

Typical Performance

**FEATURES**

- Wide Input voltage range (2:1/4:1)
- Typical Efficiency:85%
- Switching frequency: 300KHz
- Output Overcurrent protect, Short circuit protection
- input under voltage protection
- input-output isolated
- PCB Board in-line type installs
- High reliability
- Optional heat sink



3-Years Product Warranty

**Technology parameter** Test condition: General Nominal Line, Tc=25°C, Rated resistant load unless other wise specified

Input Features	Min	Nom	Max	Notes
	Test condition			
Start voltage	12V(9~18V)			12V
	24V(18~36Vin)			18V
	48V(36~72Vin)			36V
	110V(72~144Vin)			72V
	18V(9~36V)			10V
Input under voltage protection	12V(9~18V)			9.5V
	24V(18~36Vin)			17V
	48V(36~72Vin)			35V
	110V(72~144Vin)			71V
	18V(9~36V)			8V
Input voltage (Vdc)	9	12	18	W 2:1
	18	24	36	W 2:1
	36	48	72	W 2:1

	72	110	144	W 2:1
	9	18	36	W 4: 1
	18	36	72	W 4: 1
Start time	Not capacitive load			20mS
<b>Remote On/Off Function</b>				
CTL	CNT Pin connect -Vin			OFF
	CNT Pin left open			ON
<b>Output Feature</b>				
	Test condition			
Voltage accuracy	$I_o=0.1...1.0 \times I_{onom}, V_i=V_{rated}$			$\pm 1.0\%$
Line regulation	$V_{imin} \leq V_i \leq V_{imax}$			$\pm 0.2\%$
Load regulation	$I_o=0.1...1.0 \times I_{onom}, V_{imin} \leq V_i \leq V_{imax}, V_i=V_{rated}$			$\pm 0.5\%$
Ripple&noise	2-MHz Broadband			1%
Over current protection	$V_{imin} \leq V_i \leq V_{imax}$			120%
Peak Deviation	25% Rated Load Vary			$\pm 5.0\%$
Dynamic Response Setting Time				400us
Output Voltage Trim	$V_{imin} \leq V_i \leq V_{imax}$			10%
Switching frequency	$V_{imin} \leq V_i \leq V_{imax}$			300KHz
<b>General Feature</b>				
	Test condition			
Efficiency				85% typical
Board temperature	Industry level			-25°C ~ +55°C
Working environment temperature	Military level			-25°C ~ +85°C
Max Board temperature	Industry level			+85°C
	Military level			+105°C
Storage temperature	Industry level			-40°C ~ +105°C
	Military level			-50°C ~ +105°C
Relative humidity	No condensation			5%~90%RH

Temperature coefficient			±0.02%/°C
case material			aluminium baseplate
Isolated resistance	Input-Output		100M ohm
Vibration resistance	10~55Hz		5G
Over current mode	Full input range	Protection type : Hiccup mode, recovers automatically	
Cooling		Heatsink,nature cooling	
Case material		epoxy,Aluminum base plate	
Isolated Voltage	Input-output 1500Vdc; input-FG 1500Vdc,Output-FG 500Vdc		
MTBF	MIL-HDBK-217F2		5X10 <sup>6</sup> Hrs

### Product Nomination Method

example	L D 200 – Q 48 S 12		
	① ② ③	④ ⑤	⑥ ⑦
①	Wide input voltage: 2: 1	④	G:1/2 brick package
②	Power adaptation mode: D (DC-DC)	⑤	Normal input voltage
③	Output power(W)	⑥	S=Single route output
⑦	output voltage		

### Product Program

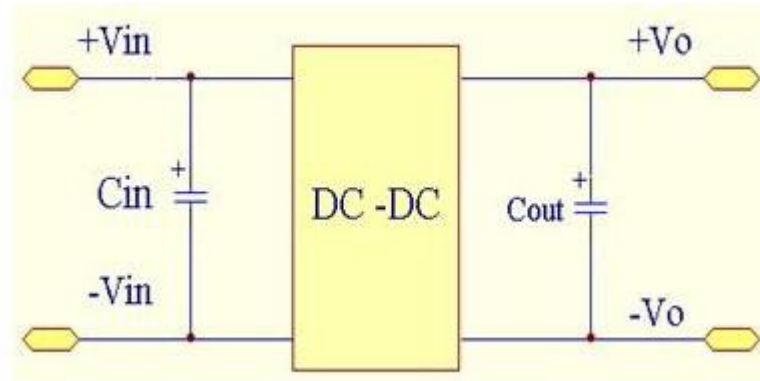
PART #	Input voltage range	Output voltage / current					
		VO1		VO2		VO3	
		V	A	V	A	V	A
LD50Q-12S3V3	12V(9~18V)	3.3V	10A				
LD50Q-12S05		5V	10A				
LD50Q-12S09		9V	5.6A				
LD50Q-12S12		12V	4.2A				
LD50Q-12S15		15V	3.3A				
LD50Q-12S18		18V	2.8A				
LD50Q-12S24		24V	2.1A				
LD50Q-12S28		28V	1.8A				
LD50Q-12S36		36V	1.4A				
LD50Q-12S48		48V	1.1A				

LD50Q-18S3V3	18V(9-36V)	3.3V	10A				
LD50Q-18S05		5V	10A				
LD50Q-18S12		12V	4.2A				
LD50Q-18S15		15V	3.3A				
LD50Q-18S24		24V	2.1A				
LD50Q-18S28		28V	1.8A				
LD50Q-18S48		48V	1.1A				
LD50Q-24S3V3	24 V(18~36V)	3.3V	10A				
LD50Q-24S05		5V	10A				
LD50Q-24S09		9V	5.6A				
LD50Q-24S12		12V	4.2A				
LD50Q-24S15		15V	3.3A				
LD50Q-24S18		18V	2.8A				
LD50Q-24S18V5		18.5V	2.7A				
LD50Q-24S19		19V	2.63A				
LD50Q-24S24		24V	2.1A				
LD50Q-24S28		28V	1.8A				
LD50Q-24S36		36V	1.4A				
LD50Q-24S48		48V	1.1A				
LD50Q-48S3V3		48 V(36~72V)	3.3V	10A			
LD50Q-48S05	5V		10A				
LD50Q-48S12	12V		4.2A				
LD50Q-48S15	15V		3.3A				
LD50Q-48S18	18V		2.8A				
LD50Q-48S24	24V		2.1A				
LD50Q-48S28	28V		1.8A				
LD50Q-48S36	36V		1.4A				
LD50Q-48S48	48V		1.1A				
LD50Q-36S05	36V(18~72V)	5V	10A				
LD50Q-36S12		12V	4.2A				
LD50Q-36S15		15V	3.3A				
LD50Q-36S24		24V	2.1A				
LD50Q-36S28		28V	1.8A				

LD50Q-36S48		48V	1.1A				
LD50Q-110S3V3	110V(72~144V)	3.3V	10A				
LD50Q-110S05		5V	10A				
LD50Q-110S12		12V	4.2A				
LD50Q-110S15		15V	3.3A				
LD50Q-110S18		18V	2.8A				
LD50Q-110S24		24V	2.1A				
LD50Q-110S28		28V	1.8A				
LD50Q-110S36		36V	1.4A				
LD50Q-110S48		48V	1.1A				

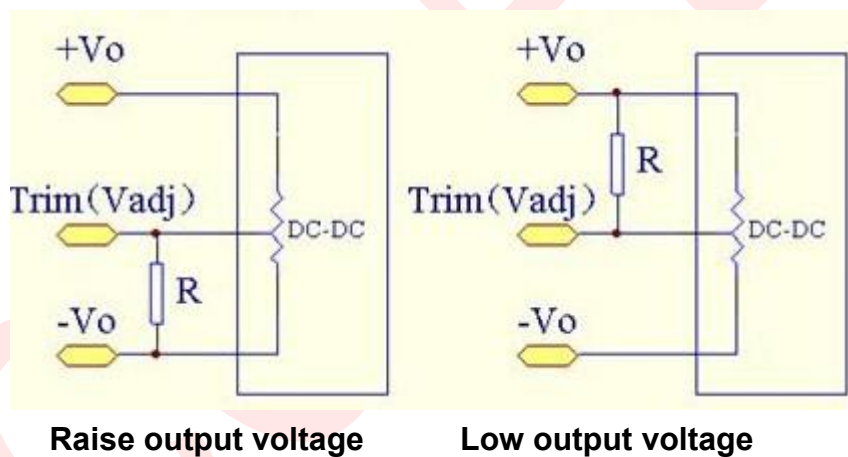
**Recommended Circuit**

ECCOELEC

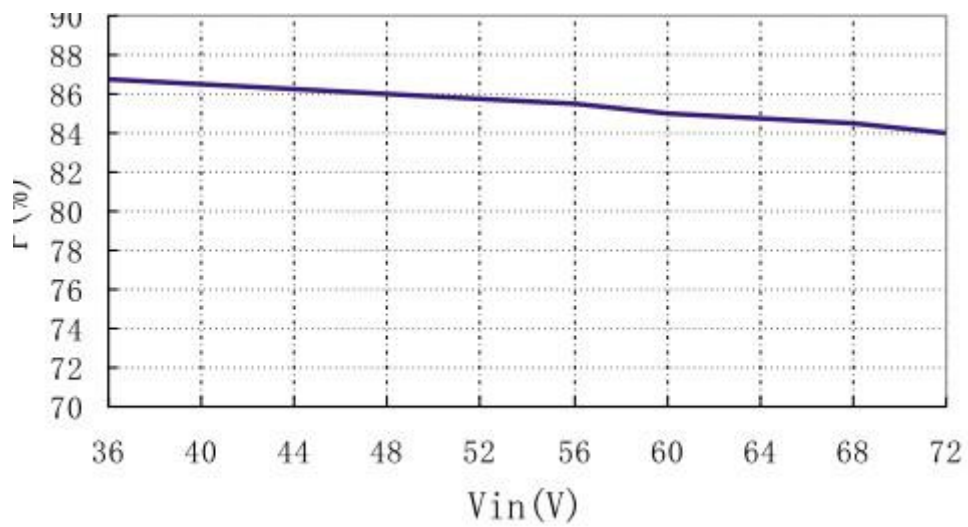


- (1) Power module with  $C_{in}$  is helpful to improve the electromagnetic compatibility, it is recommended to use  $47\mu F \sim 100\mu F$  electrolytic capacitor
- (2) Power module with  $C_{out}$  is helpful to lower the output ripple
- (3) Power module output connects the digital circuit needs to add  $C_{out}$
- (4)  $C_{out}$  is recommended to use  $100\mu F/A$ , the current is refers to the output current

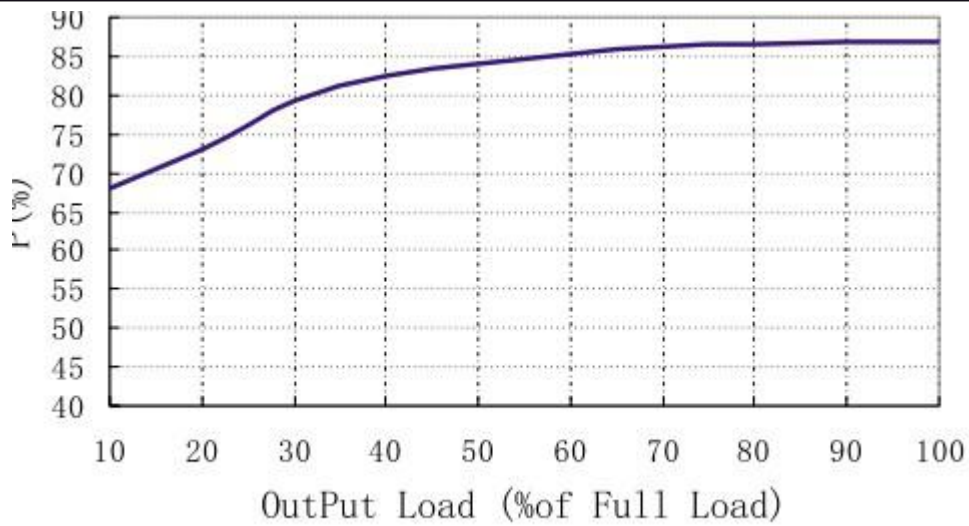
## TRIM



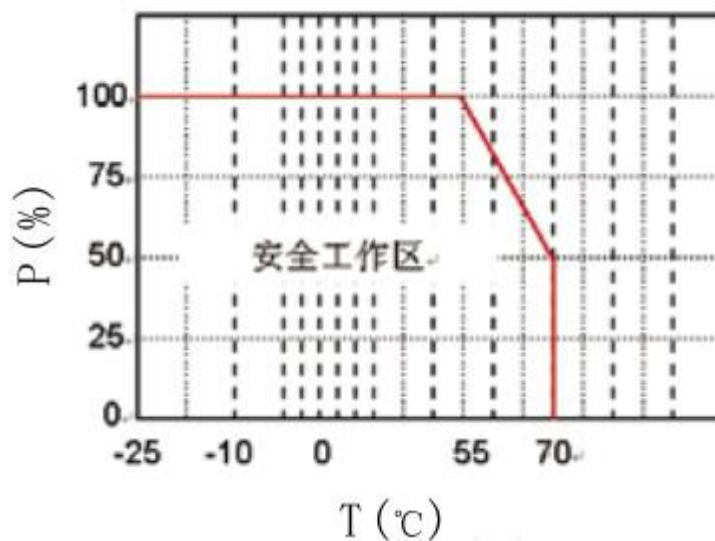
*Input voltage--Efficiency*



### Output Load--Efficiency

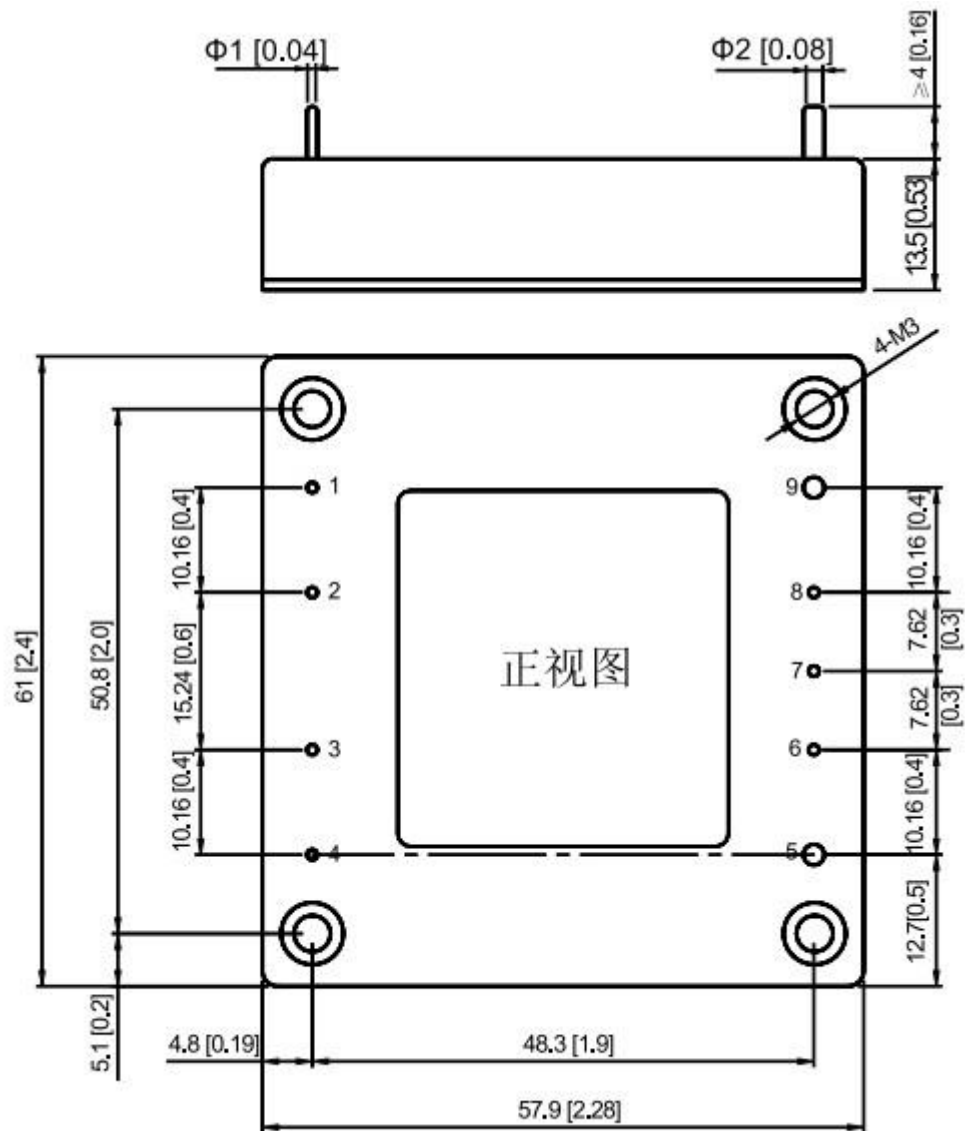


### Temperature Curve



## Mechanical Dimension

Unit:mm(inch)



BOTTOM VIEW

Unit:mm(inch)

Tolerance:±0.2mm(±0.008inch)

## Mechanical Data

WATT	L x W x H	Packing No.
50W	57.90x 61.00 x 12.70mm	

## Pin Assignment

Pin	1	2	3	4	5	6	7	8	9
Single O/P	-Vin	CASE	CTL	+Vin	+Vout	+S	TRIM	-S	-Vout

\*Note: The power modules such as the definition of the pin does not match with the hand book, please refer to the actual item.