
Material name : Evaluation data

Customer's product name :

TDK product name : DC-DC converter
CC6-1212SF-E , CC6-1212SR-E

TDK-Lambda

TDK Corporation
Power Systems Business Group

| | |
|---------|-------------|
| DWG.No. | TRSC-1540-2 |
|---------|-------------|

Revised 2006/12/01

INDEX

| | |
|---|----|
| 1. Load regulation..... | P2 |
| 2. Line regulation..... | P2 |
| 3. Efficiency..... | P3 |
| 4. Switching frequency vs. output power..... | P3 |
| 5. Over current protection characteristics..... | P4 |
| 6. Output rise characteristics..... | P5 |
| 7. Output fall characteristics..... | P6 |
| 8. Dynamic load response characteristics..... | P7 |
| 9. Inrush current waveform..... | P7 |
| 10. Temperature distribution..... | P8 |

* The measurement has been done without external output capacitor.

(Product specification)

| Product name | Input voltage(V) | Output voltage(V) | Output current(mA) | The maximum output power(W) | Ambient temperature(°C) |
|--------------|------------------|-------------------|--------------------|-----------------------------|-------------------------|
| CC6-1212SF-E | 9~18 | 12 ±3% | 0~500 | 6 | -40 ~ +85 *2 |
| CC6-1212SR-E | | 15 ±3% *1 | 0~400 | | |

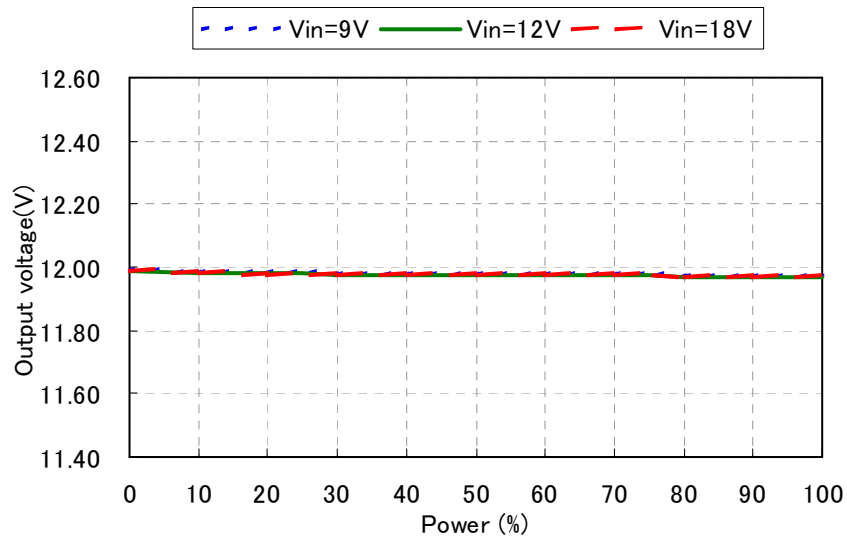
*1 TRM and -Vout are short-circuited.

*2 At 50°C or more, output power derating is necessary.

| | | | |
|-----------------|---|-------------|------|
| TDK CORPORATION | Product name or model, title | | |
| | DC-DC converter CC6-1212SF-E , CC6-1212SR-E | | |
| | Name of drawing | Drawing No. | PAGE |
| | Evaluation data | TRSC-1540-2 | 1/ 8 |

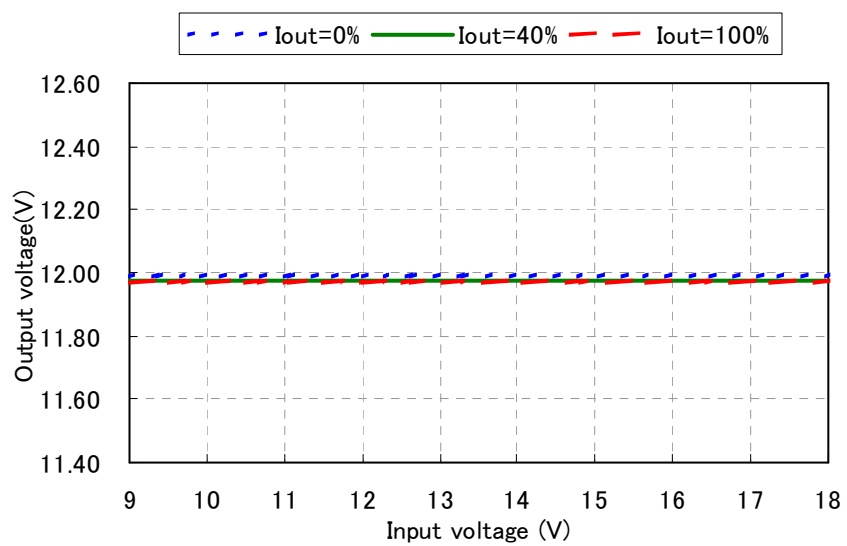
1. Load regulation

Condition Ta : 25°C



2. Line regulation

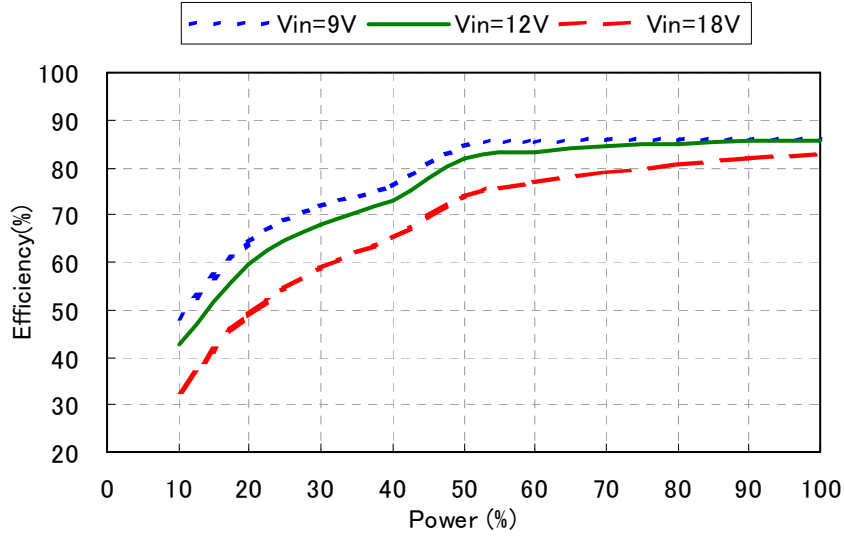
Condition Ta : 25°C



| | | | |
|---|-----------------|-------------|------|
| Product name or model, title | | | |
| DC-DC converter CC6-1212SF-E , CC6-1212SR-E | | | |
| TDK CORPORATION | Name of drawing | Drawing No. | PAGE |
| | Evaluation data | TRSC-1540-2 | 2/ 8 |

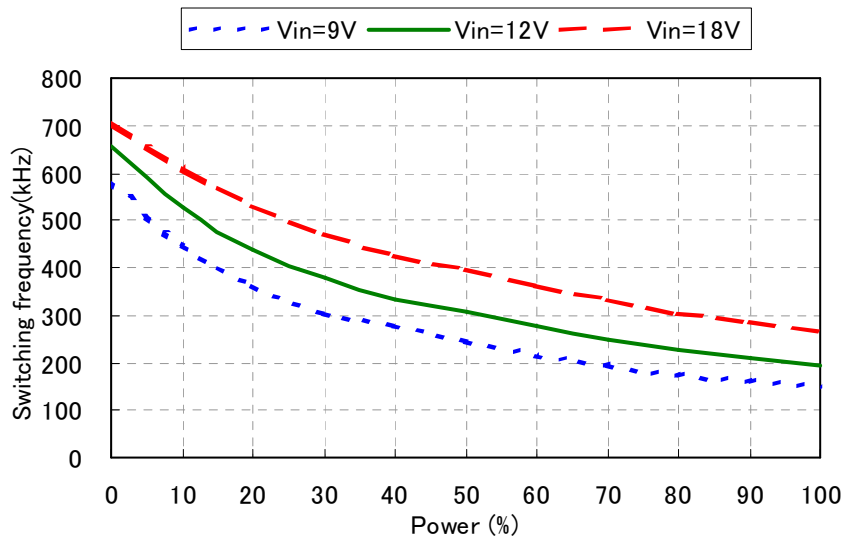
3. Efficiency

Condition Ta : 25°C



4. Switching frequency vs. output power

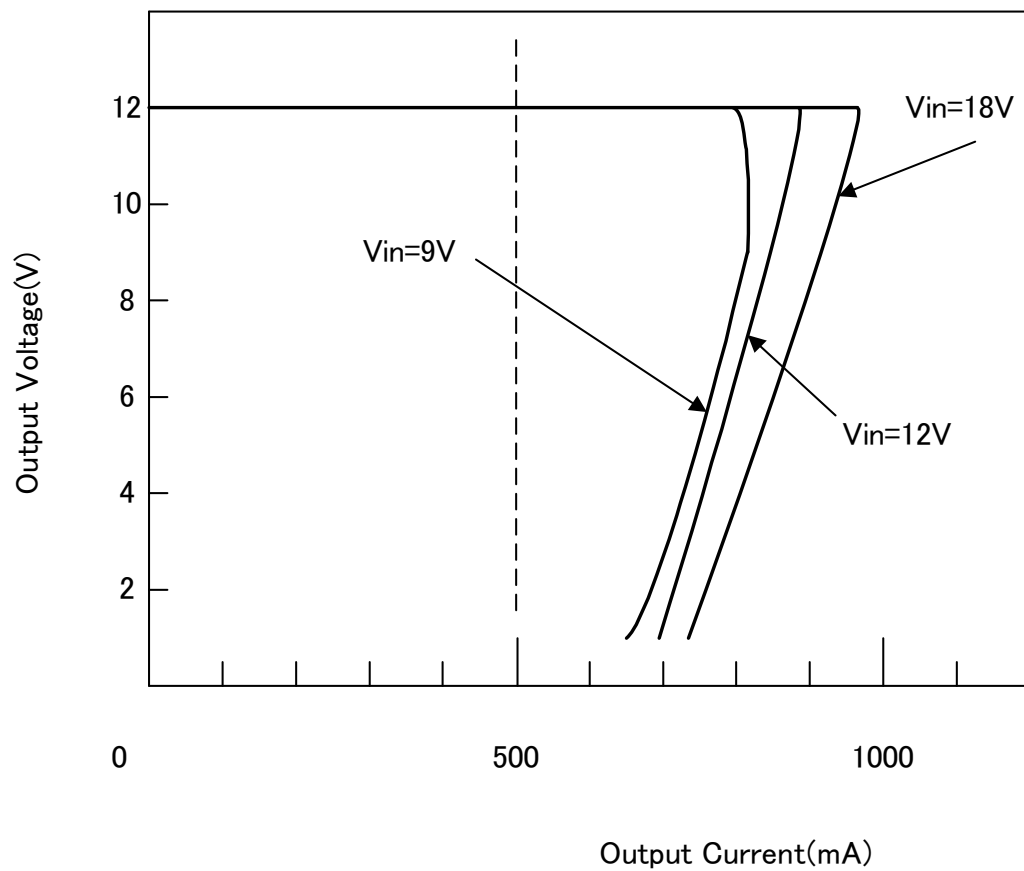
Condition Ta : 25°C



| | | | |
|---|-----------------|-------------|-------|
| Product name or model, title | | | |
| DC-DC converter CC6-1212SF-E , CC6-1212SR-E | | | |
| TDK CORPORATION | Name of drawing | Drawing No. | PAGE |
| | Evaluation data | TRSC-1540-2 | 3 / 8 |

5. Over current protection characteristics

Condition Ta : 25°C



Product name or model, title

DC-DC converter CC6-1212SF-E , CC6-1212SR-E

TDK CORPORATION

Name of drawing

Drawing No.

PAGE

Evaluation data

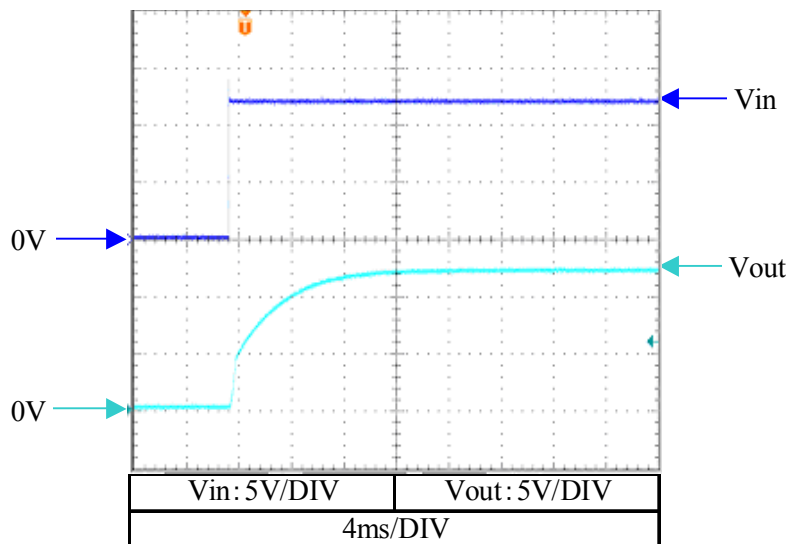
TRSC-1540-2

4/ 8

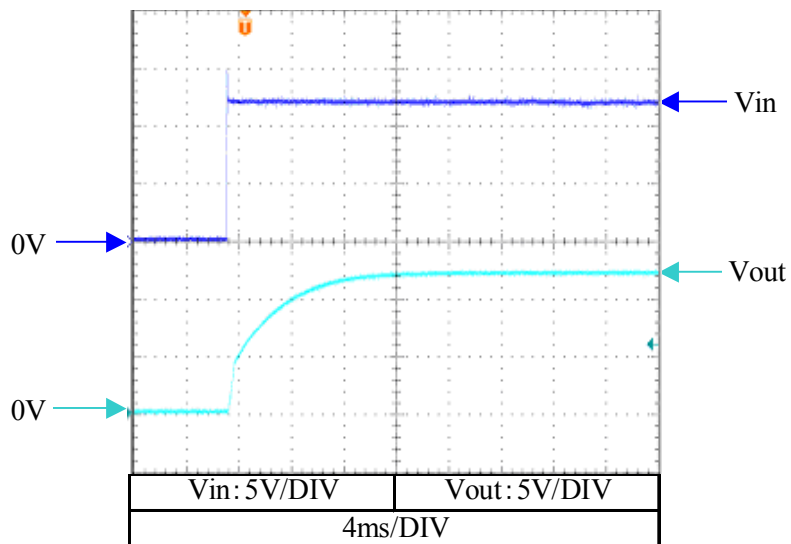
6. Output rise characteristics

Condition V_{in} : 12V
 T_a : 25°C

I_{out} : 0%



I_{out} : 100%



Product name or model, title

DC-DC converter CC6-1212SF-E , CC6-1212SR-E

TDK CORPORATION

Name of drawing

Drawing No.

PAGE

Evaluation data

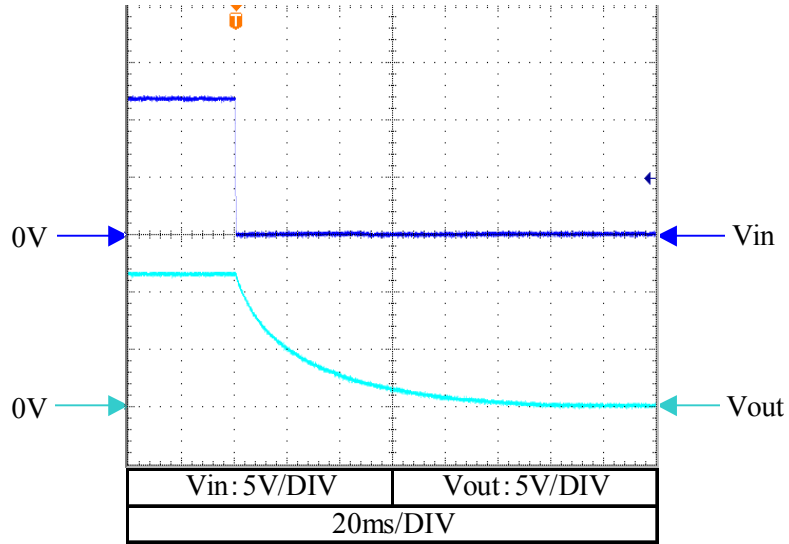
TRSC-1540-2

5/ 8

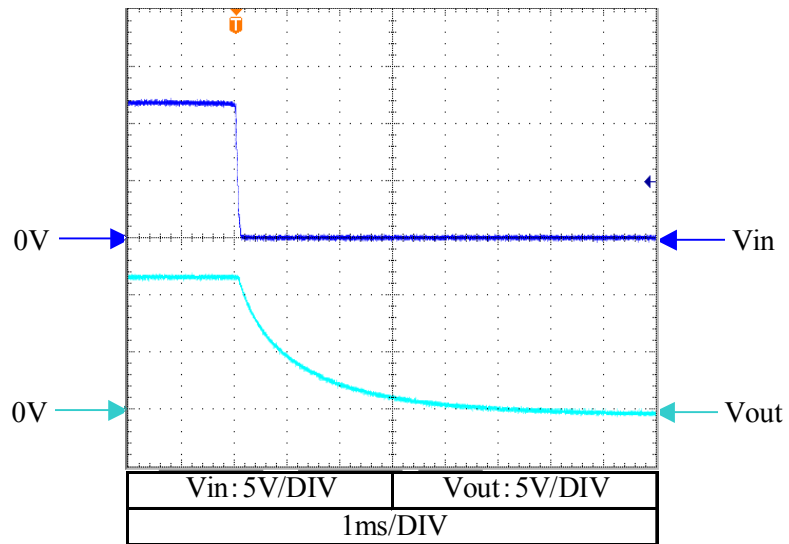
7. Output fall characteristics

Condition Vin : 12V
Ta : 25°C

Iout : 0%



Iout : 100%



Product name or model, title

DC-DC converter CC6-1212SF-E , CC6-1212SR-E

TDK CORPORATION

Name of drawing

Drawing No.

PAGE

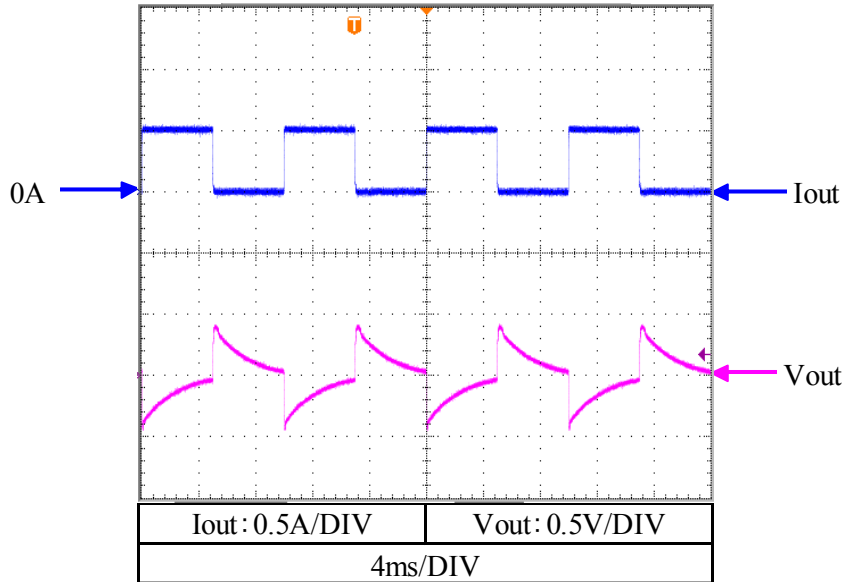
Evaluation data

TRSC-1540-2

6 / 8

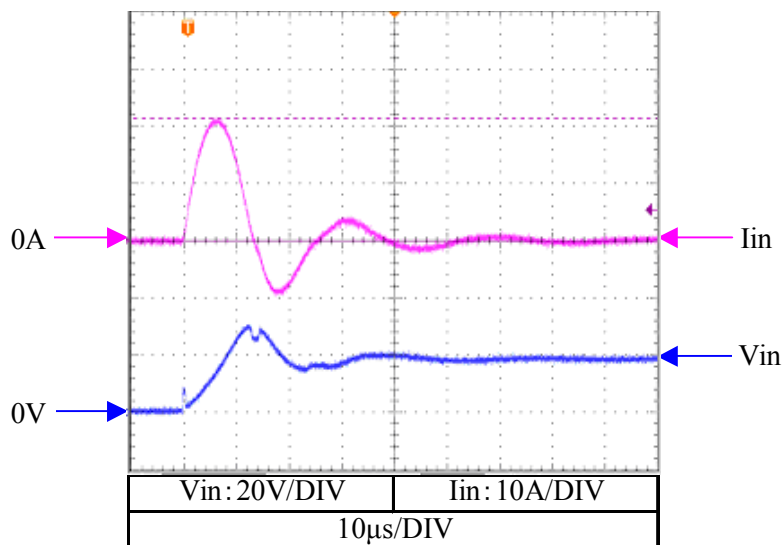
8. Dynamic load response characteristics

Condition
 Vin : 12V
 Vout : 12V
 Iout : 0% \leftrightarrow 100%
 Tr=Tf : 100 μ s
 f : 100Hz
 Ta : 25°C



9. Inrush current waveform

Condition
 Vin : 18V
 Iout : 100%
 Ta : 25°C



Product name or model, title

DC-DC converter CC6-1212SF-E , CC6-1212SR-E

TDK CORPORATION

Name of drawing

Evaluation data

Drawing No.

TRSC-1540-2

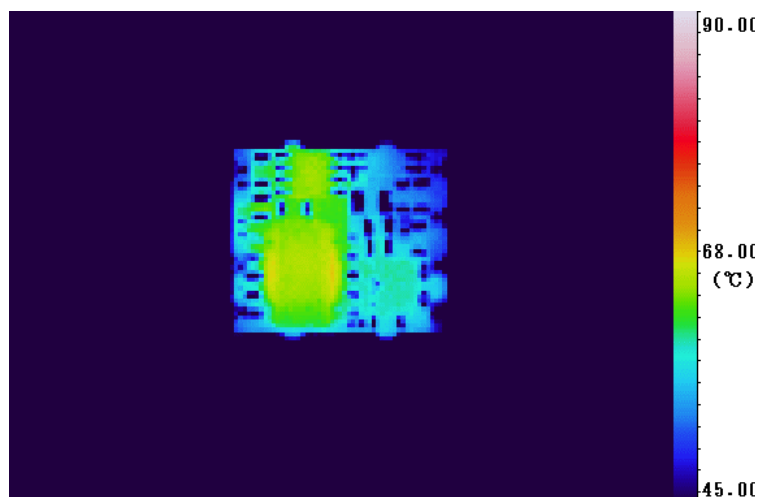
PAGE

7/ 8

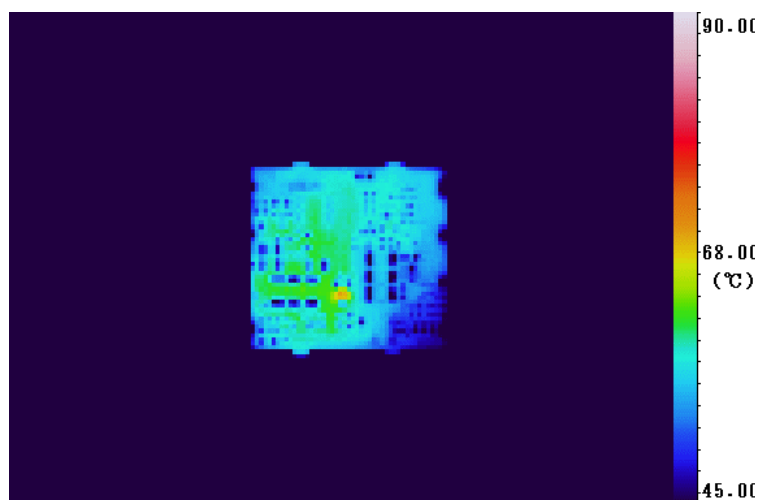
10. Temperature distribution

Condition Vin : 12V
 Vout : 12V
 Iout : 100%
 Ta : 25°C
 Wind velocity : 0m/s

Top View



Bottom View



- (*) • This test was done on our evaluation board. (Glass epoxy substrate, Size:100x100x1.6mm)
 • We measured the temperatures of parts without the case by using the thermography.
 Therefore, it might be different a little from the actual temperature.

| | | | |
|-----------------|---|-------------|------|
| | Product name or model, title | | |
| | DC-DC converter CC6-1212SF-E , CC6-1212SR-E | | |
| TDK CORPORATION | Name of drawing | Drawing No. | PAGE |
| | Evaluation data | TRSC-1540-2 | 8/8 |