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Material name : Evaluation data

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Customer's product name :

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TDK product name : DC-DC converter  
CC1R5-4812SF-E , CC1R5-4812 SR-E

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# ***TDK-Lambda***

**TDK Corporation**  
**Power Systems Business Group**

DWG.No.	TRSC-1516-2
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Revised 2006/12/01

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\* 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)
CC1R5-4812SF-E	36~76	12 ±3%	0~125	1.5	-40 ~ +85 *2
CC1R5-4812SR-E		15 ±3% *1	0~100		

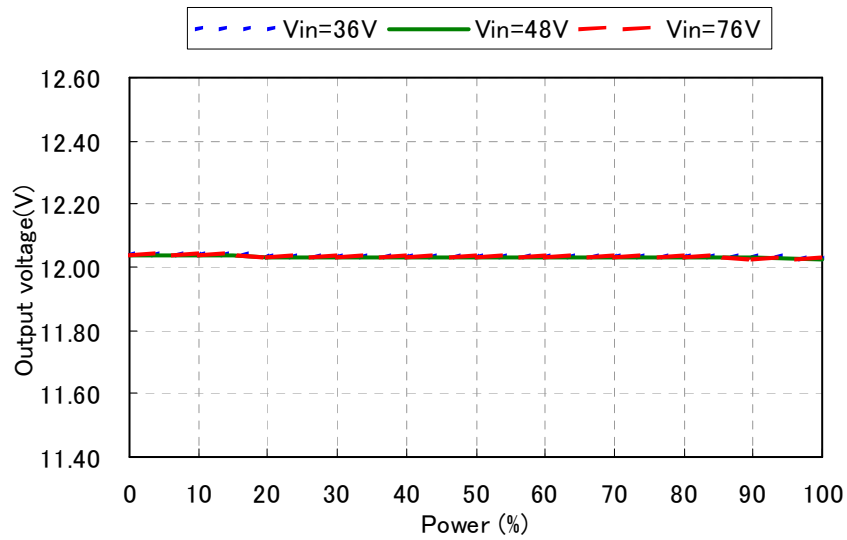
\*1 TRM and -Vout are short-circuited.

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

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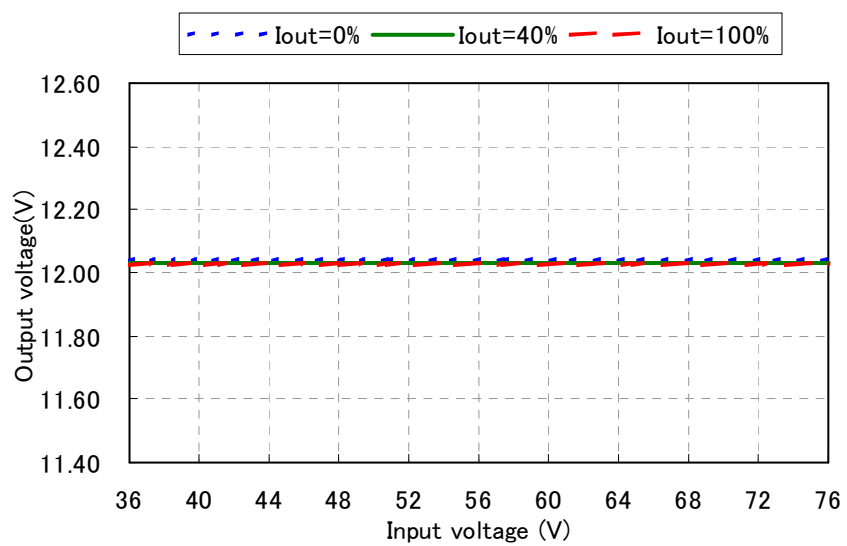
# 1. Load regulation

Condition Ta : 25°C



# 2. Line regulation

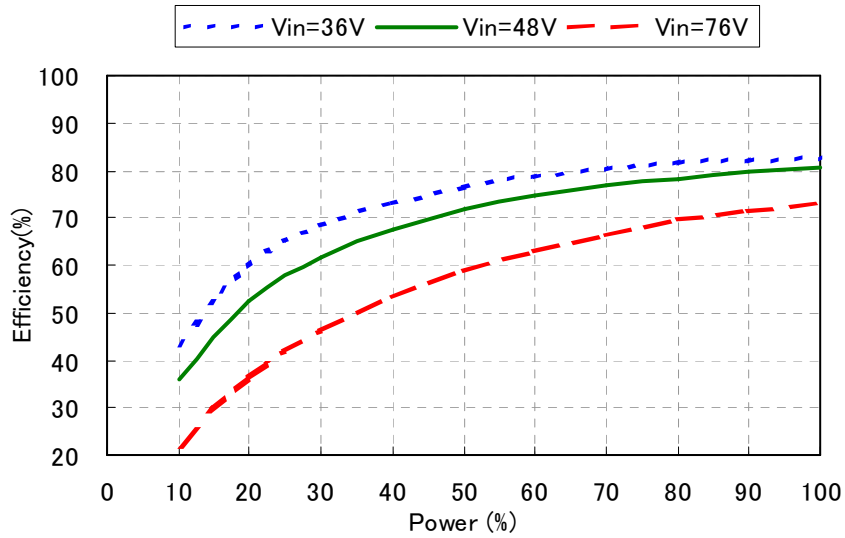
Condition Ta : 25°C



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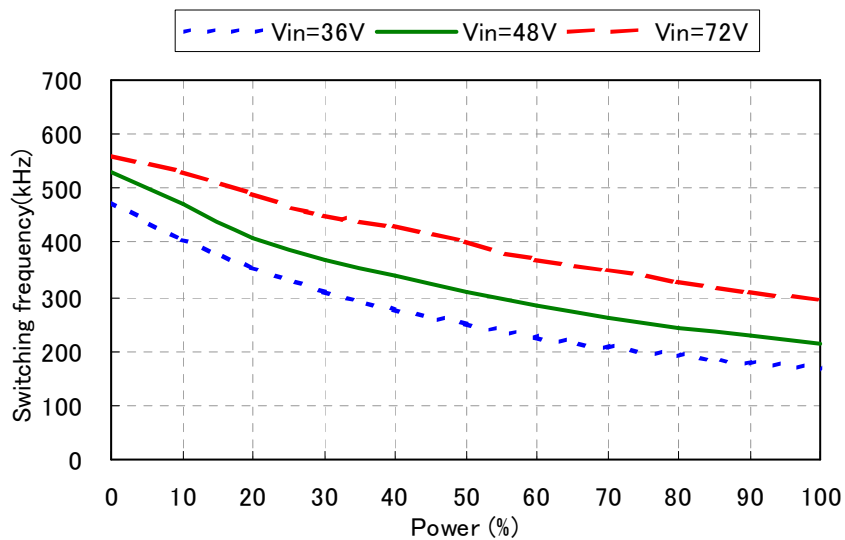
### 3. Efficiency

Condition Ta : 25°C



### 4. Switching frequency vs. output power

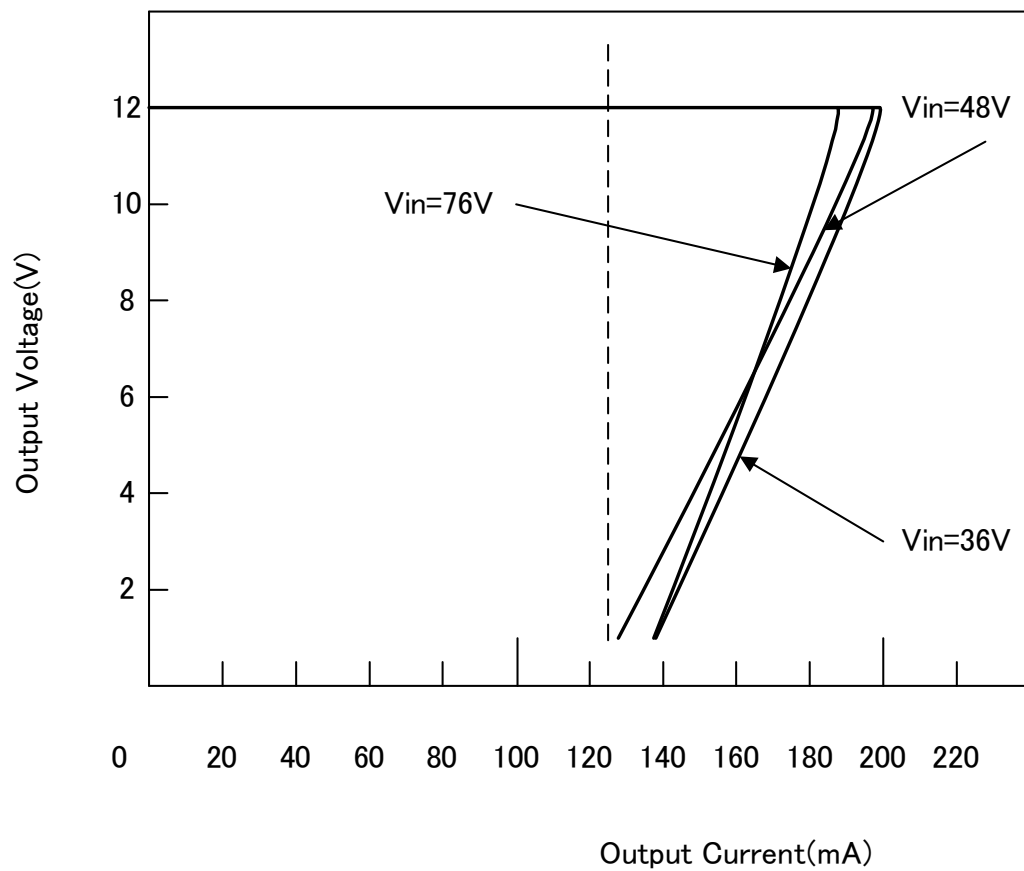
Condition Ta : 25°C



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## 5. Over current protection characteristics

Condition Ta : 25°C

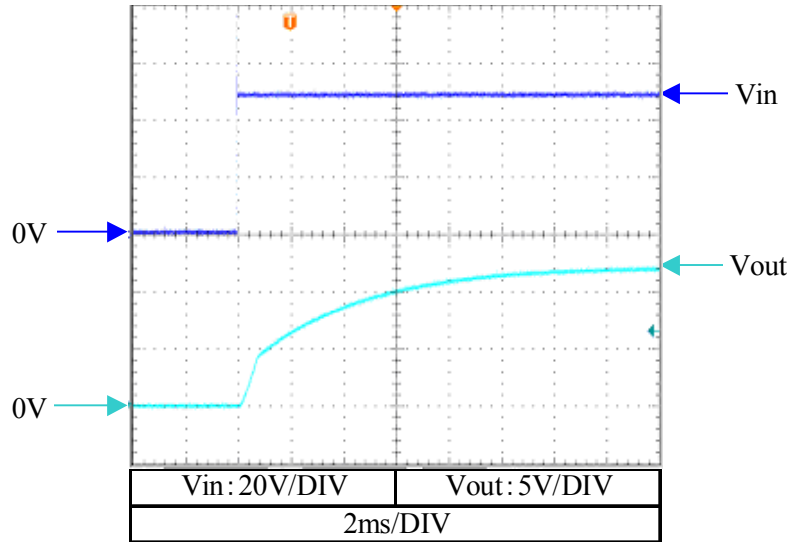


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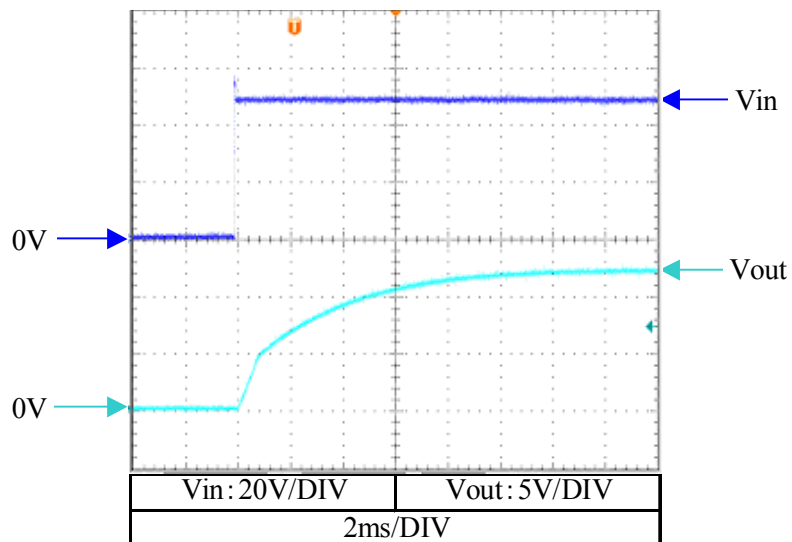
## 6. Output rise characteristics

Condition       $V_{in}$  : 48V  
                      $T_a$  : 25°C

$I_{out}$  : 0%



$I_{out}$  : 100%



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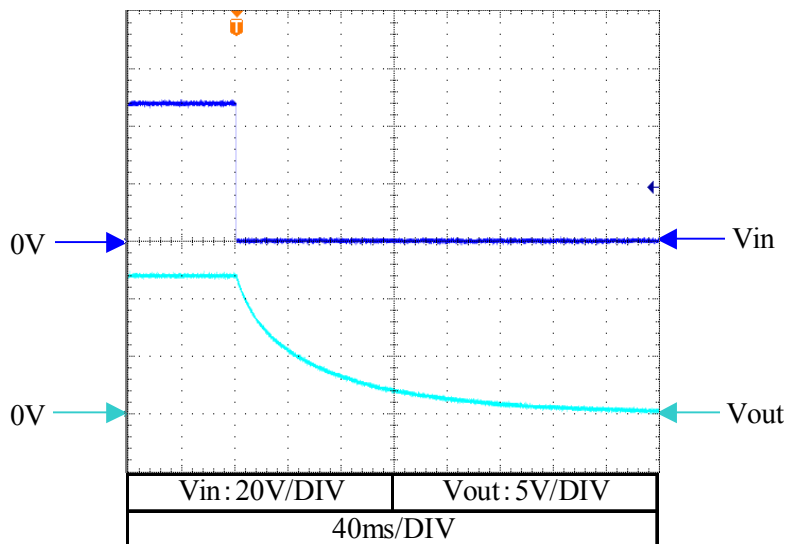
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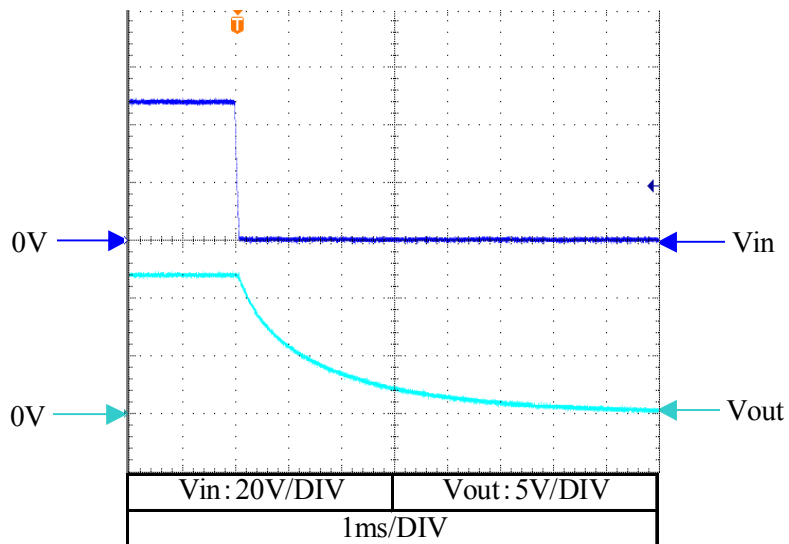
## 7. Output fall characteristics

Condition       $V_{in}$  : 48V  
                      $T_a$  : 25°C

$I_{out}$  : 0%



$I_{out}$  : 100%



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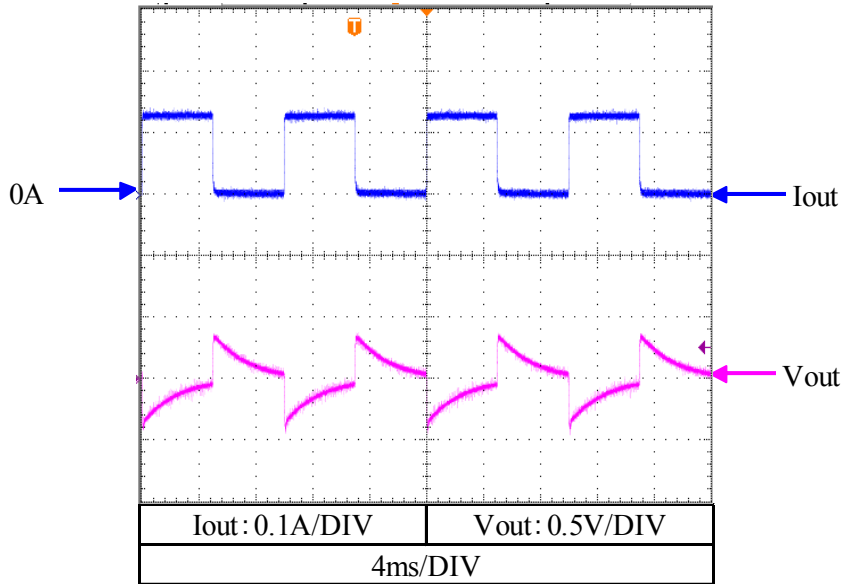
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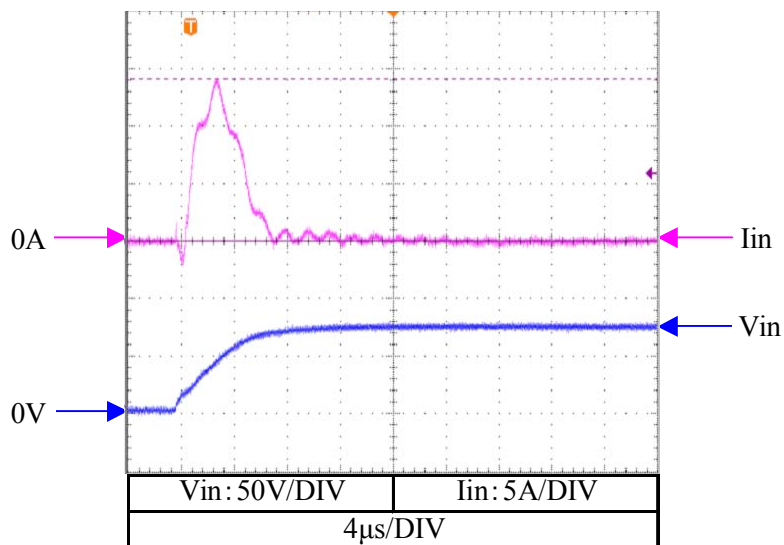
## 8. Dynamic load response characteristics

Condition  
 Vin : 48V  
 Vout : 12V  
 Iout : 0%  $\leftrightarrow$  100%  
 Tr=Tf : 100  $\mu$ s  
 f : 100Hz  
 Ta : 25°C



## 9. Inrush current waveform

Condition  
 Vin : 76V  
 Iout : 100%  
 Ta : 25°C



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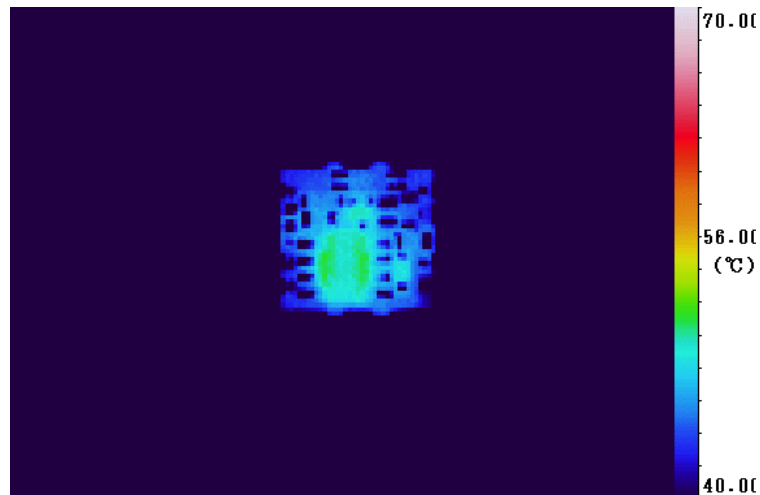
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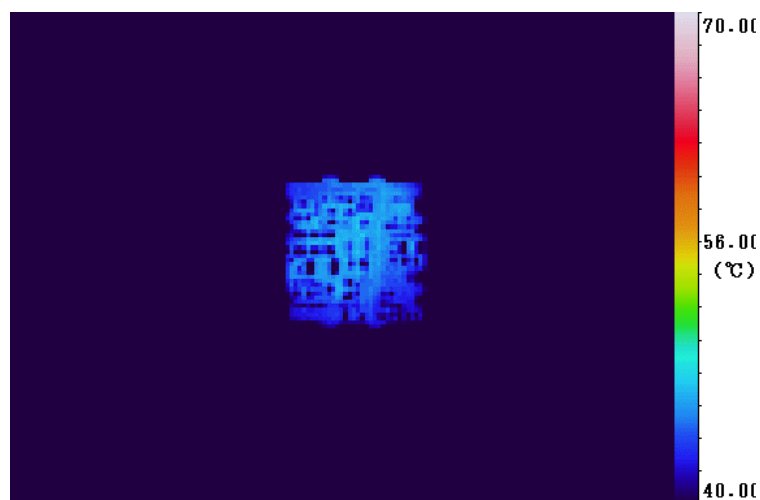
## 10. Temperature distribution

Condition      Vin : 48V  
                   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.

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