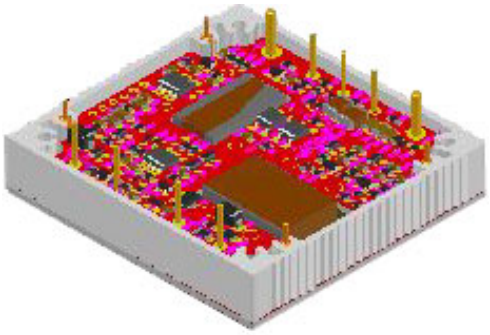
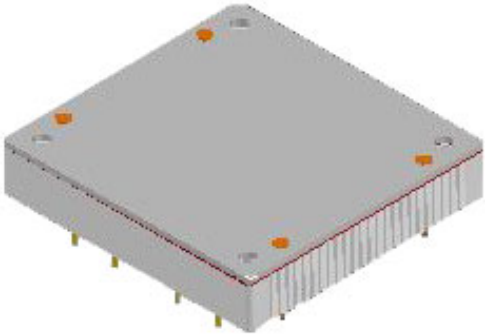


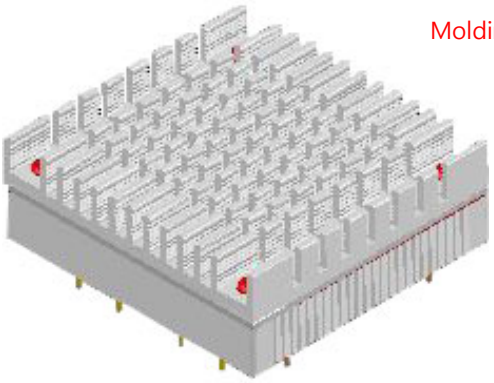


DC/DC
100W
SINGLE OUTPUT

It is PCB ON BOARD type and is convenient because it can be directly soldered to PCB. Its case is made of aluminum metal, thus it is sturdy and has high heat protection. There are four pieces of alignment pins, making for a sturdy design that can withstand even with strong vibrations after it is soldered with PCB.

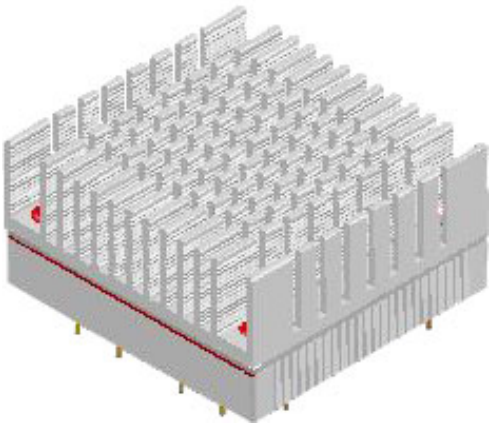
It is more efficient if it is attached to the heat sink of a system. There are four fixing holes (M3) on the case, and when these are connected with PCB, it makes the device sturdy against strong vibrations (Recommended for electronic equipment, industrial, medical, ship, motor car, and communication devices) 50W,100W

***주의 : COP50S , COP100S , COP200S 모델은
non molding type으로 제작하고 있습니다.
Molding type이 필요하시면 주문시 별도 선택 주문 하여야 합니다.



HEAT SINK OPTION 10mm

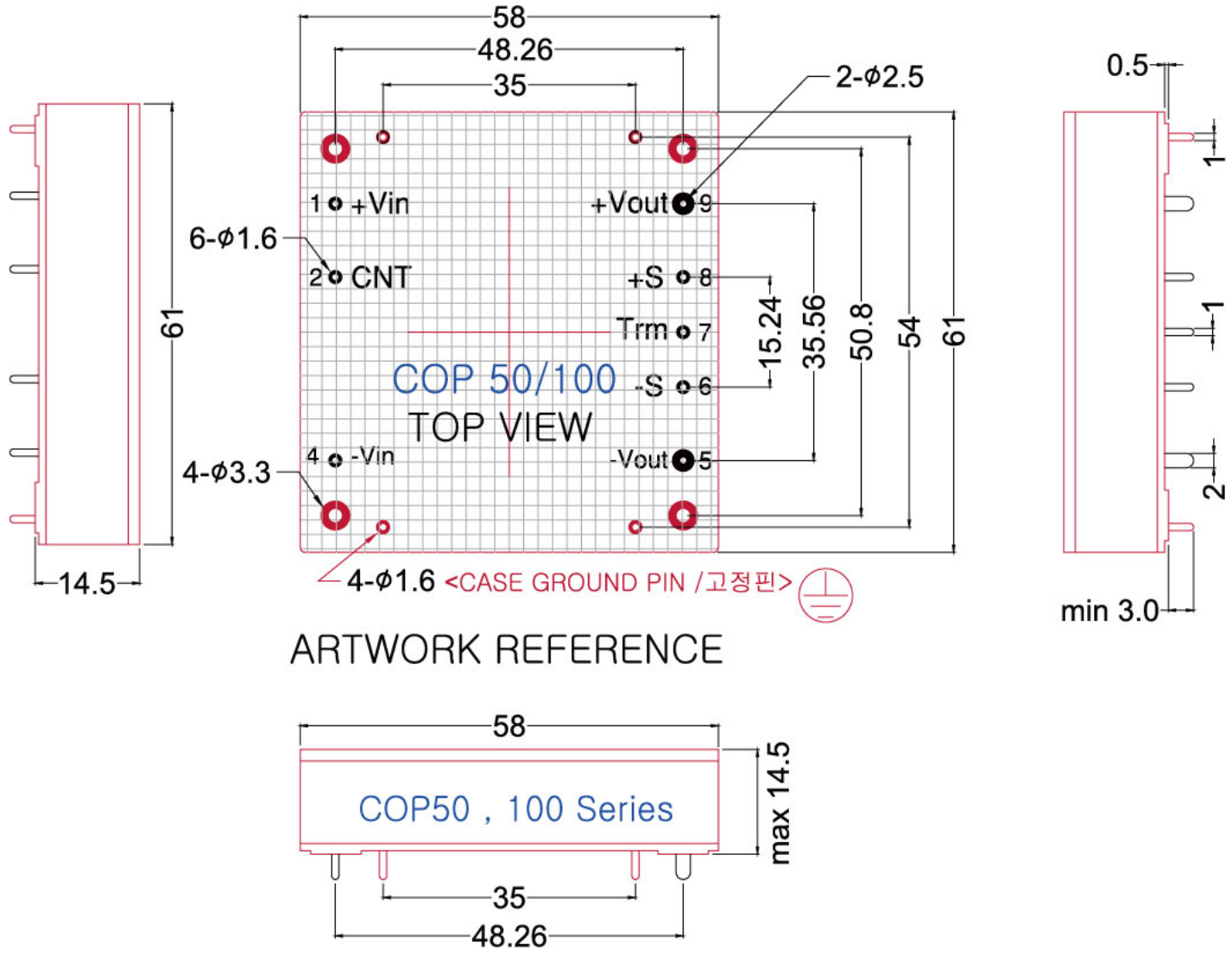
PCB on board 타입이며 DIP부품 처럼 PCB에 바로 인서트 할 수 있어 편리 합니다. 케이스가 알루미늄 메탈로 견고하고 방열 효율이 높습니다. 4개의 고정 핀이 있어 PCB와 납땜 후에는 강한 진동에도 튼튼하게 설계 되었습니다.
케이스에 4개의 고정 홀(M3 SCREW)이 있어 PCB와 체결 하면 더욱 튼튼하게 사용 할 수 있습니다. 상측에 방열판 추가 부착이 가능합니다. 또는 시스템의 방열판에 부착하면 발열을 더 줄일 수 있습니다.
(전자기기, 산업용, 의료기, 선박, 전동차, 통신용 장비에 추천) 50W,100W



HEAT SINK OPTION 19mm

◆ Features

- Small, compact size
- High efficiency
- Low output ripple & noise
- Isolated Input-output
- 10 years warranty
- RoHS directive



ARTWORK REFERENCE

CNT= low active(CNT & –Vin short=On)

COP100S				Pin Assignment				
INPUT				OUTPUT				
1	2	3	4	5	6	7	8	9
+Vin	CNT		-Vin	-VO	-S	Trm	+S	+VO

COP 100S-XX-Series	100W DC-DC non molding type				(Single Output)
Model	Input Range	V-out	I-out	P-out	Efficiency
COP 100S-12-3R3	9~18 VDC	3.3V	15.0A	50.0W	73%
COP 100S-12-05	9~18 VDC	5V	15.0A	75.0W	75%
COP 100S-12-12	9~18 VDC	12V	6.2A	75.0W	77%
COP 100S-12-15	9~18 VDC	15V	5.0A	75.0W	77%
COP 100S-12-24	9~18 VDC	24V	3.0A	75.0W	78%
COP 100S-24-3R3	18~36 VDC	3.3V	20.0A	66.0W	80%
COP 100S-24-05	18~36 VDC	5V	20.0A	100.0W	83%
COP 100S-24-12	18~36 VDC	12V	8.3A	100.0W	85%
COP 100S-24-15	18~36 VDC	15V	6.6A	100.0W	85%
COP 100S-24-24	18~36 VDC	24V	4.0A	100.0W	86%
COP 100S-48-3R3	36~72 VDC	3.3V	20.0A	66.0W	83%
COP 100S-48-05	36~72 VDC	5V	20.0A	100.0W	85%
COP 100S-48-12	36~72 VDC	12V	8.3A	100.0W	87%
COP 100S-48-15	36~72 VDC	15V	6.6A	100.0W	87%
COP 100S-48-24	36~72 VDC	24V	4.0A	100.0W	87%
COP 100S-72-3R3	50~90 VDC	3.3V	20.0A	66.0W	83%
COP 100S-72-05	50~90 VDC	5V	20.0A	100.0W	85%
COP 100S-72-12	50~90 VDC	12V	8.3A	100.0W	87%
COP 100S-72-15	50~90 VDC	15V	6.6A	100.0W	87%
COP 100S-72-24	50~90 VDC	24V	4.0A	100.0W	87%
COP 100S-110-3R3	64~144 VDC	3.3V	20.0A	66.0W	83%
COP 100S-110-05	64~144 VDC	5V	20.0A	100.0W	85%
COP 100S-110-12	64~144 VDC	12V	8.3A	100.0W	87%
COP 100S-110-15	64~144 VDC	15V	6.6A	100.0W	87%
COP 100S-110-24	64~144 VDC	24V	4.0A	100.0W	87%

COP 100S-XX-Series	100W DC-DC molding type				(Single Output)
Model	Input Range	V-out	I-out	P-out	Efficiency
COP 100S-12-3R3M	9~18 VDC	3.3V	15.0A	50.0W	73%
COP 100S-12-05M	9~18 VDC	5V	15.0A	75.0W	75%
COP 100S-12-12M	9~18 VDC	12V	6.2A	75.0W	77%
COP 100S-12-15M	9~18 VDC	15V	5.0A	75.0W	77%
COP 100S-12-24M	9~18 VDC	24V	3.0A	75.0W	78%
COP 100S-24-3R3M	18~36 VDC	3.3V	20.0A	66.0W	80%
COP 100S-24-05M	18~36 VDC	5V	20.0A	100.0W	83%
COP 100S-24-12M	18~36 VDC	12V	8.3A	100.0W	85%
COP 100S-24-15M	18~36 VDC	15V	6.6A	100.0W	85%
COP 100S-24-24M	18~36 VDC	24V	4.0A	100.0W	86%
COP 100S-48-3R3M	36~72 VDC	3.3V	20.0A	66.0W	83%
COP 100S-48-05M	36~72 VDC	5V	20.0A	100.0W	85%
COP 100S-48-12M	36~72 VDC	12V	8.3A	100.0W	87%
COP 100S-48-15M	36~72 VDC	15V	6.6A	100.0W	87%
COP 100S-48-24M	36~72 VDC	24V	4.0A	100.0W	87%
COP 100S-72-3R3M	50~90 VDC	3.3V	20.0A	66.0W	83%
COP 100S-72-05M	50~90 VDC	5V	20.0A	100.0W	85%
COP 100S-72-12M	50~90 VDC	12V	8.3A	100.0W	87%
COP 100S-72-15M	50~90 VDC	15V	6.6A	100.0W	87%
COP 100S-72-24M	50~90 VDC	24V	4.0A	100.0W	87%
COP 100S-110-3R3M	64~144 VDC	3.3V	20.0A	66.0W	83%
COP 100S-110-05M	64~144 VDC	5V	20.0A	100.0W	85%
COP 100S-110-12M	64~144 VDC	12V	8.3A	100.0W	87%
COP 100S-110-15M	64~144 VDC	15V	6.6A	100.0W	87%
COP 100S-110-24M	64~144 VDC	24V	4.0A	100.0W	87%

Environmental & Isolation Specifications

Parameter	Min	Typ	Max	Unit	Notes
Operating Temperature CASE<100℃	-40	-	85	℃	*(1)
Storage Temperature	-40	-	100	℃	
Operating Humidity (Non-condensing)	10	-	95	%	
Isolation Voltage (Input - Output)	1500			VAC	At 10mA
(Input - Case)	1000			VAC	At 10mA
Isolation Resistance (Input - Output)	100	-	-	MΩ	at 500VDC
(1) Derating Curve Reference					

General Specifications

Parameter	Min	Typ	Max	Unit
Switching Frequency		300		KHz
Remote ON/OFF control	On = short to -Vin / Off = open			Vdc
Dimensions				mm
Weight				Grams

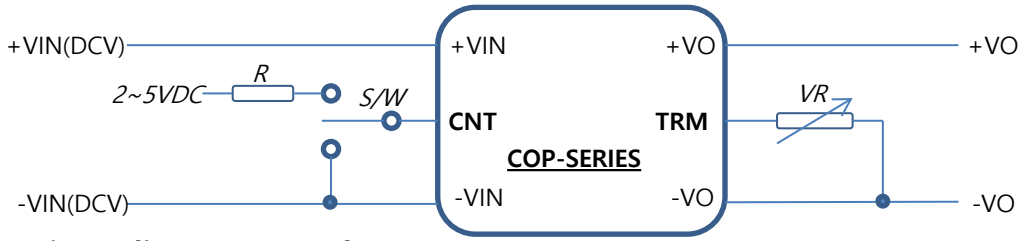
Electrical Specifications Input Characteristics

Parameter	Min	Typ	Max	Unit	Notes
Operating Input Voltage Range (Vin)					
12Vin	9	12	18	V	
24Vin	18	24	36	V	
48Vin	36	48	72	V	
72Vin	50	72	90	V	
110Vin	64	110	144	V	

Electrical Specifications Output Characteristics

Parameter	Min	Typ	Max	Unit	Notes
Output Voltage Tolerance		-	±2	%	
Line Regulation		-	±0.5	%	
Load Regulation		-	±1	%	
Output Ripple & Noise Norminal Vin, Maximum Io, B/W 20MHz		-	1% of Vout	mV	
Dynamic Load Response		-	5% of Vout	mV	
TRM (Output Trimable Vout)		-	@+5%	%	
Output Current Protection (Automatic recovery)		>110		%	
Output Voltage Protection (Latch up)		>120		%	
Output Temperature Protection (Automatic recovery)	100	110	120	℃	*Metal Plate

PIN FUNCTION	
+VIN	+SIDE INPUT VOLTAGE
-VIN	-SIDE INPUT VOLTAGE
CNT	REMOTE ON/OFF CONTROL
+VO	+SIDE OUTPUT VOLTAGE
COM	GROUND OF OUTPUT (ONLY FOR MULTIPLE OUTPUT)
-VO	-SIDE OUTPUT VOLTAGE
TRM	ADJUST OF OUTPUT (TRIM)
VS	REMOTE SENSING OF OUTPUT VOLTAGE
NC	NOT CONNECTOR



◆ TRM (Trim/ adjust output voltage)

The output voltage is adjustable by external resistor.
When the output voltage adjustment is not used. Open the TRM pin.
When the output voltage is set too high, the over voltage protection circuit comes into effect.

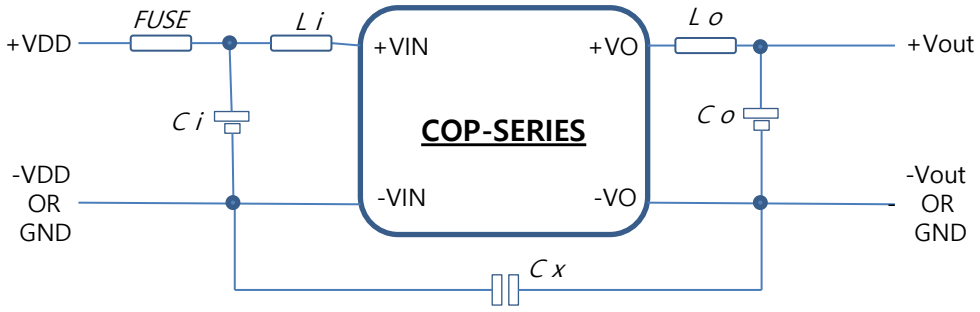
◆ CNT (remote on/off control)		
	CNT 단자	OPERATED CONDITION (제품 동작상태)
COP-SERIES	OPEN OR HIGH(+2~5VDC)	OFF
	SHORT OR LOW(0~0.6V)	ON (CNT 와 –VIN을 SHORT시키면 제품 켜집니다.)

◆ Wiring to external circuit (Reduce Ripple & noise)

Ci, Co : External capacitors are required at both input and output to reduce ripple.

CX : Ceramic capacitor is required to reduce common mode noise . Minimum 0.0022uF 1KV

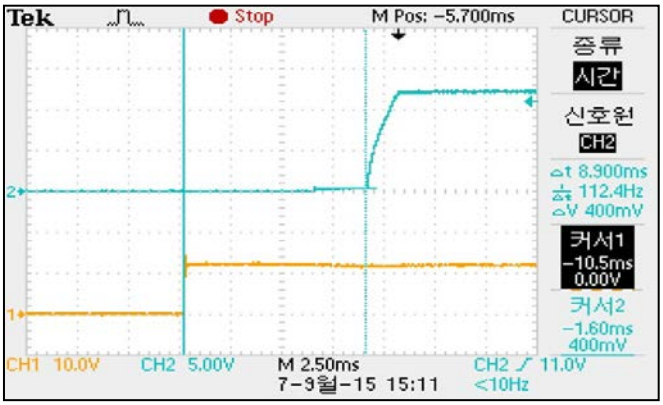
Li, Lo : Inductance 2~5uH



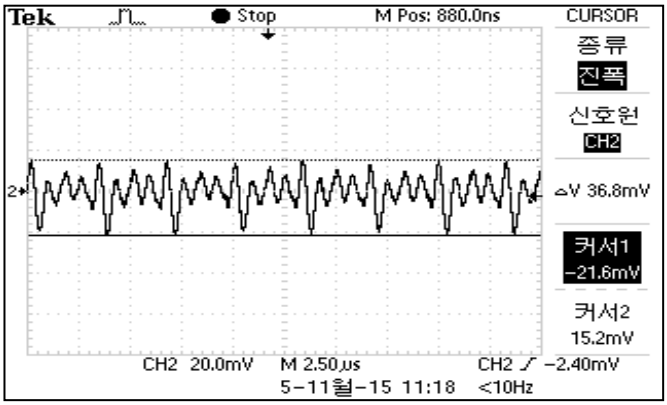
VIN	C i
12V	100uF 25V
24V	68uF 50V
48V	33uF 100V
72V	22uF 200V
110V	22uF 200V

VO	C o
5V	100uF 10V
15V	47uF 25V
24V	47uF 35V
48V	47uF 100V

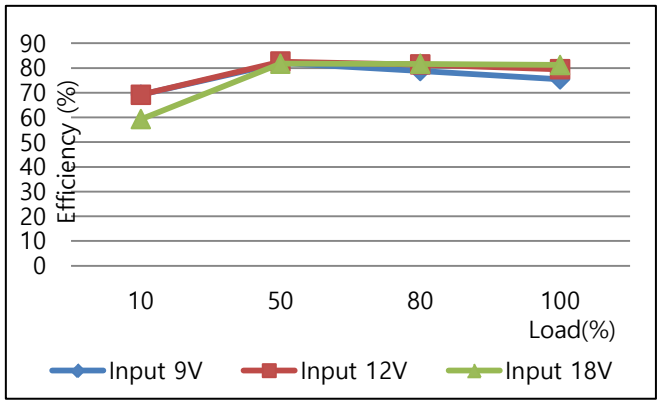
◆ COP100S-12-12/COP100-12-24



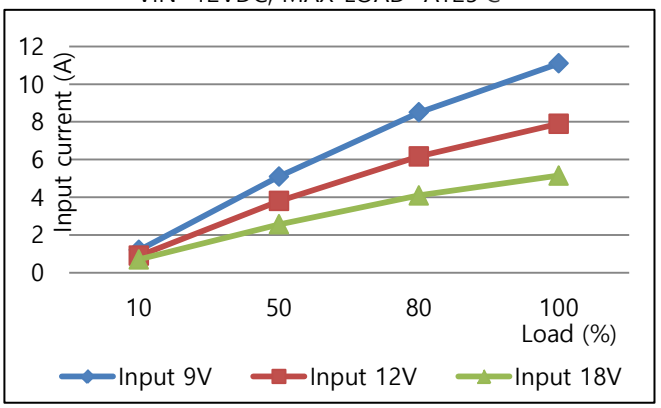
COP100S-12-12 TURN-ON TIME
VIN=12VDC, MAX-LOAD AT25℃



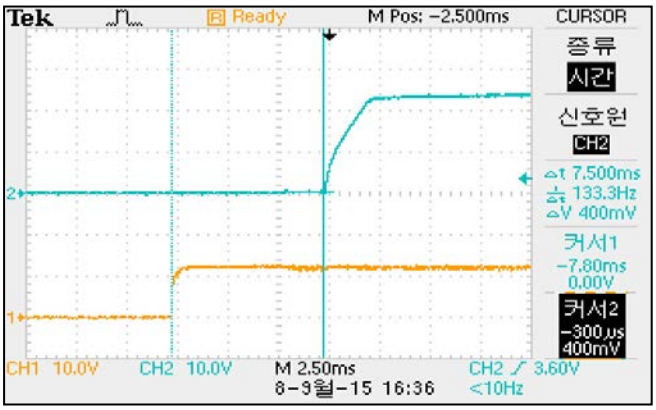
COP100S-12-12 RIPPLE & NOISE
VIN=12VDC, MAX-LOAD AT25℃



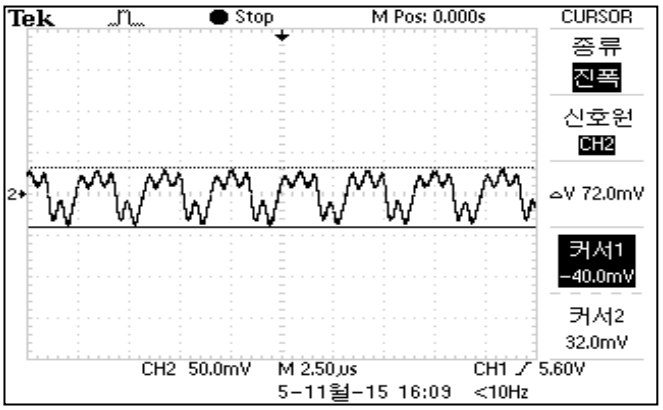
COP100S-12-12
EFFICIENCY CURVE VS LOAD AT25℃



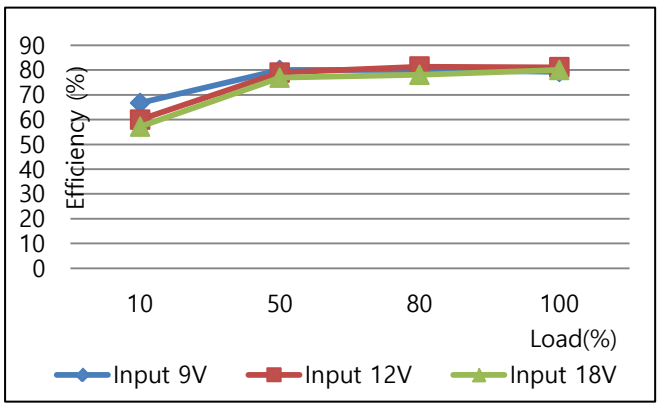
COP100S-12-12
INPUT CURRENT CURVE VS LOAD AT25℃



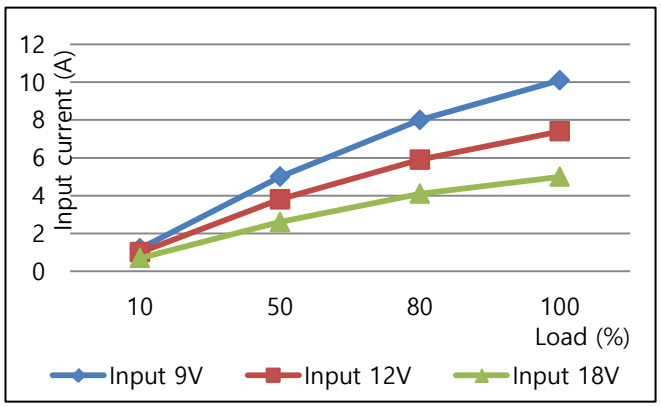
COP100S-12-24 TURN-ON TIME
VIN=12VDC, MAX-LOAD AT25℃



COP100S-12-24 RIPPLE & NOISE
VIN=12VDC, MAX-LOAD AT25℃

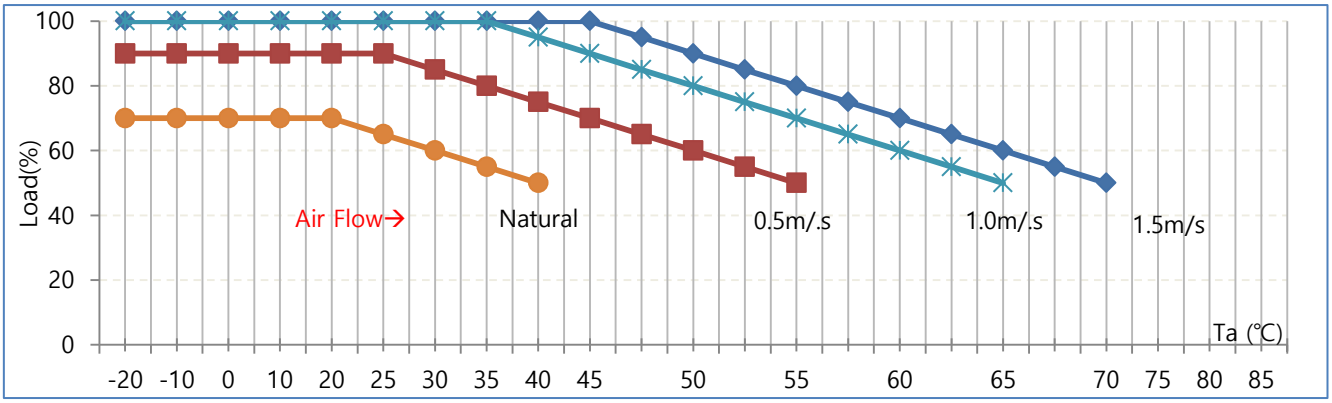


COP100S-12-24
EFFICIENCY CURVE VS LOAD AT25℃

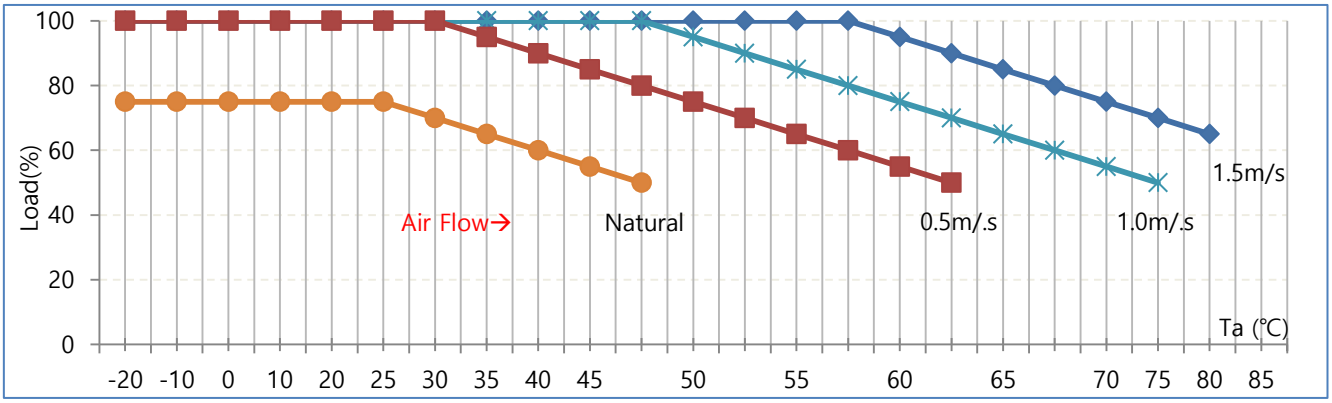


COP100S-12-24
INPUT CURRENT CURVE VS LOAD AT25℃

◆ COP100S-12-XX

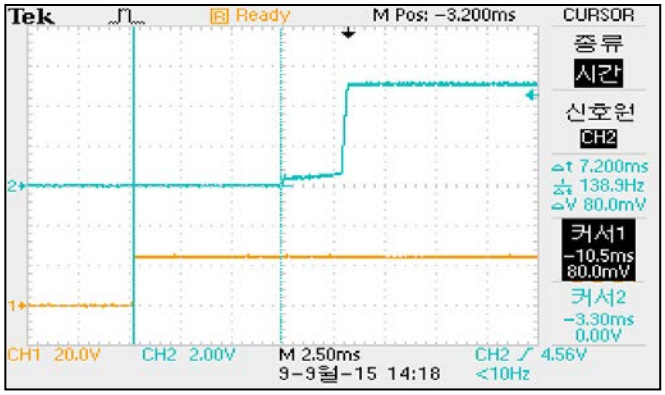


COP100S-12-XX (Vin=12VDC) Output derating curve vs load (Module only non Heat sink)

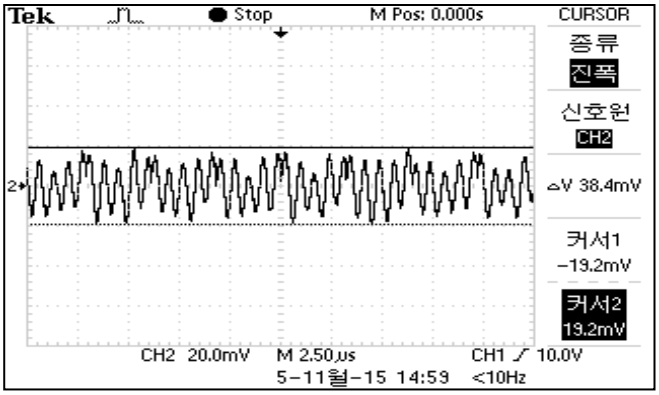


COP100S-12-XX (Vin=12VDC) Output derating curve vs load (19mm Heat sink option)

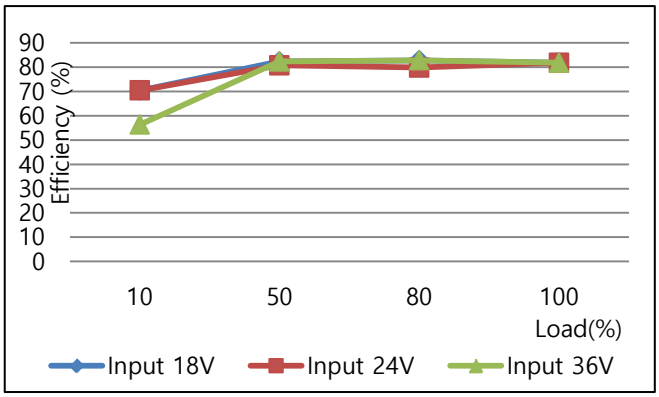
◆ COP100S-24-05/COP100-24-12



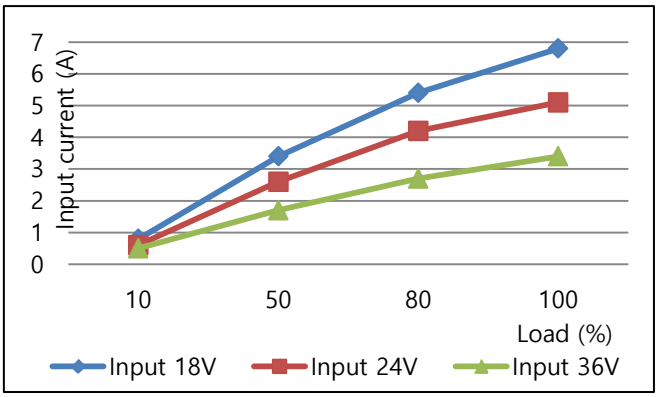
COP100S-24-05 TURN-ON TIME
VIN=24VDC, MAX-LOAD AT25℃



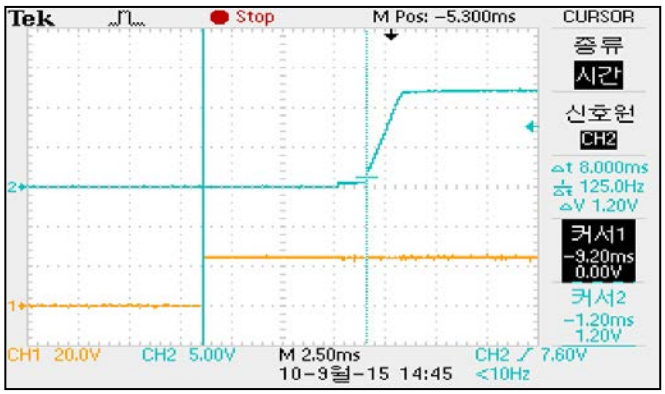
COP100S-24-05 RIPPLE & NOISE
VIN=24VDC, MAX-LOAD AT25℃



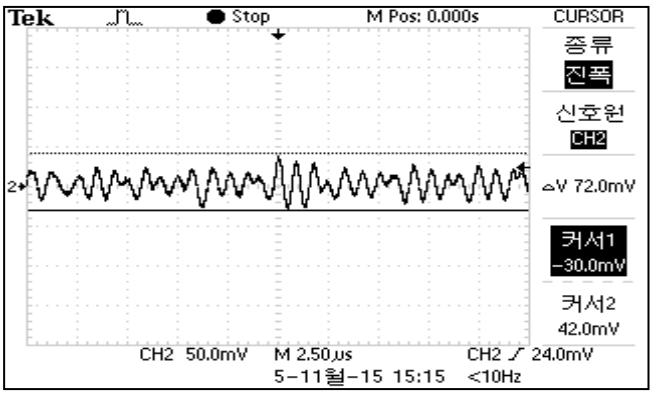
COP100S-24-05
EFFICIENCY CURVE VS LOAD AT25℃



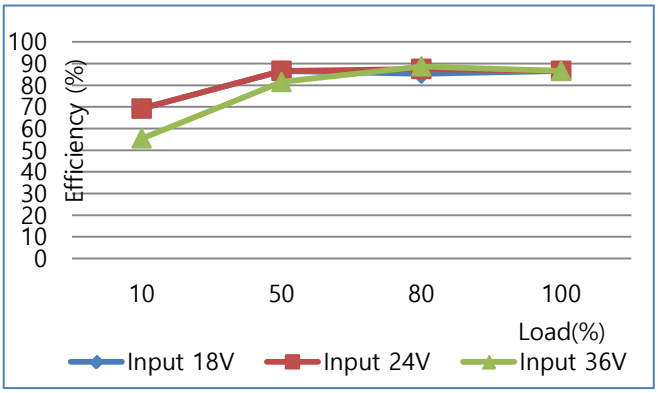
COP100S-24-05
INPUT CURRENT CURVE VS LOAD AT25℃



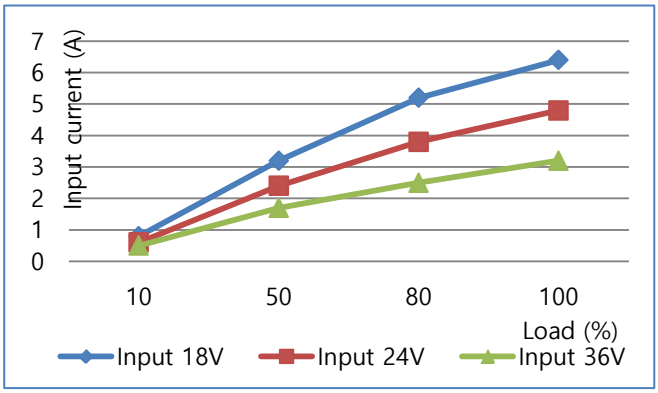
COP100S-24-12 TURN-ON TIME
VIN=24VDC, MAX-LOAD AT25℃



COP100S-24-12 RIPPLE & NOISE
VIN=24VDC, MAX-LOAD AT25℃

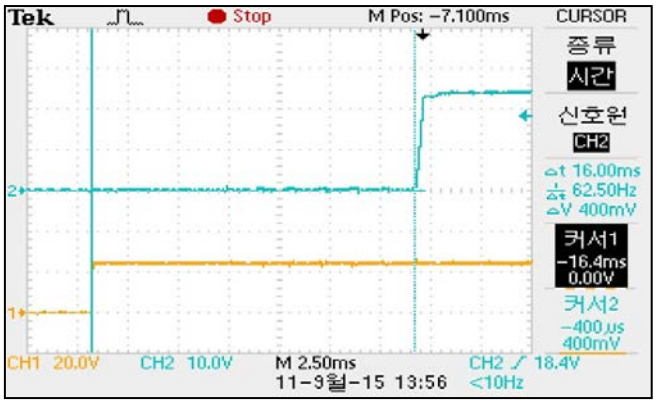


COP100S-24-12
EFFICIENCY CURVE VS LOAD AT25℃

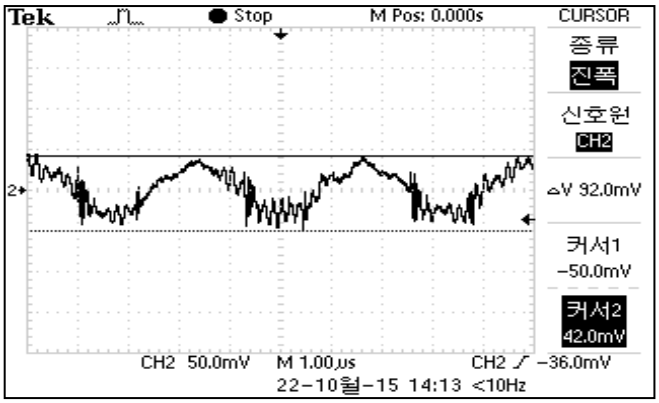


COP100S-24-12
INPUT CURRENT CURVE VS LOAD AT25℃

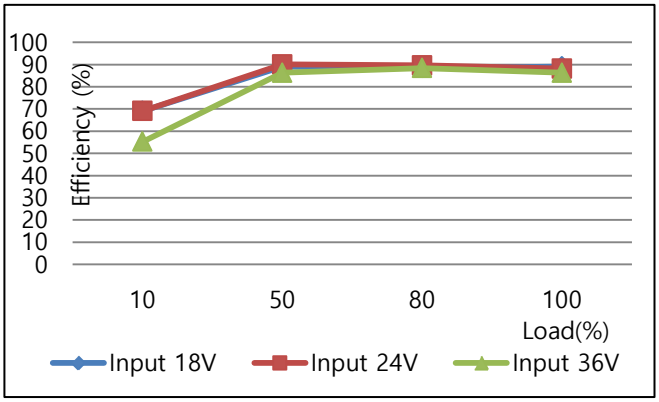
◆ COP100S-24-24/COP100S-24-XX



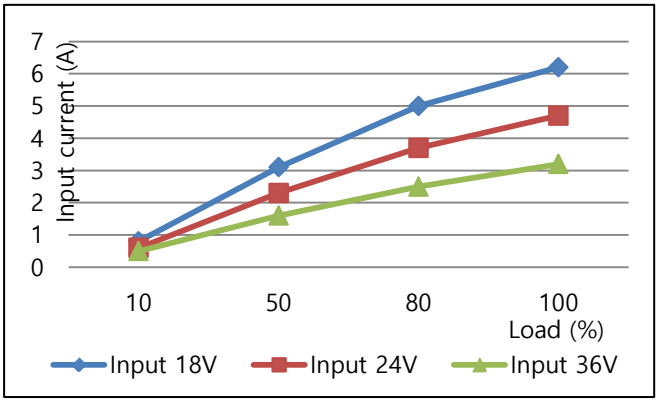
COP100S-24-24 TURN-ON TIME
VIN=24VDC, MAX-LOAD AT25℃



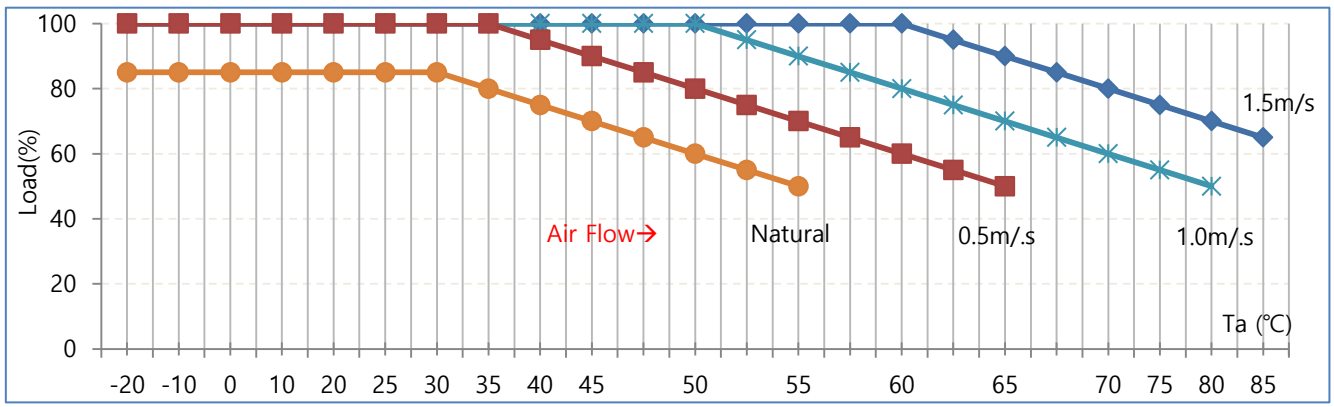
COP100S-24-24 RIPPLE & NOISE
VIN=24VDC, MAX-LOAD AT25℃



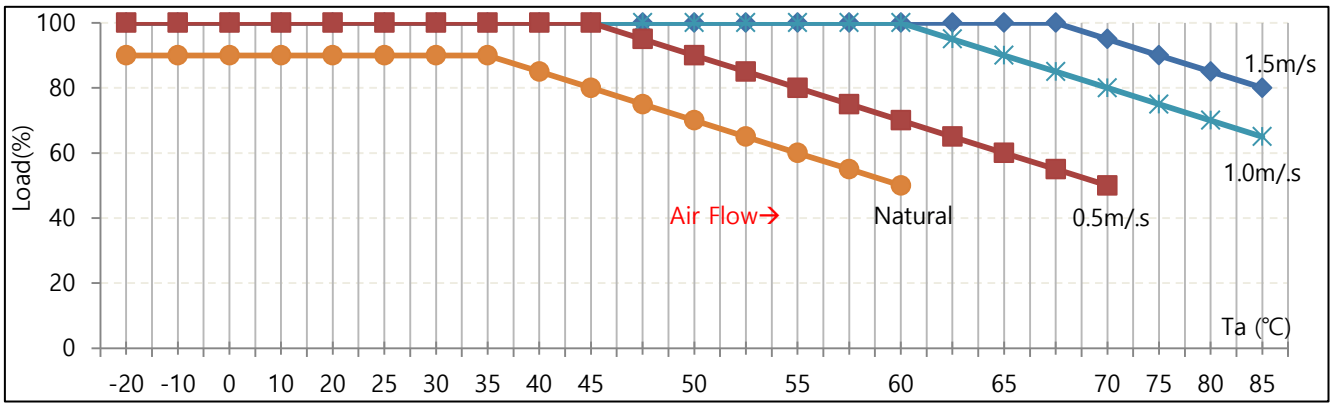
COP100S-24-24
EFFICIENCY CURVE VS LOAD AT25℃



COP100S-24-24
INPUT CURRENT CURVE VS LOAD AT25℃

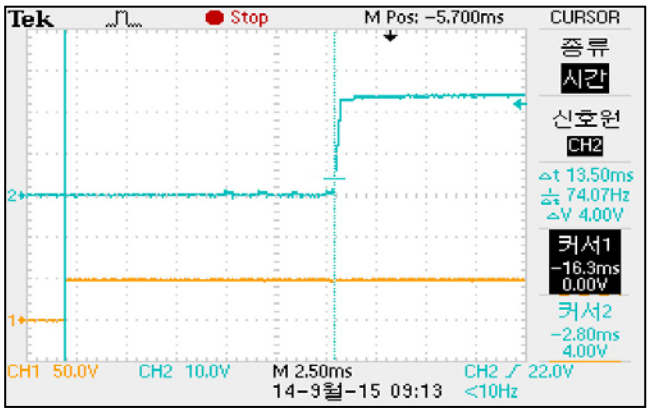


COP100S-24-XX (Vin=24VDC) Output derating curve vs load (Module only non Heat sink)

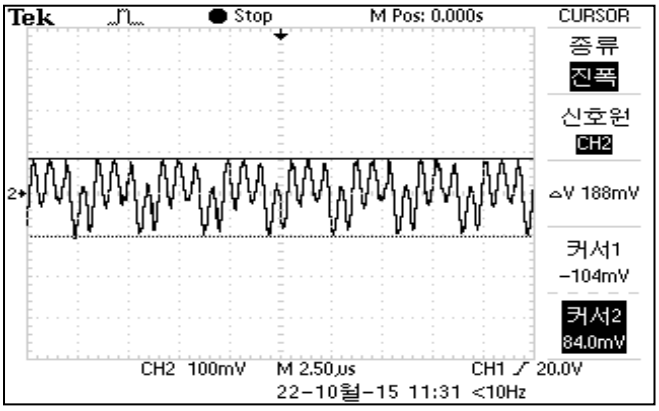


COP100S-24-XX (Vin=24VDC) Output derating curve vs load (19mm Heat sink option)

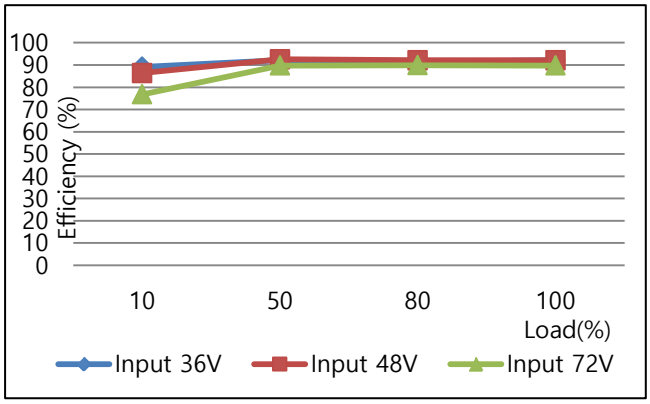
◆ COP100S-48-24/COP100S-48-XX



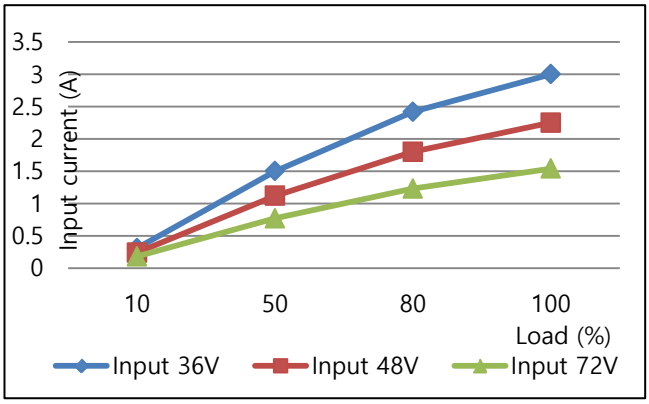
COP100S-48-24 TURN-ON TIME
VIN=48VDC, MAX-LOAD AT25℃



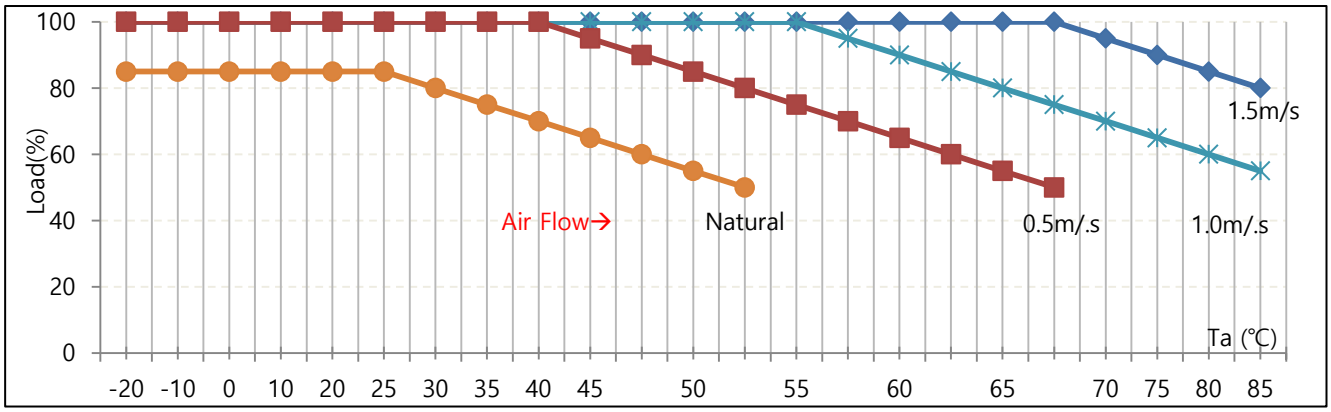
COP100S-48-24 RIPPLE & NOISE
VIN=48VDC, MAX-LOAD AT25℃



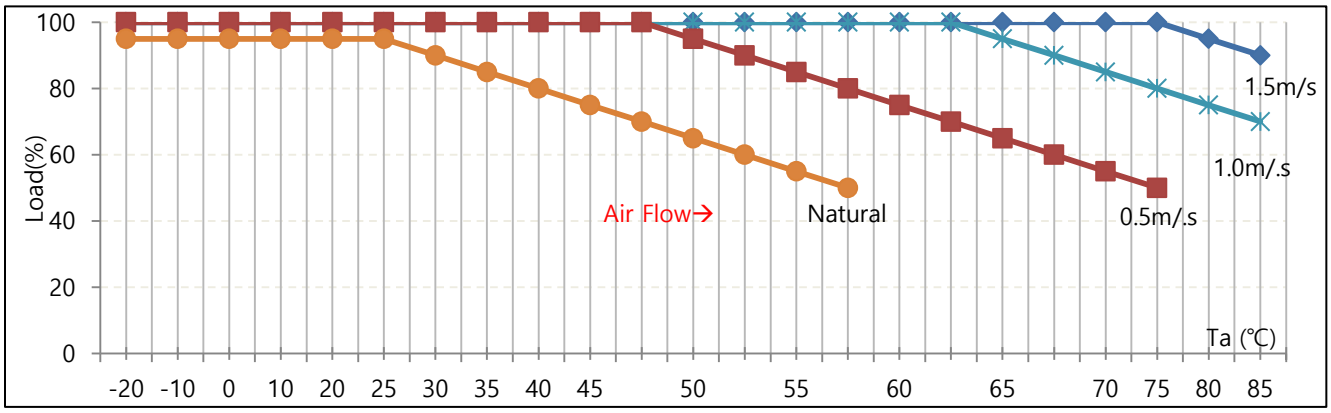
COP100S-48-24
EFFICIENCY CURVE VS LOAD AT25℃



COP100S-48-24
INPUT CURRENT CURVE VS LOAD AT25℃

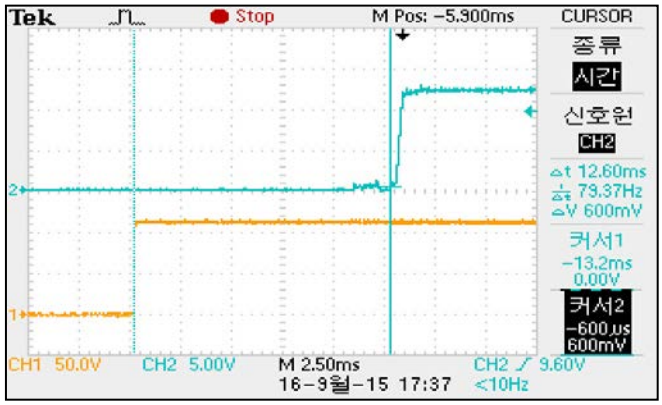


COP100S-48-XX (Vin=48VDC) Output derating curve vs load (Module only non Heat sink)

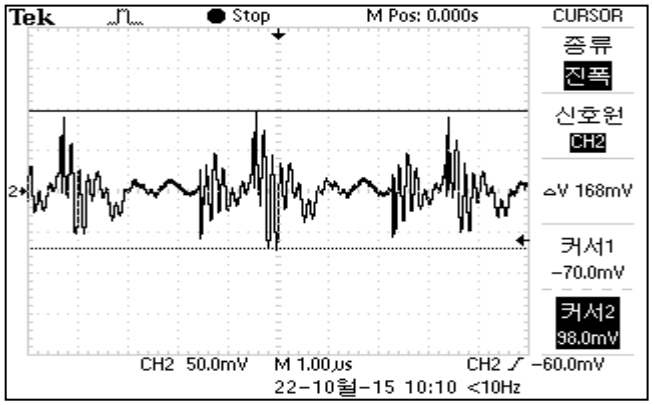


COP100S-48-XX (Vin=48VDC) Output derating curve vs load (19mm Heat sink option)

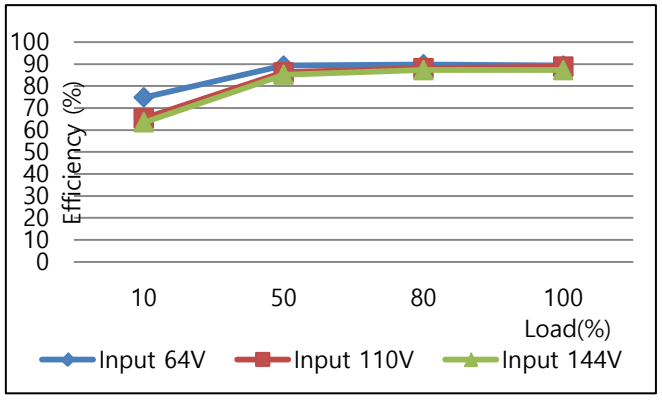
◆ COP100S-110-12/COP100S-110-24



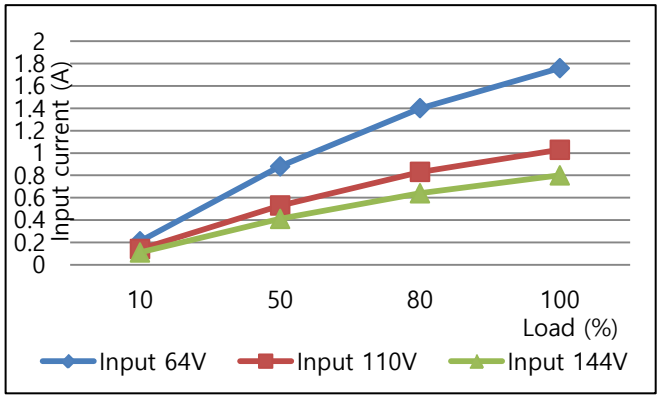
COP100S-110-12 TURN-ON TIME
VIN=110VDC, MAX-LOAD AT25℃



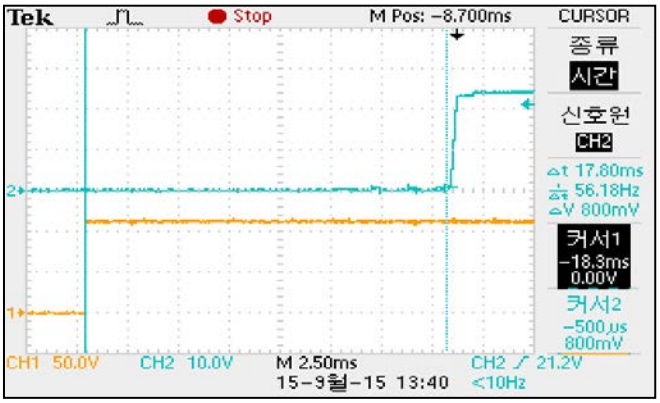
COP100S-110-12 RIPPLE & NOISE
VIN=110VDC, MAX-LOAD AT25℃



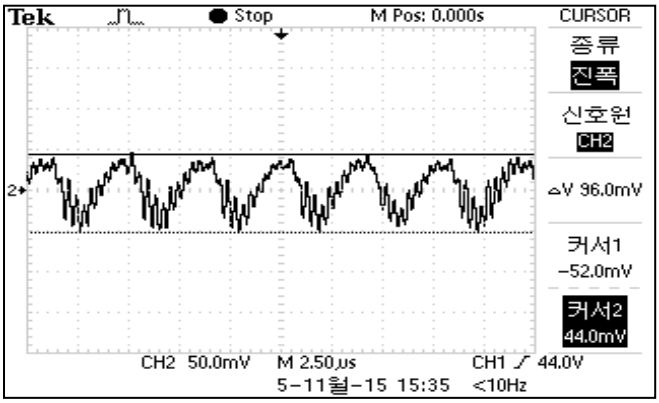
COP100S-110-12
EFFICIENCY CURVE VS LOAD AT25℃



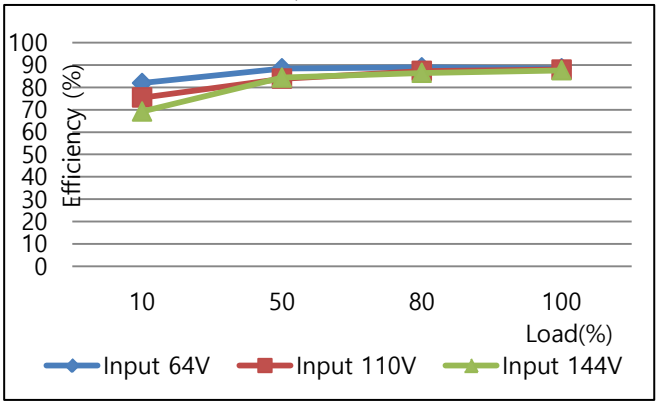
COP100S-110-12
INPUT CURRENT CURVE VS LOAD AT25℃



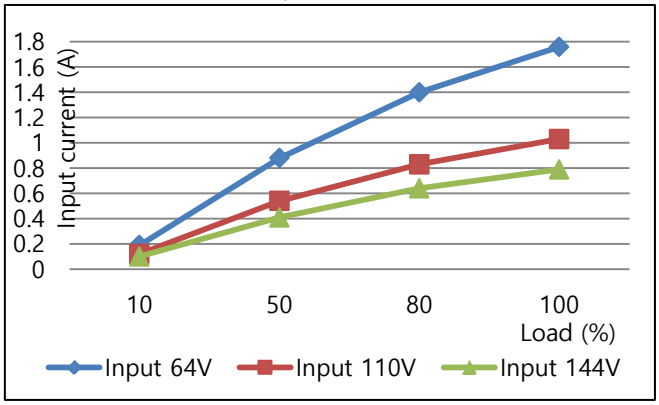
COP100S-110-24 TURN-ON TIME
VIN=110VDC, MAX-LOAD AT25℃



COP100S-110-24 RIPPLE & NOISE
VIN=110VDC, MAX-LOAD AT25℃

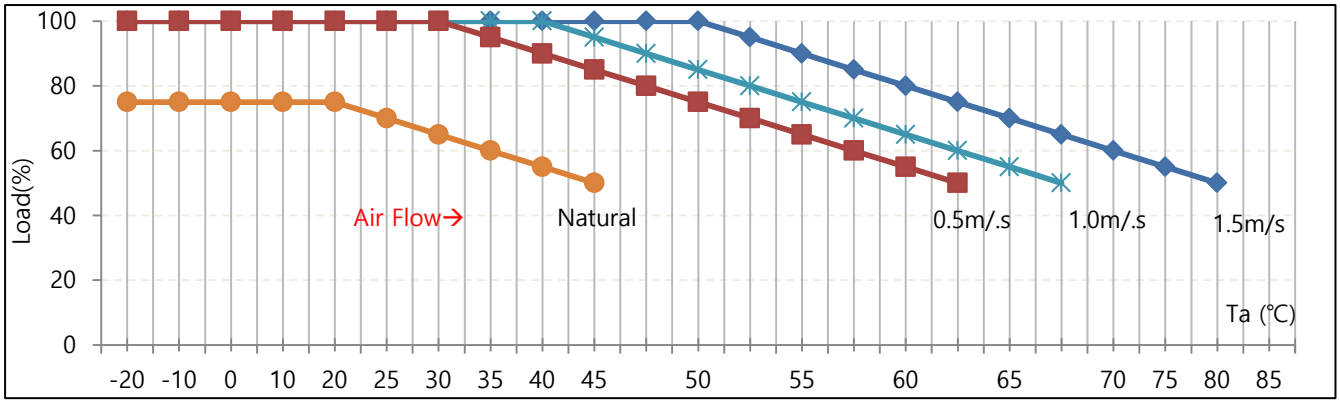


COP100S-110-24
EFFICIENCY CURVE VS LOAD AT25℃

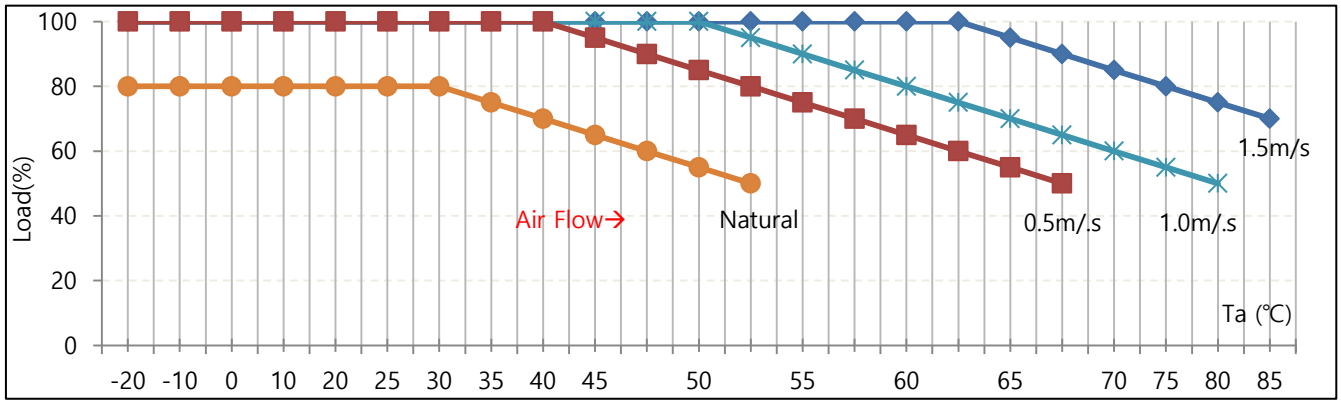


COP100S-110-24
INPUT CURRENT CURVE VS LOAD AT25℃

◆ COP100S-110-XX



COP100S-110-XX (Vin=110VDC) Output derating curve vs load (Module only non Heat sink)



COP100S-110-XX (Vin=110VDC) Output derating curve vs load (19mm Heat sink option)