruction manuals for details of input derating.

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BC-11315

# COSEL

Model		MGFS40243R3		Temperature 25°C																																																																														
Item		Input Power (by Load Current)		Testing Circuitry Figure A																																																																														
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1.Graph		<div><div><div>—△—</div>Input Volt. 9V</div><div><div>---□---</div>Input Volt. 12V</div><div><div>-··*·-</div>Input Volt. 18V</div><div><div>-··○-</div>Input Volt. 24V</div><div><div>--◇--</div>Input Volt. 36V</div></div>  <p>Note: Slanted line shows the range of the rated load current.</p>																																																																																
2.Values				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="5">Input Power [W]</th></tr><tr><th>Input Volt. 9[V]</th><th>Input Volt. 12[V]</th><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>0</td><td>0.39</td><td>0.44</td><td>0.77</td><td>0.30</td><td>0.45</td></tr><tr><td>2</td><td>7.51</td><td>7.53</td><td>7.62</td><td>7.76</td><td>8.13</td></tr><tr><td>4</td><td>14.79</td><td>14.74</td><td>14.75</td><td>14.86</td><td>15.22</td></tr><tr><td>5</td><td>18.97</td><td>18.43</td><td>18.39</td><td>18.45</td><td>18.76</td></tr><tr><td>6</td><td>22.32</td><td>22.26</td><td>22.08</td><td>22.11</td><td>22.37</td></tr><tr><td>7</td><td>26.46</td><td>26.04</td><td>25.85</td><td>25.84</td><td>26.04</td></tr><tr><td>8</td><td>- ※1</td><td>29.91</td><td>29.66</td><td>29.62</td><td>29.76</td></tr><tr><td>10</td><td>- ※1</td><td>- ※2</td><td>37.50</td><td>37.32</td><td>37.38</td></tr><tr><td>11</td><td>- ※1</td><td>- ※2</td><td>41.53</td><td>41.29</td><td>41.27</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Input Power [W]					Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	0	0.39	0.44	0.77	0.30	0.45	2	7.51	7.53	7.62	7.76	8.13	4	14.79	14.74	14.75	14.86	15.22	5	18.97	18.43	18.39	18.45	18.76	6	22.32	22.26	22.08	22.11	22.37	7	26.46	26.04	25.85	25.84	26.04	8	- ※1	29.91	29.66	29.62	29.76	10	- ※1	- ※2	37.50	37.32	37.38	11	- ※1	- ※2	41.53	41.29	41.27	--	-	-	-	-	-	--	-	-	-	-	-
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Item		Efficiency (by Input Voltage)		Testing Circuitry Figure A																																	
Object																																					
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<div>1.Graph</div> <div><div><div><div>—△—</div><div>Input Volt.</div><div>9V</div></div><div><div>---□---</div><div>Input Volt.</div><div>12V</div></div><div><div>-·-※--</div><div>Input Volt.</div><div>18V</div></div><div><div>--○--</div><div>Input Volt.</div><div>24V</div></div><div><div>---◇---</div><div>Input Volt.</div><div>36V</div></div></div><div><div><div>Efficiency [%]</div><div>95</div><div>85</div><div>75</div><div>65</div><div>55</div></div><div><div>0</div><div>4</div><div>8</div><div>12</div></div><div><div>Load Current [A]</div></div></div></div> <div><div>Note: Slanted line shows the range of the rated load current.</div></div>		<div>2.Values</div> <table><tr><th rowspan="2">Load Current [A]</th><th colspan="5">Efficiency [%]</th></tr><tr><th>Input Volt. 9[V]</th><th>Input Volt. 12[V]</th><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>0</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>2</td><td>88.8</td><td>88.5</td><td>87.5</td><td>85.9</td><td>82.1</td></tr><tr><td>4</td><td>90.2</td><td>90.6</td><td>90.5</td><td>89.8</td><td>87.7</td></tr><tr><td>5</td><td>89.8</td><td>90.5</td><td>90.7</td><td>90.4</td><td>88.9</td></tr><tr><td>6</td><td>89.7</td><td>89.9</td><td>90.7</td><td>90.5</td><td>89.5</td></tr><tr><td>7</td><td>88.3</td><td>89.7</td><td>90.3</td><td>90.4</td><td>89.7</td></tr><tr><td>8</td><td>- ※1</td><td>89.2</td><td>90.0</td><td>90.1</td><td>89.7</td></tr><tr><td>10</td><td>- ※1</td><td>- ※2</td><td>89.5</td><td>89.4</td><td>89.2</td></tr><tr><td>11</td><td>- ※1</td><td>- ※2</td><td>88.3</td><td>88.8</td><td>88.9</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table> <div><div>※1 Maximum output current at minimum input Voltage is 70% of rated load current.</div><div>※2 Maximum output current at 12V input Voltage is 80% of rated load current.</div><div>Refer to instruction manuals for details of input derating.</div></div>	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	-	-	-	-	-	2	88.8	88.5	87.5	85.9	82.1	4	90.2	90.6	90.5	89.8	87.7	5	89.8	90.5	90.7	90.4	88.9	6	89.7	89.9	90.7	90.5	89.5	7	88.3	89.7	90.3	90.4	89.7	8	- ※1	89.2	90.0	90.1	89.7	10	- ※1	- ※2	89.5	89.4	89.2	11	- ※1	- ※2	88.3	88.8	88.9	--	-	-	-	-	-	--	-	-	-	-	-
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Model		MGFS40243R3	
Item		Line Regulation	
Object		+3.3V10A	
1.Graph		2.Values	



Model	MGFS40243R3	Temperature	25°C
Item	Load Regulation	Testing Circuitry	Figure A
Object	+3.3V10A		

1.Graph

Legend:

- △— Input Volt. 9V
- - - □ - - - Input Volt. 12V
- · · \* · · - · · Input Volt. 18V
- · · ○ · · - · · Input Volt. 24V
- - ◇ - - Input Volt. 36V

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

2.Values

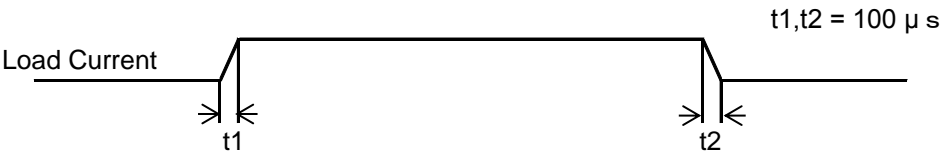
Load Current [A]	Output Voltage [V]				
	Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]
0	3.340	3.340	3.340	3.340	3.340
2	3.339	3.339	3.339	3.339	3.339
4	3.339	3.339	3.339	3.339	3.339
5	3.338	3.338	3.338	3.338	3.338
6	3.338	3.338	3.338	3.338	3.338
7	3.338	3.337	3.338	3.338	3.338
8	- ※1	3.337	3.337	3.337	3.337
10	- ※1	- ※2	3.337	3.337	3.337
11	- ※1	- ※2	3.336	3.336	3.336
--	-	-	-	-	-
--	-	-	-	-	-

※1 Maximum output current at minimum input Voltage is 70% of rated load current.  
 ※2 Maximum output current at 12V input Voltage is 80% of rated load current.  
 Refer to instruction manuals for details of input derating.

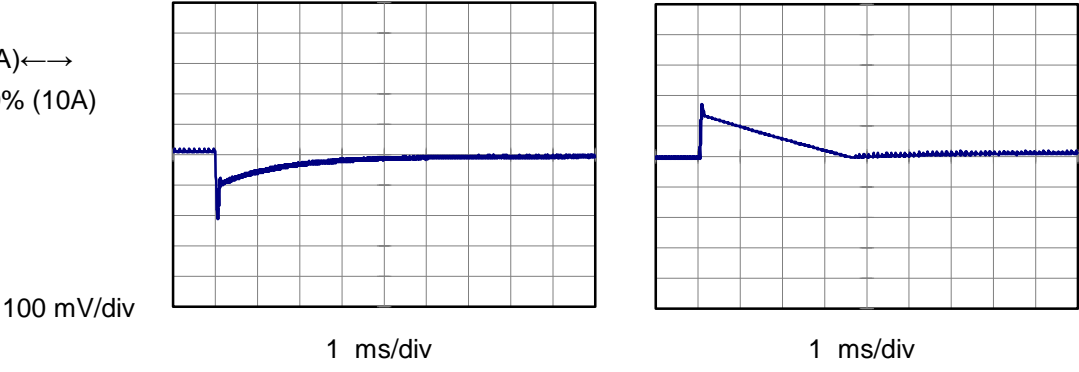


Model	MGFS40243R3		
Item	Dynamic Load Response	Temperature	25°C
Object	+3.3V10A	Testing Circuitry	Figure A

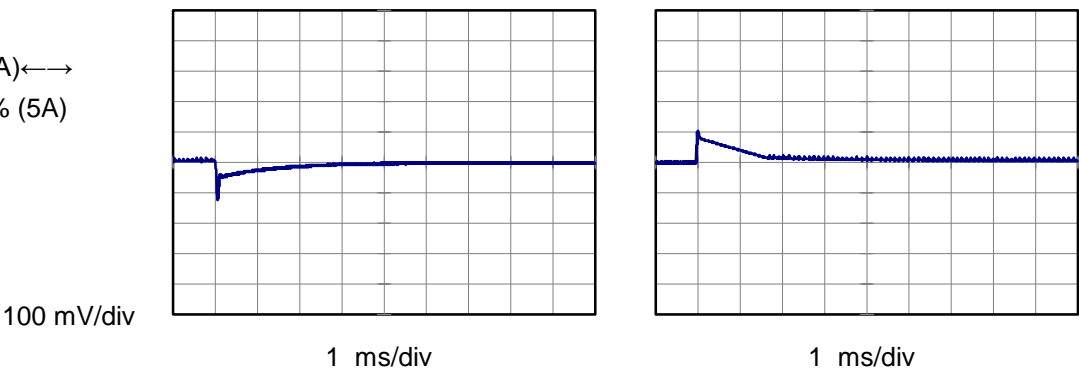
Input Volt. 24 V  
Cycle 100 ms



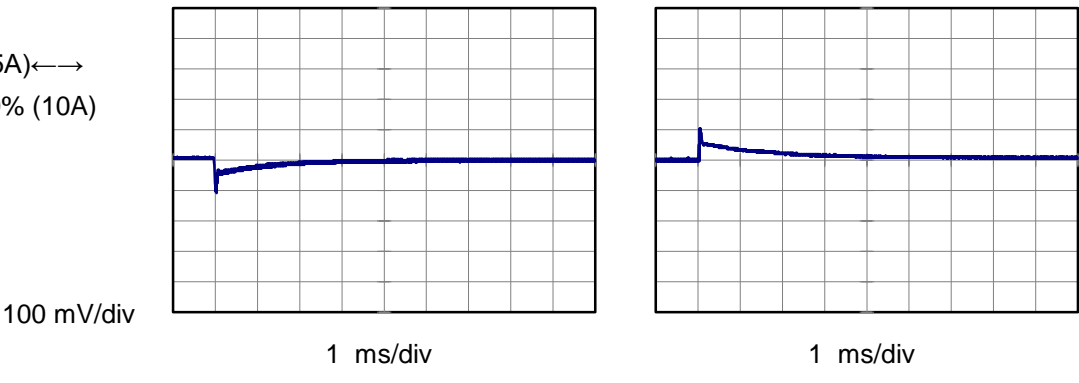
Min.Load (0A)←→  
Load 100% (10A)



Min.Load (0A)←→  
Load 50% (5A)



Load 50% (5A)←→  
Load 100% (10A)

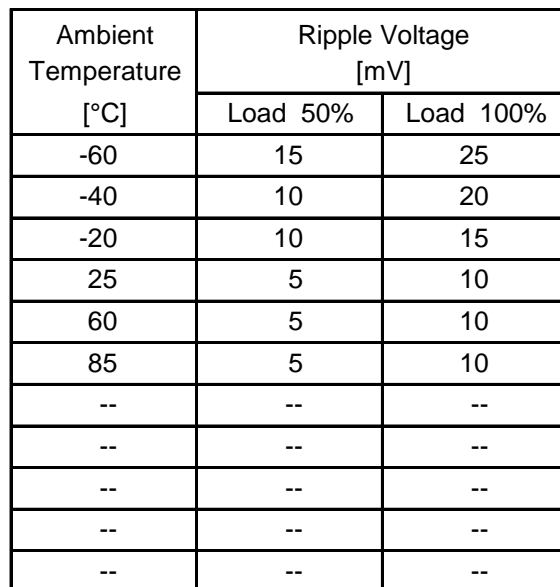


Model		MGFS40243R3		Temperature 25°C																																							
Item		Ripple Voltage (by Load Current)		Testing Circuitry Figure B																																							
Object		+3.3V10A																																									
1.Graph				2.Values																																							
<div><div><div>—△— Input Volt. 9V</div><div>- -○- - Input Volt. 36V</div></div><p>Ripple Voltage [mV]</p><p>Load Current [A]</p></div> <div><p>Measured by 100 MHz Oscilloscope.</p><p>Ripple Voltage is shown as p-p in the figure below.</p><p>Note: Slanted line shows the range of the rated load current.</p><div><p>Ripple [mVp-p]</p></div><p>Fig.Complex Ripple Wave Form</p></div>				<table><tr><th rowspan="2">Load Current [A]</th><th colspan="2">Ripple Voltage [mV]</th></tr><tr><th>Input Volt. 9 [V]</th><th>Input Volt. 36 [V]</th></tr><tr><td>0</td><td>5</td><td>15</td></tr><tr><td>2</td><td>5</td><td>5</td></tr><tr><td>4</td><td>5</td><td>5</td></tr><tr><td>6</td><td>15</td><td>5</td></tr><tr><td>8</td><td>35</td><td>5</td></tr><tr><td>10</td><td>- ※</td><td>10</td></tr><tr><td>11</td><td>- ※</td><td>10</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table> <p>※ Maximum output current at minimum input Voltage is 70% of rated load current. Refer to instruction manuals for details of input derating.</p>		Load Current [A]	Ripple Voltage [mV]		Input Volt. 9 [V]	Input Volt. 36 [V]	0	5	15	2	5	5	4	5	5	6	15	5	8	35	5	10	- ※	10	11	- ※	10	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																										
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Item	Ripple-Noise	Temperature	25°C																																						
Object	+3.3V10A	Testing Circuitry	Figure B																																						
<div>1.Graph</div> <div> <div> <div> <div>—△—</div> <div>Input Volt.</div> <div>9V</div> </div> <div> <div>- -○- -</div> <div>Input Volt.</div> <div>36V</div> </div> </div> <div> </div> </div>		<div>2.Values</div> <div> <table> <tr> <th rowspan="2">Load Current [A]</th><th colspan="2">Ripple-Noise [mV]</th></tr> <tr> <th>Input Volt. 9 [V]</th><th>Input Volt. 36 [V]</th></tr> <tr><td>0</td><td>10</td><td>15</td></tr> <tr><td>2</td><td>10</td><td>15</td></tr> <tr><td>4</td><td>15</td><td>15</td></tr> <tr><td>6</td><td>30</td><td>25</td></tr> <tr><td>8</td><td>50</td><td>35</td></tr> <tr><td>10</td><td>- ※</td><td>50</td></tr> <tr><td>11</td><td>- ※</td><td>60</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </table> </div>		Load Current [A]	Ripple-Noise [mV]		Input Volt. 9 [V]	Input Volt. 36 [V]	0	10	15	2	10	15	4	15	15	6	30	25	8	50	35	10	- ※	50	11	- ※	60	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple-Noise [mV]																																								
	Input Volt. 9 [V]	Input Volt. 36 [V]																																							
0	10	15																																							
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4	15	15																																							
6	30	25																																							
8	50	35																																							
10	- ※	50																																							
11	- ※	60																																							
--	-	-																																							
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--	-	-																																							
--	-	-																																							
<div> <div>Measured by 100 MHz Oscilloscope.</div> <div>Ripple-Noise is shown as p-p in the figure below.</div> <div>Note: Slanted line shows the range of the rated load current.</div> </div> <div> <div>Ripple Noise[mVp-p]</div> <div> </div> </div> <div>Fig.Complex Ripple Noise Wave Form</div>		<div> <div>※ Maximum output current at minimum input Voltage is 70% of rated load current. Refer to instruction manuals for details of input derating.</div> </div>																																							

Testing Circuitry Figure B

## 2.Values



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

Model		MGFS40243R3																																																																														
Item		Ambient Temperature Drift																																																																														
Object		+3.3V10A																																																																														
1.Graph		2.Values																																																																														
<div><div><div><div><div>—△—</div><div>Input Volt.</div><div>9V</div></div><div><div>---□---</div><div>Input Volt.</div><div>12V</div></div><div><div>---*---</div><div>Input Volt.</div><div>18V</div></div><div><div>---○---</div><div>Input Volt.</div><div>24V</div></div><div><div>---◇---</div><div>Input Volt.</div><div>36V</div></div></div><div><div>Output Voltage [V]</div><div><div>3.39</div><div>3.36</div><div>3.33</div><div>3.30</div><div>3.27</div><div>3.24</div></div><div><div>-60</div><div>-20</div><div>20</div><div>60</div><div>100</div></div><div>Ambient Temperature [°C]</div></div><div>Note: Slanted line shows the range of the rated ambient temperature.</div></div></div>		<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="5">Output Voltage [V]</th></tr><tr><th>Input Volt. 9[V]</th><th>Input Volt. 12[V]</th><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>-60</td><td>3.333</td><td>3.333</td><td>3.333</td><td>3.334</td><td>3.334</td></tr><tr><td>-40</td><td>3.336</td><td>3.336</td><td>3.336</td><td>3.336</td><td>3.336</td></tr><tr><td>-20</td><td>3.337</td><td>3.337</td><td>3.336</td><td>3.336</td><td>3.336</td></tr><tr><td>0</td><td>3.336</td><td>3.336</td><td>3.335</td><td>3.335</td><td>3.335</td></tr><tr><td>25</td><td>3.338</td><td>3.337</td><td>3.337</td><td>3.337</td><td>3.337</td></tr><tr><td>65</td><td>3.338</td><td>3.337</td><td>3.336</td><td>3.336</td><td>3.335</td></tr><tr><td>75</td><td>3.336</td><td>3.336</td><td>3.335</td><td>3.334</td><td>3.334</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table> <div>Note: In case of input Volt.9V, Load 70%. 12V, Load 80%. Other case Load 100%.</div>		Ambient Temperature [°C]	Output Voltage [V]					Input Volt. 9[V]	Input Volt. 12[V]	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	-60	3.333	3.333	3.333	3.334	3.334	-40	3.336	3.336	3.336	3.336	3.336	-20	3.337	3.337	3.336	3.336	3.336	0	3.336	3.336	3.335	3.335	3.335	25	3.338	3.337	3.337	3.337	3.337	65	3.338	3.337	3.336	3.336	3.335	75	3.336	3.336	3.335	3.334	3.334	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-	--	-	-	-	-	-
Ambient Temperature [°C]	Output Voltage [V]																																																																															
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-40	3.336	3.336	3.336	3.336	3.336																																																																											
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Model		MGFS40243R3	Testing Circuitry Figure A
Item		Output Voltage Accuracy	
Object		+3.3V10A	

### 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 - 65°C

Input Voltage : 9 - 36V

Load Current : 0 - 10A

\* Output Voltage Accuracy =  $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

### 2. Values

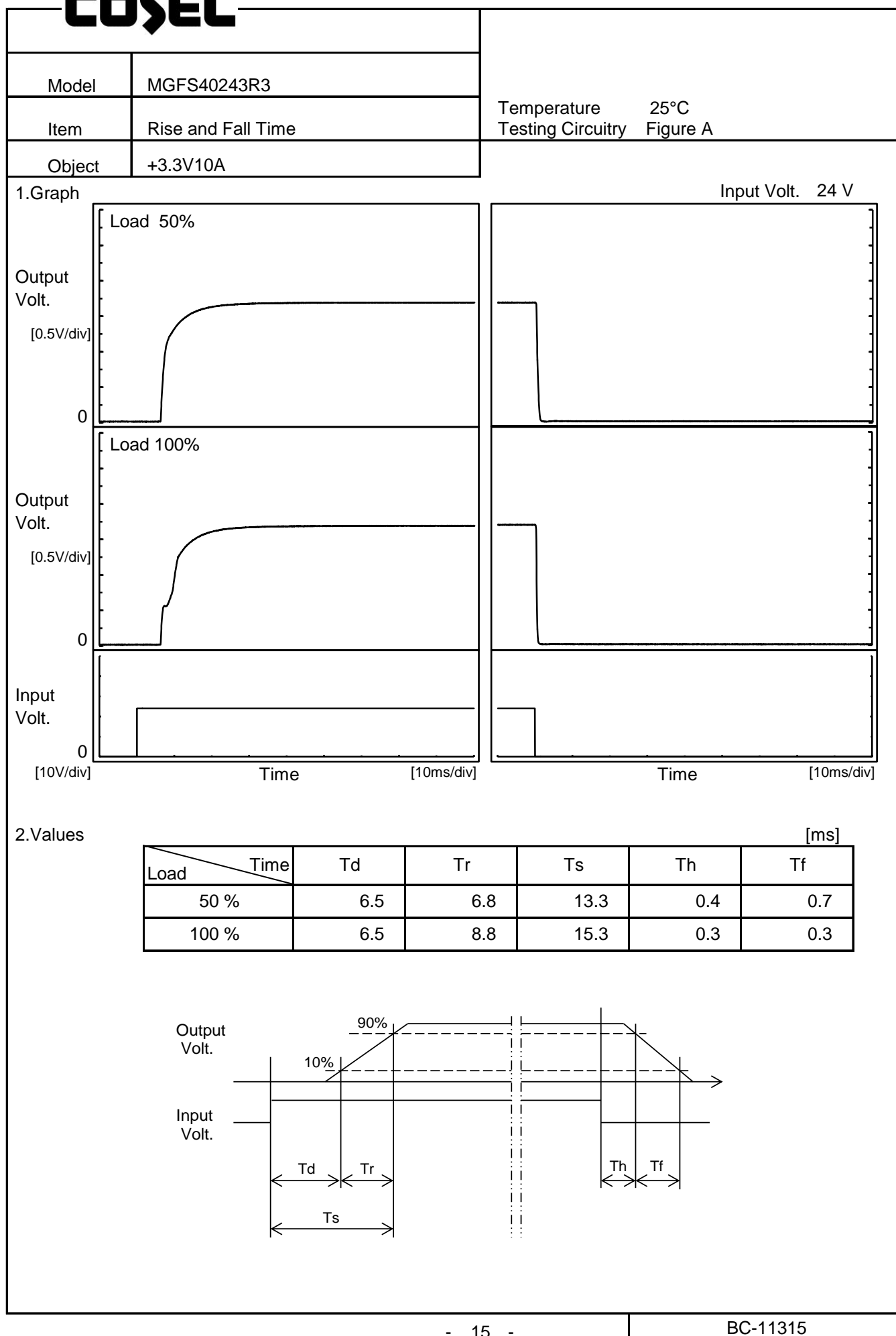
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ratio [%]
Maximum Voltage	25	9	0	3.340	±3	±0.1
Minimum Voltage	65	36	10	3.335		



Model		MGFS40243R3	Temperature25°C Testing CircuitryFigure A																						
Item		Time Lapse Drift																							
Object		+3.3V10A																							
1.Graph			2.Values																						
<div><div><div><div>3.39</div><div>3.36</div><div>3.33</div><div>3.30</div><div>3.27</div><div>3.24</div></div><div><div><div>0</div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div></div><div><div>Output Voltage [V]</div><div>Time [H]</div></div></div><div><div>Input Volt.24V</div><div>Load100%</div></div></div></div>			<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>3.337</td></tr><tr><td>0.5</td><td>3.336</td></tr><tr><td>1.0</td><td>3.336</td></tr><tr><td>2.0</td><td>3.336</td></tr><tr><td>3.0</td><td>3.336</td></tr><tr><td>4.0</td><td>3.336</td></tr><tr><td>5.0</td><td>3.336</td></tr><tr><td>6.0</td><td>3.336</td></tr><tr><td>7.0</td><td>3.336</td></tr><tr><td>8.0</td><td>3.336</td></tr></table>	Time since start [H]	Output Voltage [V]	0.0	3.337	0.5	3.336	1.0	3.336	2.0	3.336	3.0	3.336	4.0	3.336	5.0	3.336	6.0	3.336	7.0	3.336	8.0	3.336
Time since start [H]	Output Voltage [V]																								
0.0	3.337																								
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6.0	3.336																								
7.0	3.336																								
8.0	3.336																								



**COSEL**



Model

MGFS40243R3

Item

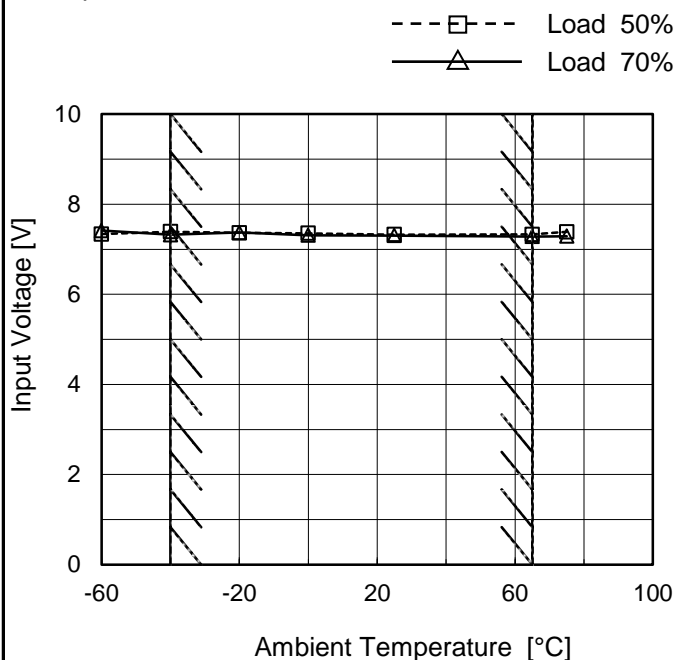
Minimum Input Voltage  
for Regulated Output Voltage

Object

+3.3V10A

Testing Circuitry Figure A

# 1.Graph

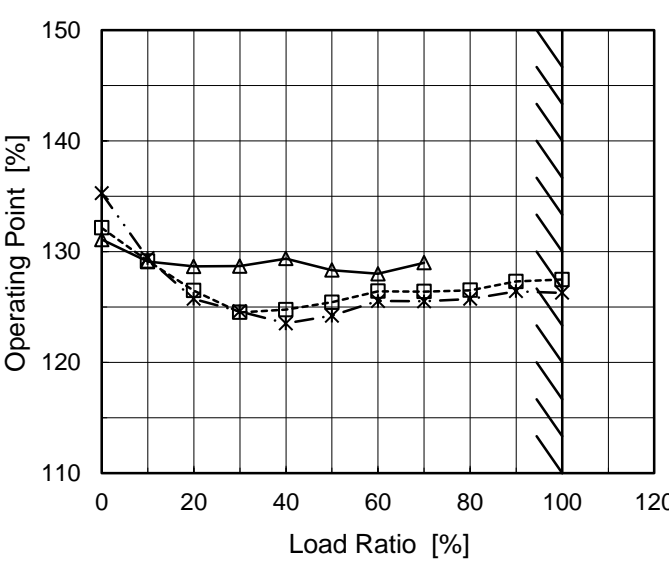


Note: Slanted line shows the range of the rated ambient temperature.

# 2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 70%
-60	7.4	7.5
-40	7.4	7.4
-20	7.4	7.4
0	7.4	7.4
25	7.4	7.3
65	7.4	7.3
75	7.4	7.3
--	-	-
--	-	-
--	-	-
--	-	-

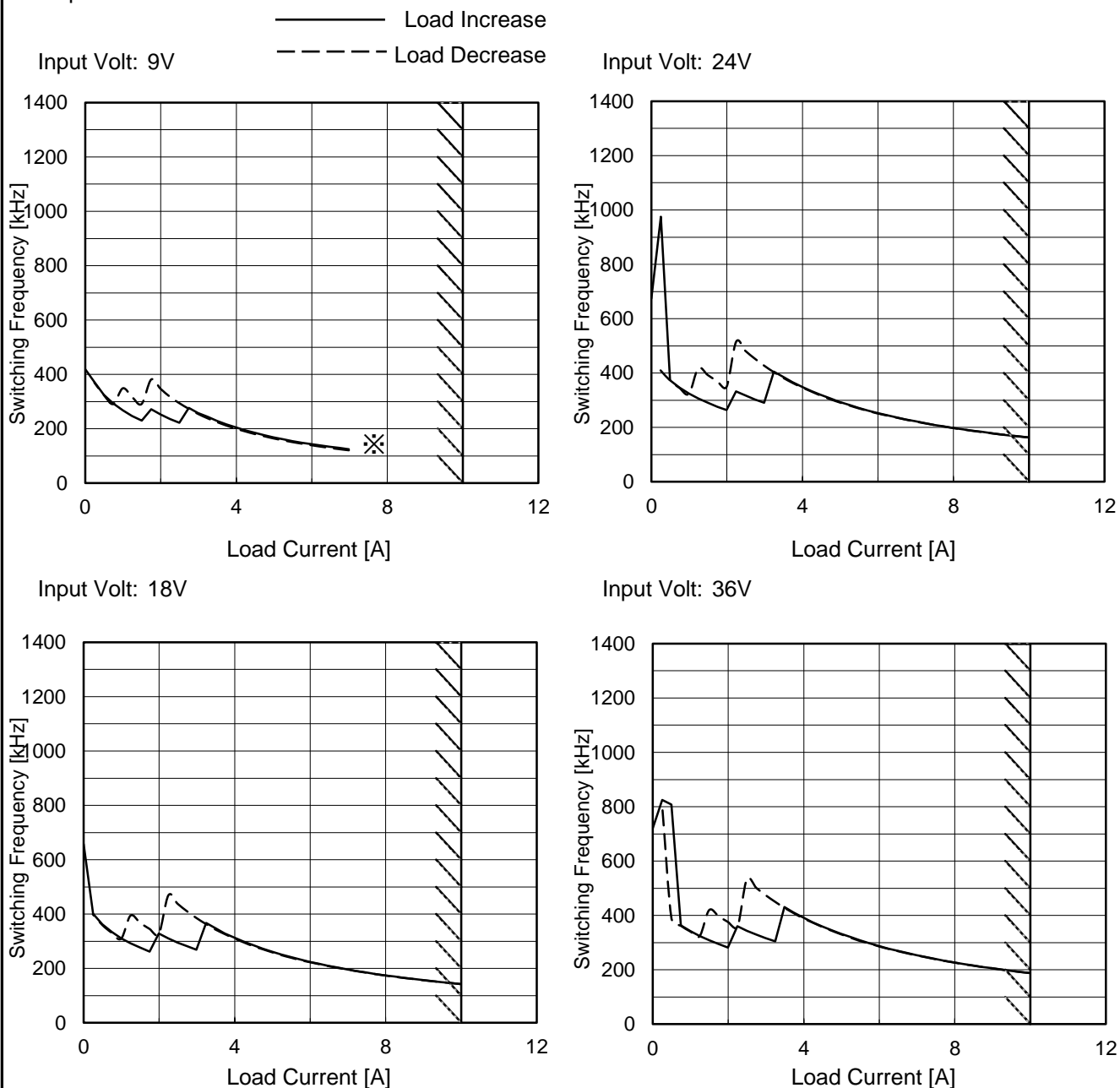
Model		MGFS40243R3		Temperature 25°C																																																																																				
Item		Overcurrent Protection		Testing Circuitry Figure A																																																																																				
Object		+3.3V10A																																																																																						
1.Graph		<div><div><div>△</div><div>Input Volt.</div><div>9V</div></div><div><div>□</div><div>Input Volt.</div><div>12V</div></div><div><div>*</div><div>Input Volt.</div><div>18V</div></div><div><div>○</div><div>Input Volt.</div><div>24V</div></div><div><div>◇</div><div>Input Volt.</div><div>36V</div></div></div> <div><div><div>Output Voltage [V]</div><div>4</div><div>3</div><div>2</div><div>1</div><div>0</div><div>02468101214</div><div>Load Current [A]</div></div></div> <div><div>Note: Slanted line shows the range of the rated load current.</div><div>Intermittent operation activates when overcurrent protection is activated.</div></div>		2.Values																																																																																				
		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="5">Load Current [A]</th></tr><tr><th>Input Volt. 9[V]</th><th>Input Volt. 12[V]</th><th>Input Volt. 18[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>3.300</td><td>8.990</td><td>10.281</td><td>11.912</td><td>11.811</td><td>11.510</td></tr><tr><td>3.135</td><td>- ※1</td><td>- ※2</td><td>-</td><td>-</td><td>-</td></tr><tr><td>2.970</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>2.640</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>2.310</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>1.980</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>1.650</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>1.320</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.990</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.660</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.330</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.000</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>				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]	3.300	8.990	10.281	11.912	11.811	11.510	3.135	- ※1	- ※2	-	-	-	2.970	-	-	-	-	-	2.640	-	-	-	-	-	2.310	-	-	-	-	-	1.980	-	-	-	-	-	1.650	-	-	-	-	-	1.320	-	-	-	-	-	0.990	-	-	-	-	-	0.660	-	-	-	-	-	0.330	-	-	-	-	-	0.000	-	-	-	-	-
Output Voltage [V]	Load Current [A]																																																																																							
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		<div>※1 Maximum output current at minimum input Voltage is 70% of rated load current.</div> <div>※2 Maximum output current at 12V input Voltage is 80% of rated load current.</div> <div>Refer to instruction manuals for details of input derating.</div>																																																																																						

Model		MGFS40243R3		Temperature25°C Testing CircuitryFigure A																																																			
Item		Overvoltage Protection																																																					
Object		+3.3V10A																																																					
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		<table><tr><th rowspan="2">Load Ratio [%]</th><th colspan="3">Operating Point [%]</th></tr><tr><th>Input Volt. 9[V]</th><th>Input Volt. 24[V]</th><th>Input Volt. 36[V]</th></tr><tr><td>0</td><td>131</td><td>132</td><td>135</td></tr><tr><td>10</td><td>129</td><td>129</td><td>129</td></tr><tr><td>20</td><td>129</td><td>126</td><td>126</td></tr><tr><td>30</td><td>129</td><td>125</td><td>125</td></tr><tr><td>40</td><td>129</td><td>125</td><td>124</td></tr><tr><td>50</td><td>128</td><td>125</td><td>124</td></tr><tr><td>60</td><td>128</td><td>126</td><td>126</td></tr><tr><td>70</td><td>129</td><td>126</td><td>126</td></tr><tr><td>80</td><td>- ※</td><td>127</td><td>126</td></tr><tr><td>90</td><td>- ※</td><td>127</td><td>126</td></tr><tr><td>100</td><td>- ※</td><td>127</td><td>126</td></tr></table>			Load Ratio [%]	Operating Point [%]			Input Volt. 9[V]	Input Volt. 24[V]	Input Volt. 36[V]	0	131	132	135	10	129	129	129	20	129	126	126	30	129	125	125	40	129	125	124	50	128	125	124	60	128	126	126	70	129	126	126	80	- ※	127	126	90	- ※	127	126	100	- ※	127	126
Load Ratio [%]	Operating Point [%]																																																						
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90	- ※	127	126																																																				
100	- ※	127	126																																																				
※During this area, overcurrent protection activates.																																																							

# COSEL

Model	MGFS40243R3	Temperature	25°C
Item	Switching frequency (by Load Current)	Testing Circuitry	Figure A
Object	+3.3V10A		

## 1. Graph



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

-switching frequency of MG40 changes depending on load current and input voltage.

When load current is low, switching frequency becomes high and step down to low frequency at certain point. There is hysteresis, so characteristic is different between load increase (sweep from 0% to 100%) and load decrease (sweep from 100% to 0%).

-When load current is low, MG40 operates intermittently, so switching frequency can not be stable.

※ Maximum output current at minimum input Voltage is 70% of rated load current.

Refer to instruction manuals for details of input derating.

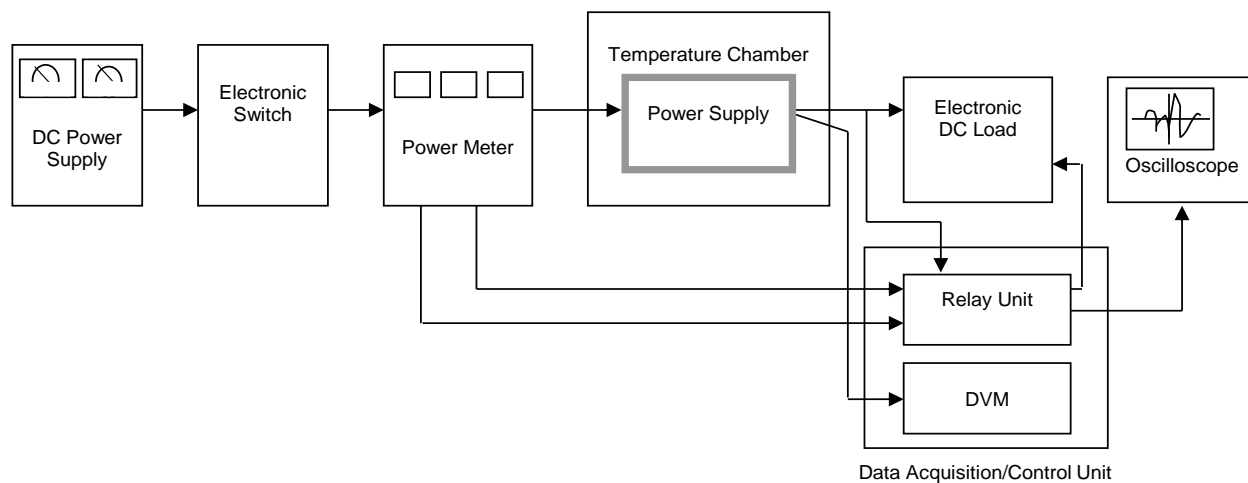


Figure A

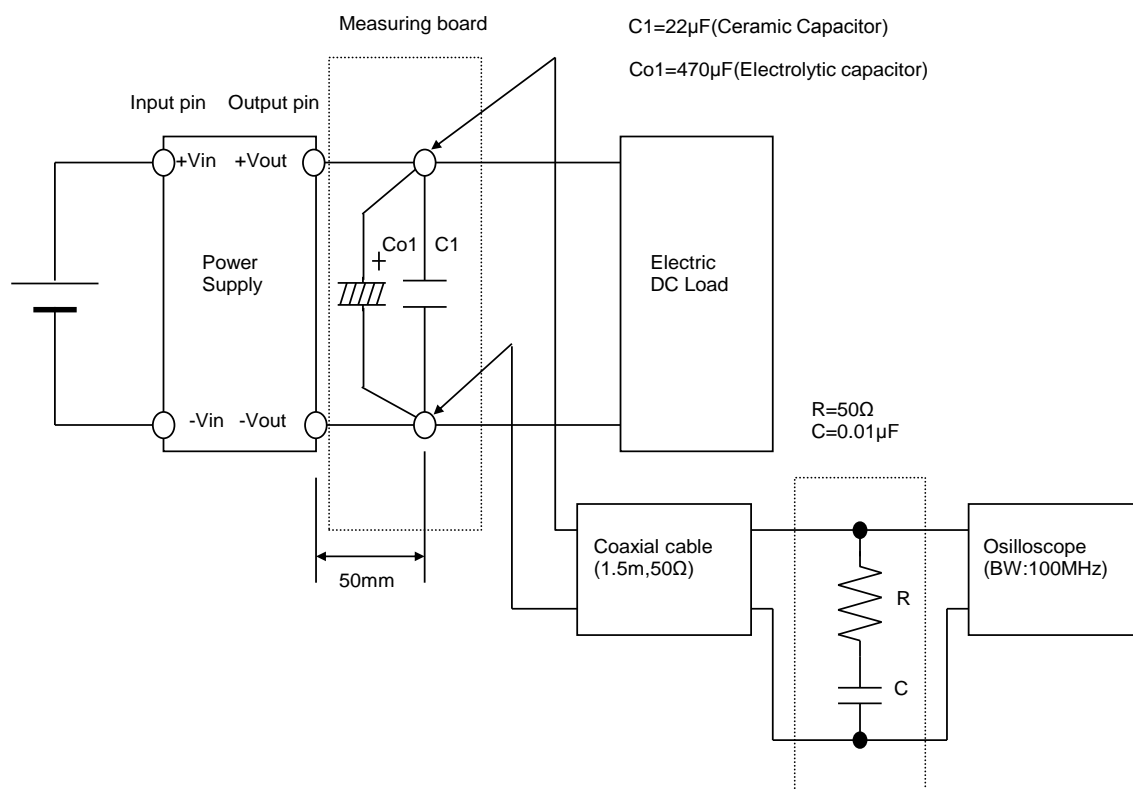


Figure B (Ripple and Ripple noise Characteristic)