ARCH ELECTRONICS CORP.

AC-DC ITE Switching Power Supply

ABR300U SERIES 300 Watts

KEY FEATURES

- U Bracket Switching Power Supply
- Universal Input: 90-264 VAC
- Active P.F.C. Function, PF>0.9
- 300W Conduction Cooling
- 300W Convection with 18CFM FAN
- Current Share Function
- Over Current / Over Voltage / Over Temperature / Short Circuit Protection
- 3-Year Product Warranty

Standard	A Type	B Type
		

Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.

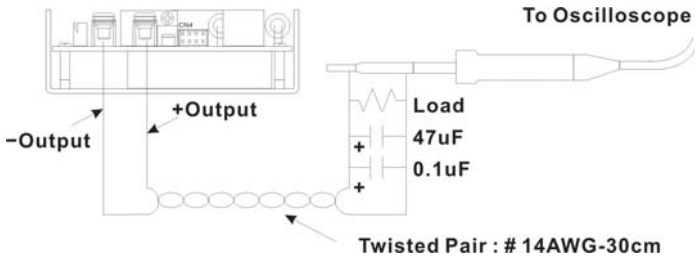
ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.		ABR300U-12S	ABR300U-24S	ABR300U-28S	ABR300U-48S
Max Output Wattage (18CFM FAN) (W)		300W	300W	308W	300W
Max Output Wattage (Conduction Cooling) (W)		300W			
Input	Voltage	90-264 VAC			
	Frequency (Hz)	50/60 Hz (47-63 Hz)			
	Current (Full load)	<4.0 A (100 VAC) / <2.0 A max. (200 VAC)			
	Inrush Current (<2ms)	< 70 A max. (115 VAC) / < 90 A max. (230 VAC)			
	Power Factor (typ.)	PF>0.95 (100 VAC) / PF>0.9 (230 VAC) at Full Load			
Output	Voltage (V.DC.)	12V	24V	28V	48V
	Voltage Accuracy	±2%			
	Trim	±5% Output Voltage			
	Current (A) (max.)	25	12.5	11	6.25
	Line Regulation (LL-HL) (typ.)	±1%			
	Load Regulation (10-100%) (typ.)	±2%	±1%		
	Minimum Load	0%			
	Maximum Capacitive Load	5000 uF	2500 uF	2500 uF	1250 uF
	Ripple & Noise (max.)	150mVp-p	200mVp-p	200mVp-p	300mVp-p
	Efficiency (%) (at 230 VAC)	88.5%	89%	89%	90%
	Remote Sensing	Provided			
	Hold-up Time (at 230 VAC)	10 ms min.			
Protection	Over Power Protection	Auto recovery			
	Over Voltage Protection	Auto recovery			
	Over Temperature	Auto recovery			
	Short Circuit Protection	Protection level 1 (nominal)：Continuous, Auto recovery			
		Protection level 2 (instantaneous high current)：Latch			
Isolation	Input-Output (V.AC)	3000V			
	Input-FG (V.AC)	1500V			
	Output-FG (V.AC)	500V			
Environment	Operating Temperature	-40°C…+65°C (with derating)			
	Storage Temperature	-40°C…+85°C			
	Temperature Coefficient	±0.05%/°C (0~50°C)			
	Humidity	20~95% RH (Non condensing)			
	MTBF	>200,000 h @ 25°C (MIL-HDBK-217F)			
	Vibration	10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes.			
Physical	Dimensions (L x W x H)	6.0 x 4.18 x 1.38 Inches (150.0 x 106.0 x 35.0 mm) Tolerance ±0.5 mm			
	Weight	560 g			
	Cooling Method	Conduction cooling			
Safety	Agency Approvals	CE			
EMC	EMI (Conducted & Radiated Emission)	EN 55032 Conducted Class B & Radiated Class A (In Progress)			
	EMS (Noise Immunity)	EN 55024、EN61000-4-2,3,4,5,6,8,11			

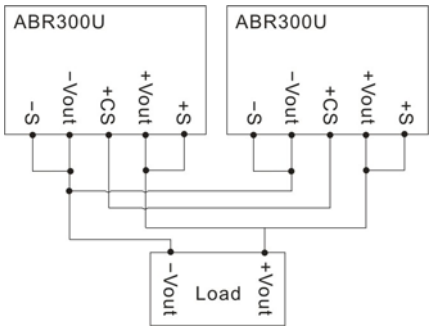
NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with ceramic 0.1uF & chemi-con KY 47uF parallel capacitor.

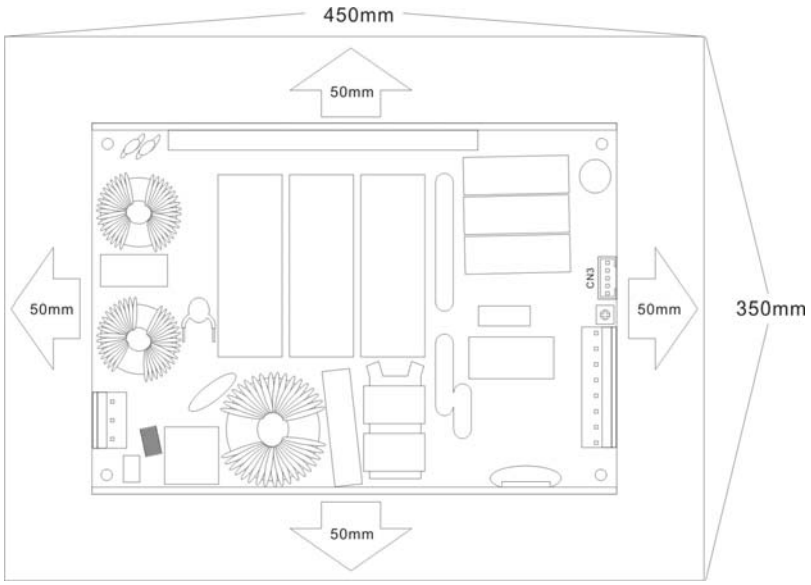


A 30cm twisted pair of no.14 AWG copper wire is connected to a 47uF and 0.1uF capacitor of proper polarity and voltage rating. The oscilloscope probe ground led should connect right to the ground ring of the probe and be as short as possible. The oscilloscope bandwidth should be at 20MHz and connected to AC ground.

2. Hold-up Time measured at 90% Vout.
3. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Arch power supply.
4. The ABR300UC Series should be conduction-cooled. Use a heatsink or fan to dissipate heat.
5. Current Share:
   (a.) The output voltage difference of each parallel single element should be less than 0.2 Vout.
   (b.) Output power at parallel operation = rated power per unit x number of unit x 90%
   (c.) Connect in parallel no more than 2 units. Please contact ARCH for advice if more than 2 is needed.
   (d.) Minimum Load Should be 30% @ Vout 12V; Minimum Load Should be 15% @ Vout 24V, 28V and 48V.



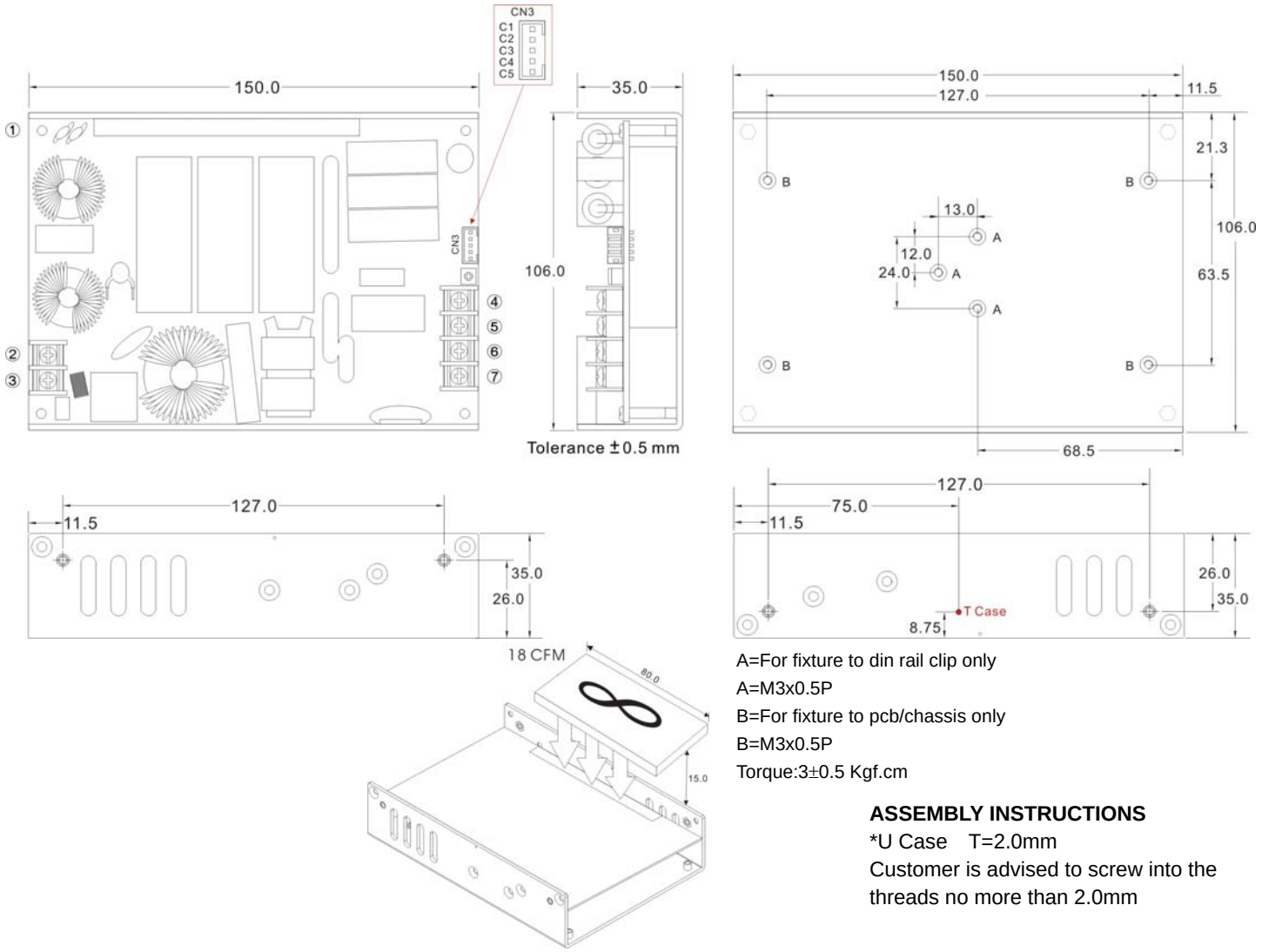
6. For heat dissipation, at least 5cm installation distance around the PSU should be kept, shown below:
   450 x 350 x 2.5mm



ABR300U SERIES 300 Watts

MECHANICAL DIMENSIONS (Top View)

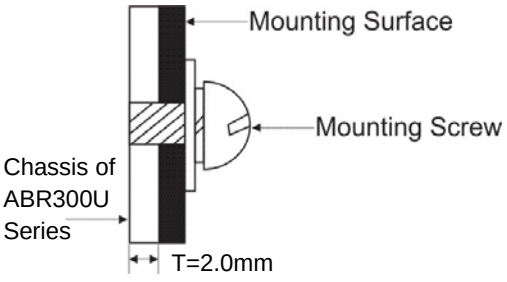
Standard



A=For fixture to din rail clip only
A=M3x0.5P
B=For fixture to pcb/chassis only
B=M3x0.5P
Torque:3±0.5 Kgf.cm

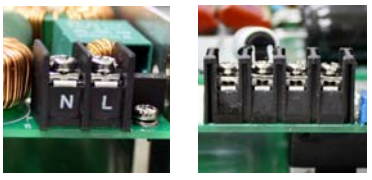
ASSEMBLY INSTRUCTIONS
*U Case T=2.0mm
Customer is advised to screw into the threads no more than 2.0mm

Brands					
PIN#	Single	Terminal			
1 & A	PE	—	—	—	—
2	AC IN (N)	ANYTEK YK-312-2P			
3	AC IN (L)				
4~5	+DC OUT	DINKLE DT-2C-B07W-04			
6~7	-DC OUT				



Connector Pin (CN3)					
Brands		Cherng Weei		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
C1	-V	CP-H20-05	CP-T20B	PHR-5	SPH-002T-P0.5L
C2	CS				
C3	+S				
C4	-S				
C5	ENA				

Standard



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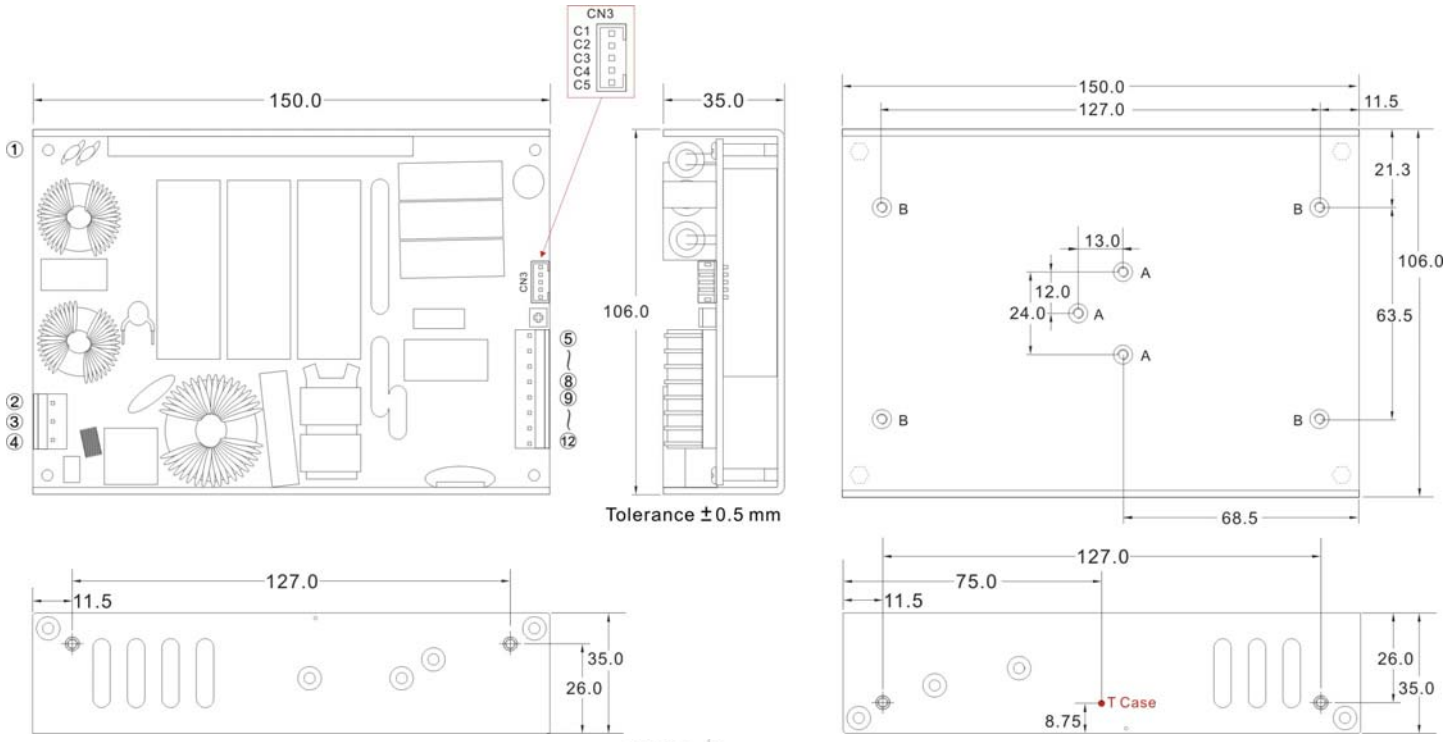
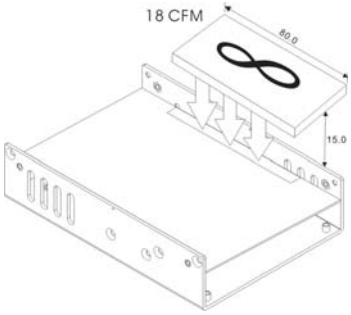
MECHANICAL DIMENSIONS (Top View)

A Type





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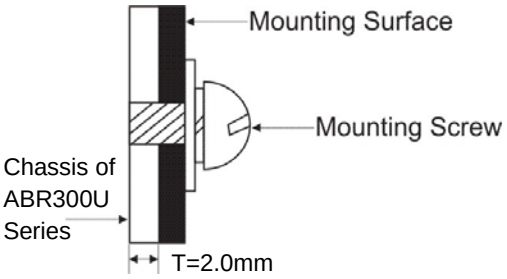

Brands		Alex		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
1 & A	PE	—	—	—	—
2	AC IN (N)	9396-3	96T series	VHR-3N	SVH-41T-P1.1
3	NO PIN				
4	AC IN (L)				
5~8	+DC OUT	9396-8	96T series	VHR-8N	SVH-41T-P1.1
9~12	-DC OUT				

Connector Pin (CN3)					
Brands		Cherng Weei		JST	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
C1	-V	CP-H20-05	CP-T20B	PHR-5	SPH-002T-P0.5L
C2	CS				
C3	+S				
C4	-S				
C5	ENA				

A Type

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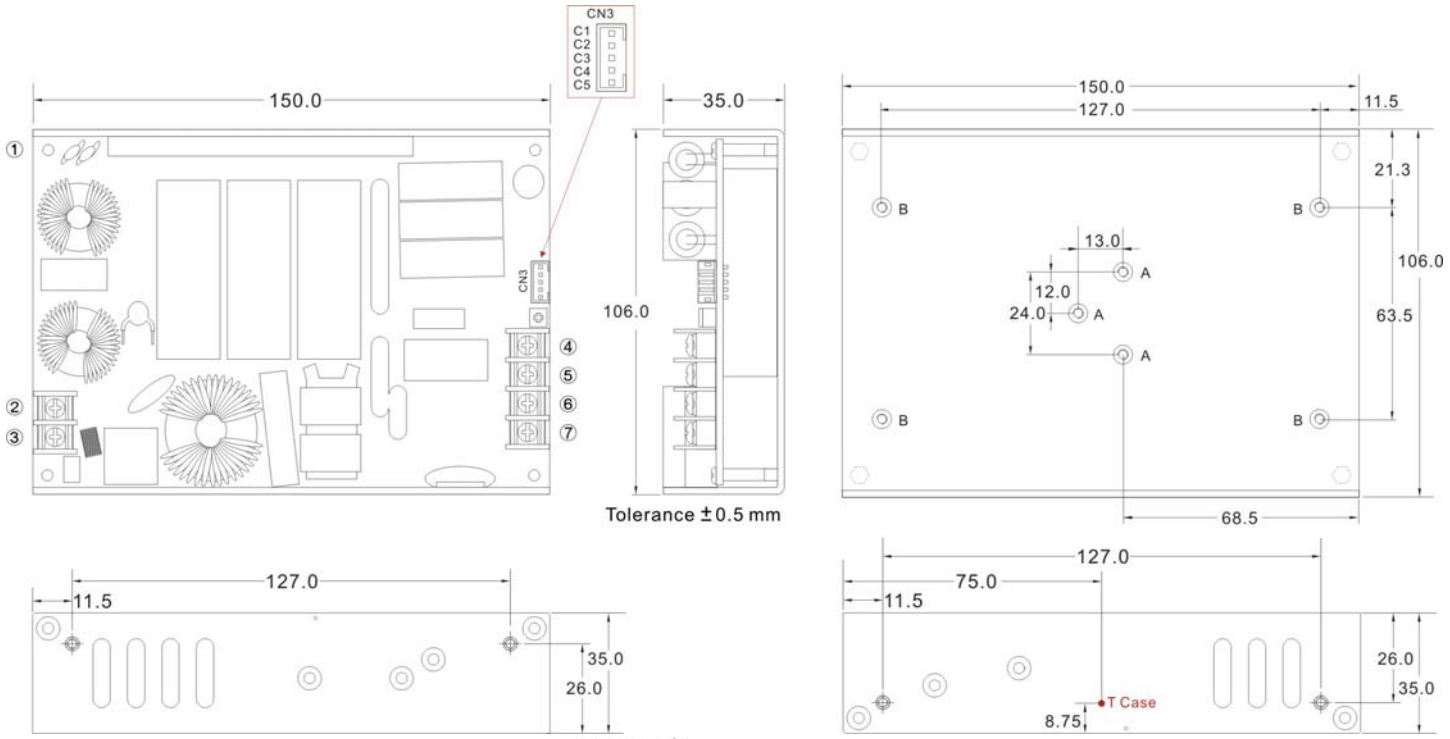
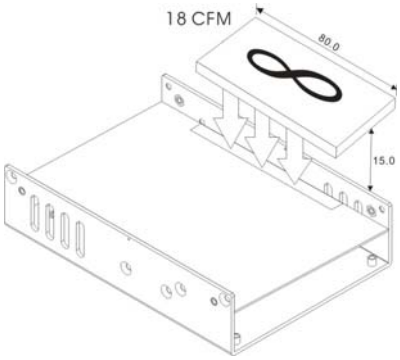
MECHANICAL DIMENSIONS (Top View)

B Type





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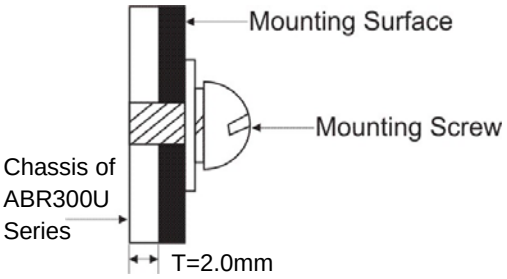
Brands					
PIN#	Single	Terminal			
1 & A	PE	—	—	—	—
2	AC IN (N)	ANYTEK YK-312-2P			
3	AC IN (L)				
4~5	+DC OUT	M5 Pan HD screw in 2 positions Torque to 8 lbs-in(90 cNm) max.			
6~7	-DC OUT				



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C2	CS				
C3	+S				
C4	-S				
C5	ENA				

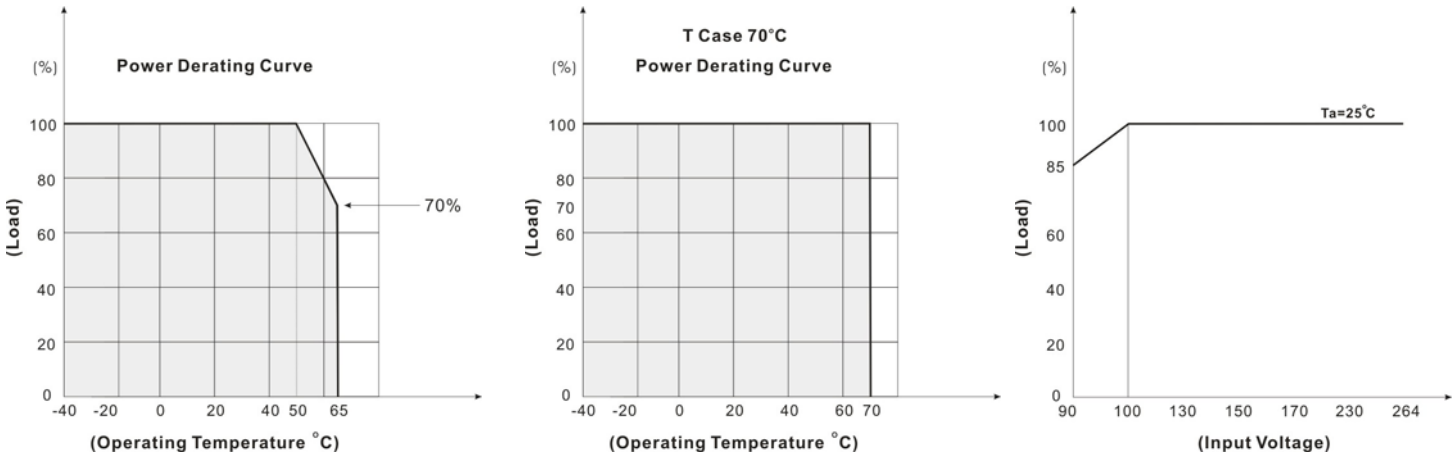
B Type

Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.

FUNCTION DESCRIPITON of CN3 :

Pin No.	Function	Description
C1	-V	-Vout
C2	CS	Current Share Function Pin
C3	+S	
C4	-S	
C5	ENA	Open collector (10mA sink current). Low when output is present.

DERATING



BLOCK DIAGRAM