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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  
CC3-2412DF-E , CC3-2412DR-E

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# ***TDK-Lambda***

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

DWG.No.	TRSC-1529-2
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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)
CC3-2412DF-E	18~36	±12 ±5%	0~125	3	-40 ~ +85 *2
CC3-2412DR-E		±15 ±5% *1	0~100		

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

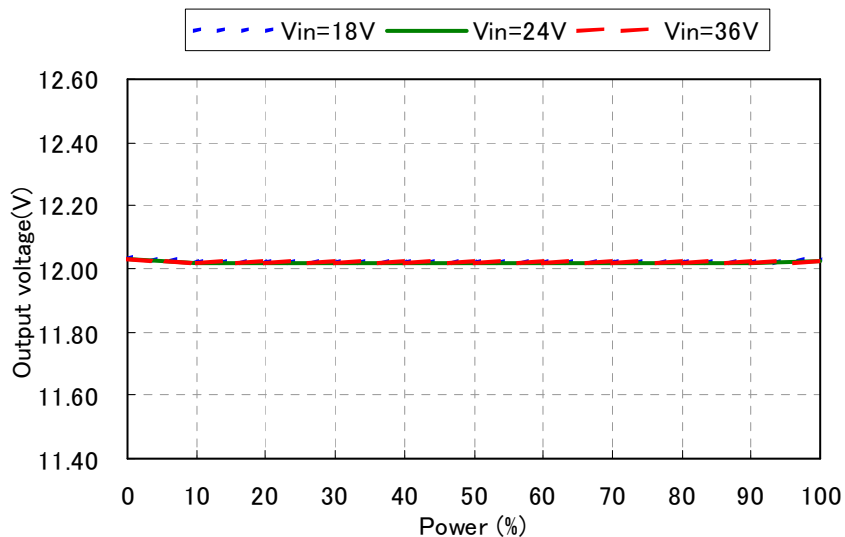
\*2 At 50°C or more, output power derating is necessary.

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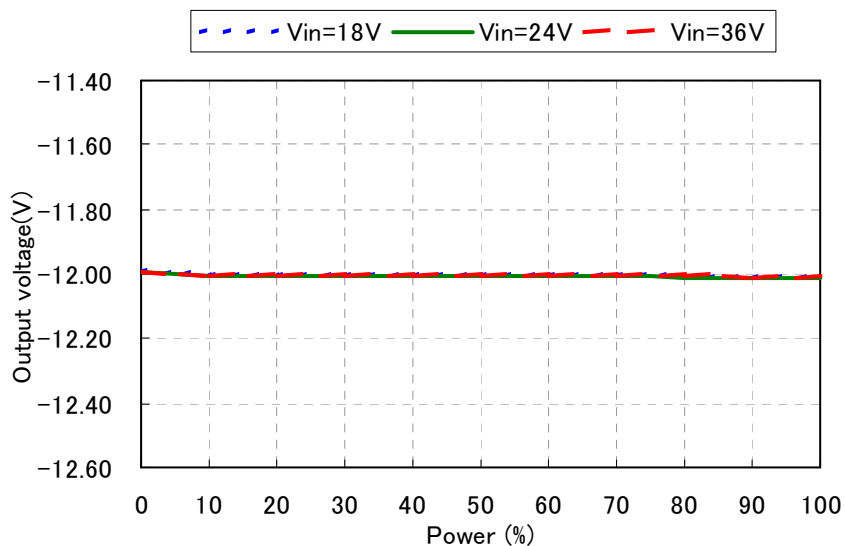
# 1. Load regulation

Condition Ta : 25°C

Vout=+12V



Vout=-12V

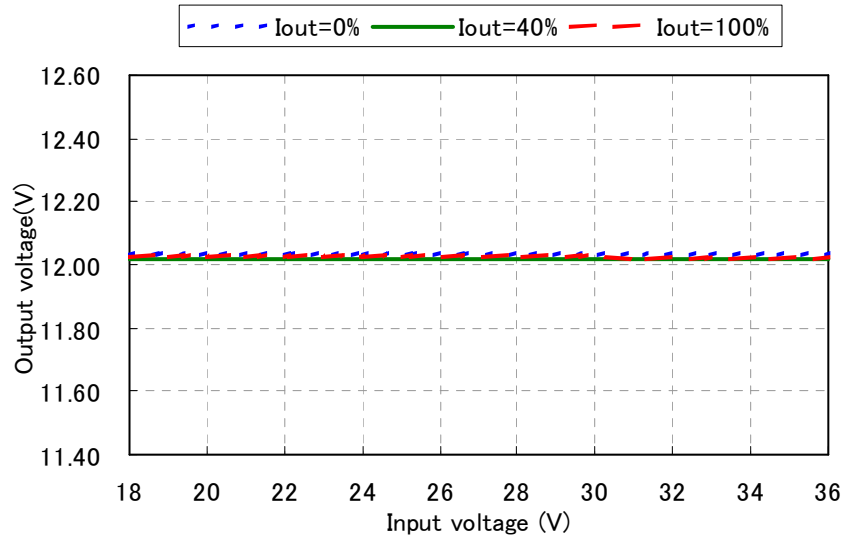


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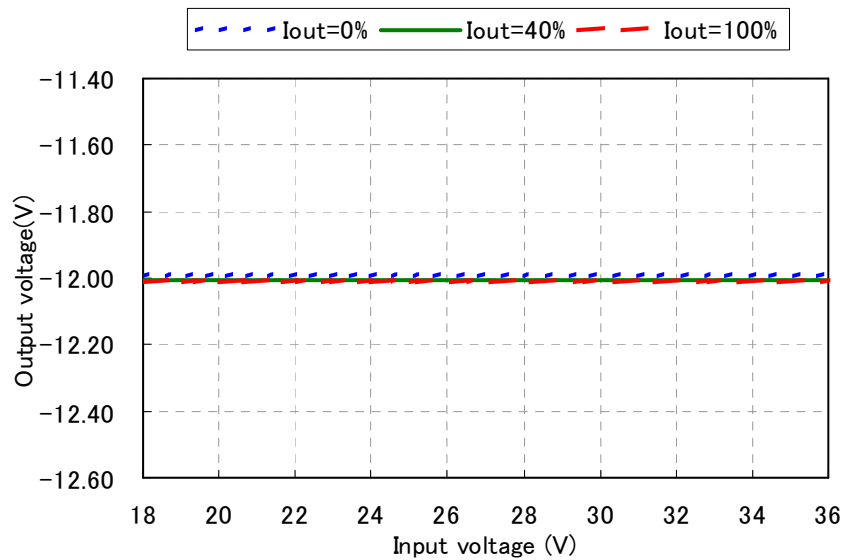
## 2. Line regulation

Condition Ta : 25°C

Vout=+12V



Vout=-12V



Product name or model, title

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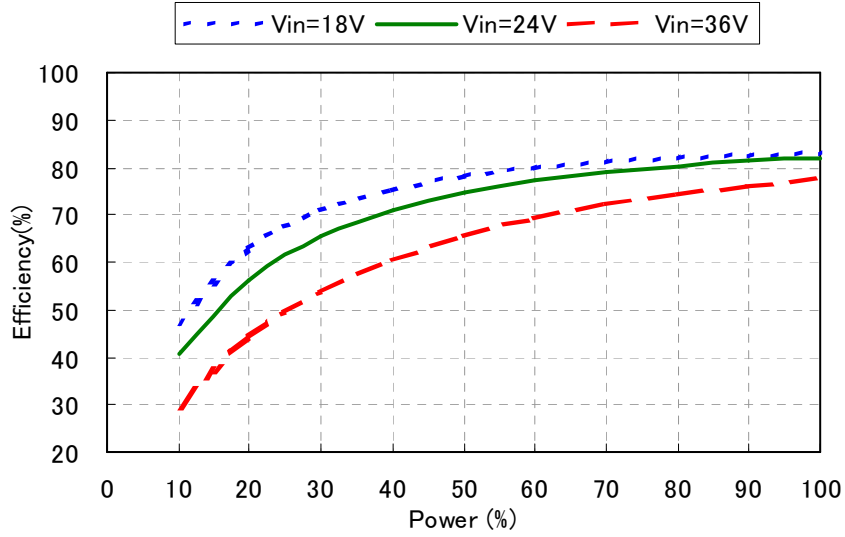
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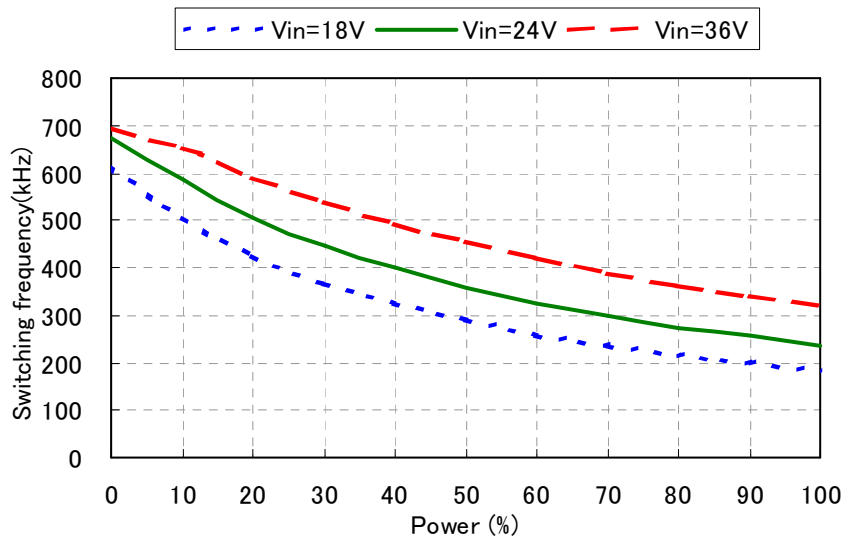
### 3. Efficiency

Condition Ta : 25°C



### 4. Switching frequency vs. output power

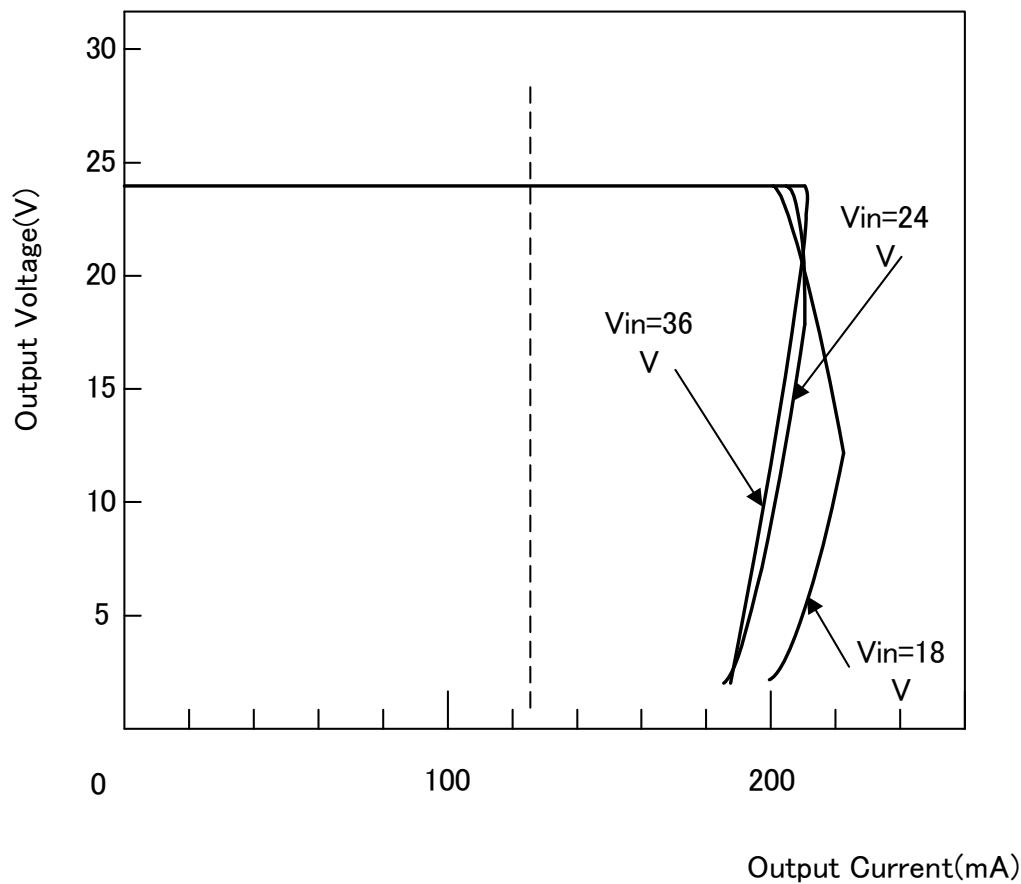
Condition Ta : 25°C



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## 5. Over current protection characteristics

Condition Ta : 25°C

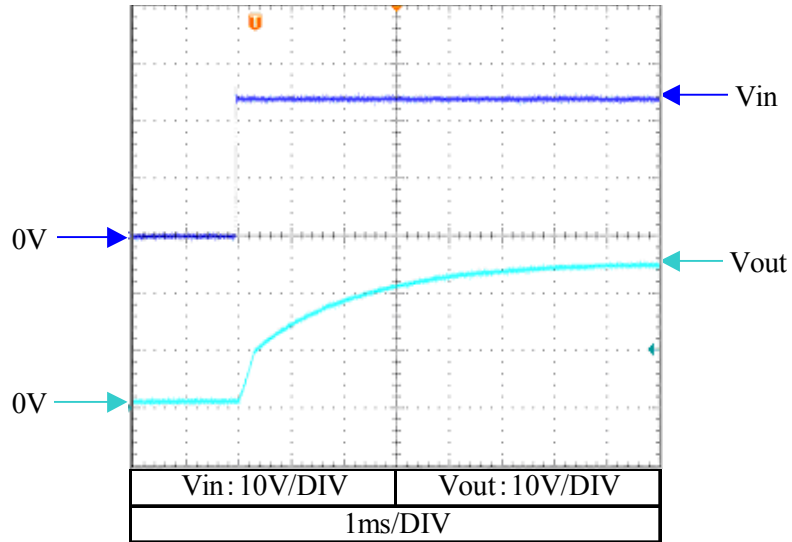


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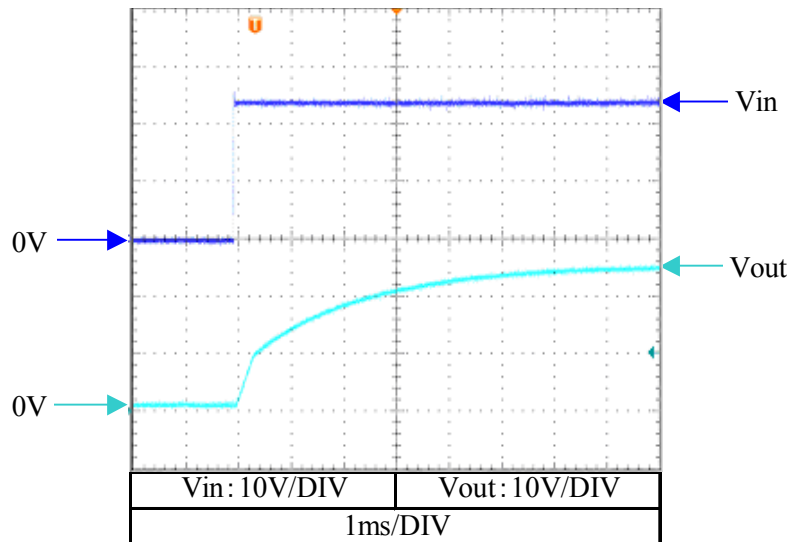
## 6. Output rise characteristics

Condition       $V_{in}$  : 24V  
                      $T_a$  : 25°C

$I_{out}$  : 0%



$I_{out}$  : 100%



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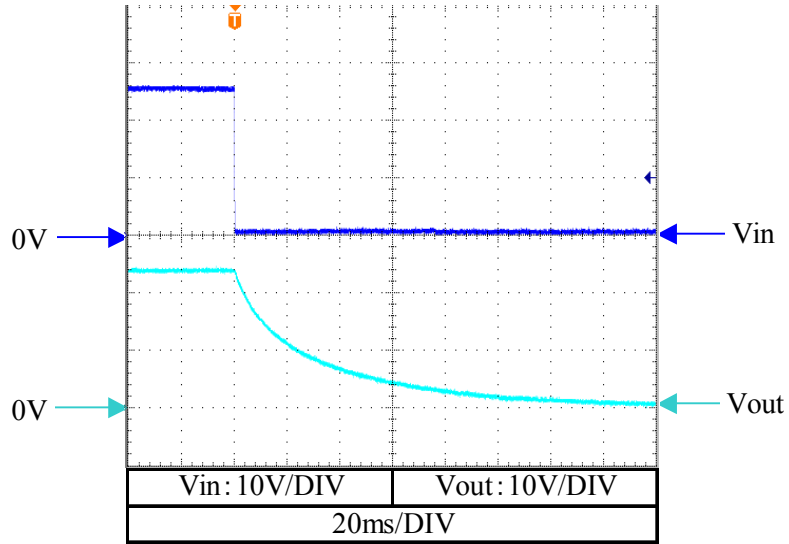
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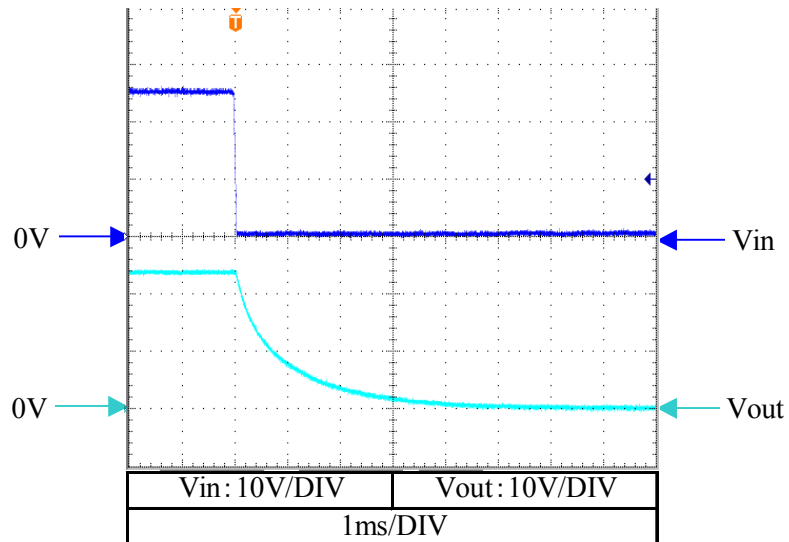
# 7. Output fall characteristics

Condition Vin : 24V  
Ta : 25°C

Iout : 0%



Iout : 100%

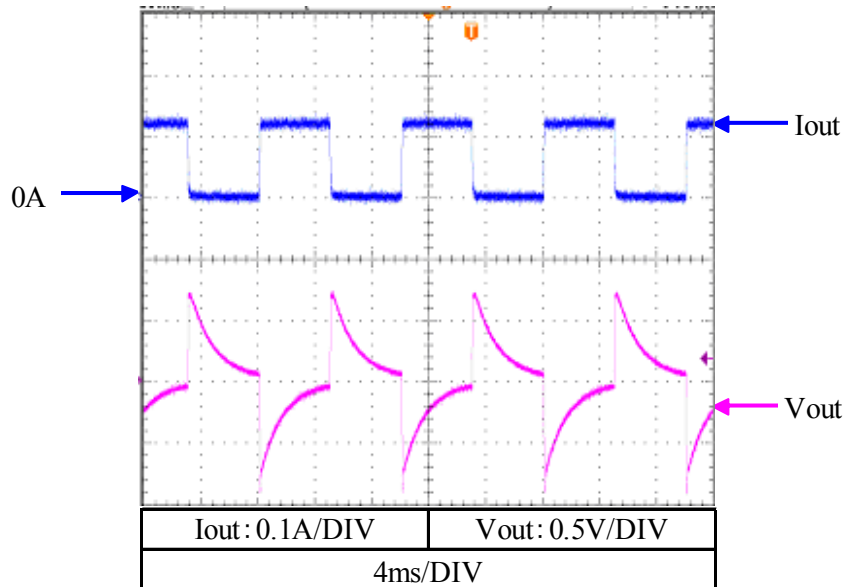


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## 8. Dynamic load response characteristics

Condition

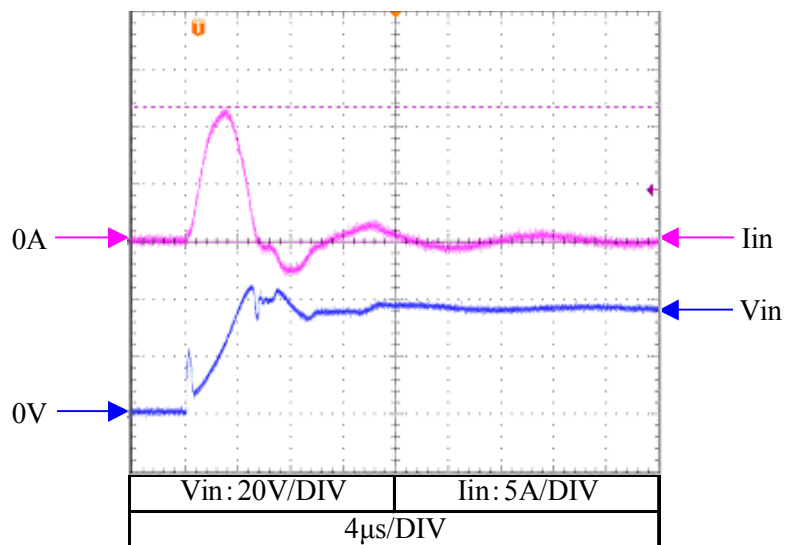
Vin	: 24V
Vout	: ±12V
Iout	: 0% ⇔ 100%
Tr=Tf	: 100 μs
f	: 100Hz
Ta	: 25°C



## 9. Inrush current waveform

Condition

Vin	: 36V
Iout	: 100%
Ta	: 25°C



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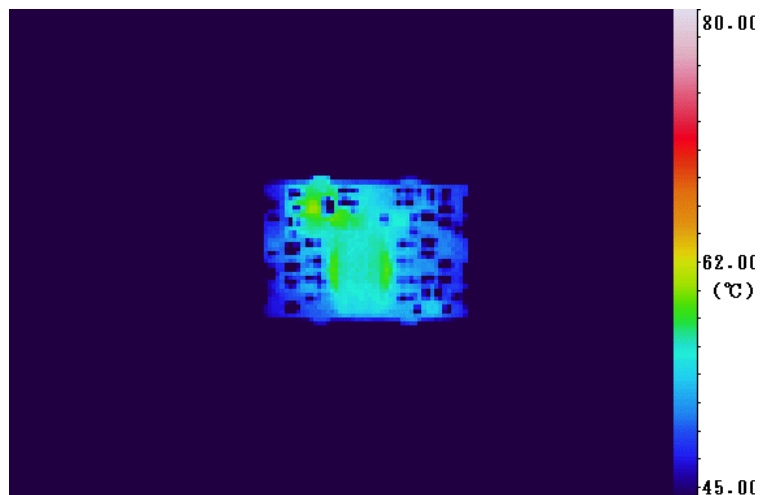
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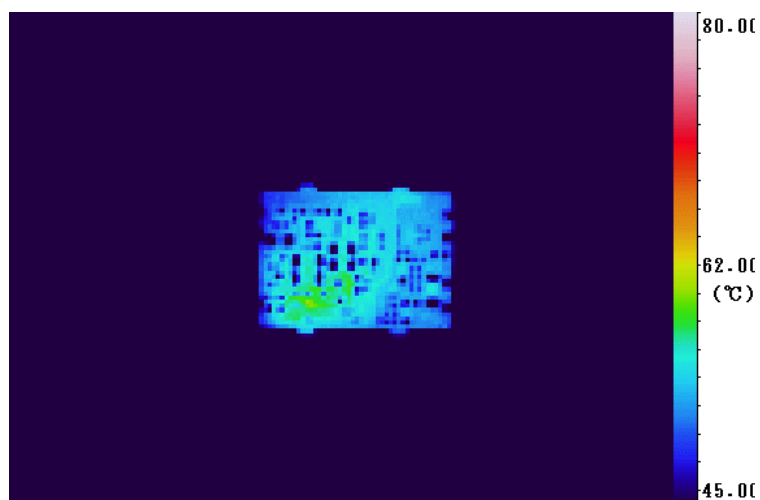
## 10. Temperature distribution

Condition      Vin : 24V  
                   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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