

# DC-DC PCB Mount

## 1-25 Watts DCU Series



## THE XPERTS IN POWER

- Fully Isolated Outputs
- 
- 2:1 Input Range
- 
- Metal Case
- 
- Surface Mount Construction
- 
- DIN Rail Mount Option
- 
- Screw Terminals Option
- 
- Remote ON/OFF Available

### Specification

#### Input

- Input Voltage • 4.5-9.0 VDC, 9-18 VDC, 18-36 VDC, 36-72 VDC

#### Output

- Output Voltage • See Table
- Output Voltage Adjustment •  $\pm 5\%$  DCU15 & 25 models only (3 V models 3.20 to 3.47 V)
- Minimum Load • No minimum load required
- Start Up Delay • 20 ms max
- Initial Set Accuracy •  $\pm 5\%$  -3% max  
+5%, DCU 5 V output
- Drift •  $\pm 60$  mV max
- Line Regulation • 0.5% max (0.1% typical)
- Load Regulation • 1% max single output models (0.2% typical)  
5% max dual output models (1.0% typical)
- Ripple & Noise • 40 mV p-p typical, 150 mV max. (the addition of a 100  $\mu$ F (220  $\mu$ F for 3 & 5 V outputs) capacitor across output of device reduces ripple to below 40 mV pk-pk)
- Overvoltage Protection • DCU15 & 25 models only - operates 115-140% of output (3 V models 4.0-5.25 V)
- Short Circuit & Overload Protection • Operates >105% of rating and recovers automatically
- Temperature Coefficient •  $\pm 0.02\%/^{\circ}\text{C}$
- Remote ON/OFF • DCU15 & 25 models only - link RC to -ve I/P for operation (or TTL low), open circuit for shutdown (or TTL high)

#### General

- Efficiency • 67% to 85% dependant on model
- Lead Temperature •  $+260^{\circ}\text{C}$  for less than 15 seconds
- Isolation • 500 VAC Input to Output, 500 VAC Input to Ground, 500 VAC Output to Ground

#### Environmental

- Operating Temperature •  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$   
See Derating Curve
- Storage Temperature •  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Shock • 50 G for 11 ms, once on each X, Y & Z axis
- Vibration • 10 G 10-55 Hz 3 mins period, 60 mins along X, Y & Z axis

#### EMC & Safety

- Emissions • EN55022 Level A Conducted with external components  
EN55022 Level A Radiated
- ESD Susceptibility • EN61000-4-2 Level 4
- Radiated Susceptibility • EN61000-4-3 Level 3
- EFT/Burst • EN61000-4-4 Level 3
- Surge • EN61000-4-5 Level 3
- Safety Approvals • EN60950, UL1950, cUL1950

## OUTPUT VOLTAGE & CURRENT RATINGS - SINGLE OUTPUT MODELS

**DCU**

Input Output (V)	Input Voltage 4.5 - 9 Volts			Input Voltage 9 - 18 Volts			Input Voltage 18 - 36 Volts			Input Voltage 36 - 75 Volts		
Model No.	DCU105S05	DCU105S12	DCU105S15	DCU112S05	DCU112S12	DCU112S15	DCU124S05	DCU124S12	DCU124S15	DCU148S05	DCU148S12	DCU148S15
Output	5 V @ 0.3 A	12 V @ 0.13 A	15 V @ 0.1 A	5 V @ 0.3 A	12 V @ 0.13 A	15 V @ 0.1 A	5 V @ 0.3 A	12 V @ 0.13 A	15 V @ 0.1 A	5 V @ 0.3 A	12 V @ 0.13 A	15 V @ 0.1 A
Model No.	DCU305S05	DCU305S12	DCU305S15	DCU312S05	DCU312S12	DCU312S15	DCU324S05	DCU324S12	DCU324S15	DCU348S05	DCU348S12	DCU348S15
Output	5 V @ 0.6 A	12 V @ 0.25 A	15 V @ 0.2 A	5 V @ 0.6 A	12 V @ 0.25 A	15 V @ 0.2 A	5 V @ 0.6 A	12 V @ 0.25 A	15 V @ 0.2 A	5 V @ 0.6 A	12 V @ 0.25 A	15 V @ 0.2 A
Model No.	DCU605S05	DCU605S12	DCU605S15	DCU612S05	DCU612S12	DCU612S15	DCU624S05	DCU624S12	DCU624S15	DCU648S05	DCU648S12	DCU648S15
Output	5 V @ 1 A*	12 V @ 0.5 A	15 V @ 0.4 A	5 V @ 1.2 A	12 V @ 0.5 A	15 V @ 0.4 A	5 V @ 1.2 A	12 V @ 0.5 A	15 V @ 0.4 A	5 V @ 1.2 A*	12 V @ 0.5 A	15 V @ 0.4 A
Model No.	DCU1005S05	DCU1005S12	DCU1005S15	DCU1012S05	DCU1012S12	DCU1012S15	DCU1024S05	DCU1024S12	DCU1024S15	DCU1048S05	DCU1048S12	DCU1048S15
Output	5 V @ 1.6 A*	12 V @ 0.7 A	15 V @ 0.6 A	5 V @ 2 A	12 V @ 0.9 A	15 V @ 0.7 A	5 V @ 2 A	12 V @ 0.9 A	15 V @ 0.7 A	5 V @ 2 A*	12 V @ 0.9 A	15 V @ 0.7 A
Model No.	DCU1505S05	DCU1505S12	-	DCU1512S05	DCU1512S12	-	DCU1524S05	DCU1524S12	-	DCU1548S05	DCU1548S12	-
Output	5 V @ 2 A*	12 V @ 1 A	-	5 V @ 2.4 A	12 V @ 1.3 A	-	5 V @ 2.4 A	12 V @ 1.3 A	-	5 V @ 2.4 A*	12 V @ 1.3 A	-
Model No.	DCU2505S05	DCU2505S12	-	DCU2512S05	DCU2512S12	-	DCU2524S05	DCU2524S12	-	DCU2548S05	DCU2548S12	-
Output	5 V @ 3.2 A*	12 V @ 1.7 A	-	5 V @ 4 A	12 V @ 2.1 A	-	5 V @ 4 A	12 V @ 2.1 A	-	5 V @ 4 A*	12 V @ 2.1 A	-

**Note**

\* Also available with 3.3 V output, current rating is the same as the 5 V model except for the DCU25 where the 3.3 V is rated at 4.0 A. Replace 'S05' with 'S03' in the model number to order.

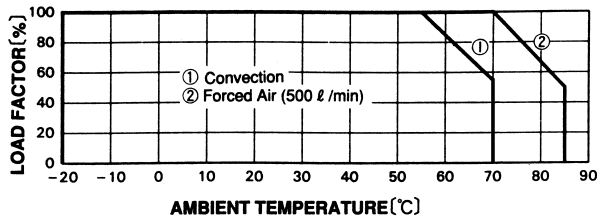
## OUTPUT VOLTAGE & CURRENT RATINGS - MULTI OUTPUT MODELS

**DCU**

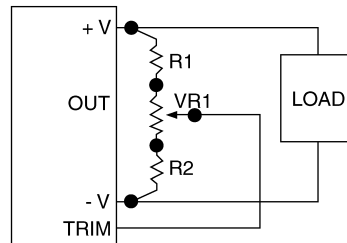
Input Output (V)	Input Voltage 4.5 - 9 Volts		Input Voltage 9 - 18 Volts		Input Voltage 18 - 36 Volts		Input Voltage 36 - 75 Volts	
Model No.	DCU105D12	DCU105D15	DCU112D12	DCU112D15	DCU124D12	DCU124D15	DCU148D12	DCU148D15
Output	±12 V(24) @ 0.065 A	±15 V(30) @ 0.05 A	±12 V(24) @ 0.065 A	±15 V(30) @ 0.05 A	±12 V(24) @ 0.065 A	±15 V(30) @ 0.05 A	±12 V(24) @ 0.065 A	±15 V(30) @ 0.05 A
Model No.	DCU305D12	DCU305D15	DCU312D12	DCU312D15	DCU324D12	DCU324D15	DCU348D12	DCU348D15
Output	±12 V(24) @ 0.13 A	±15 V(30) @ 0.1 A	±12 V(24) @ 0.13 A	±15 V(30) @ 0.1 A	±12 V(24) @ 0.13 A	±15 V(30) @ 0.1 A	±12 V(24) @ 0.13 A	±15 V(30) @ 0.1 A
Model No.	DCU605D12	DCU605D15	DCU612D12	DCU612D15	DCU624D12	DCU624D15	DCU648D12	DCU648D15
Output	±12 V(24) @ 0.25 A	±15 V(30) @ 0.2 A	±12 V(24) @ 0.25 A	±15 V(30) @ 0.2 A	±12 V(24) @ 0.25 A	±15 V(30) @ 0.2 A	±12 V(24) @ 0.25 A	±15 V(30) @ 0.2 A
Model No.	DCU1005D12	DCU1005D15	DCU1012D12	DCU1012D15	<b>DCU1024D12</b>	DCU1024D15	DCU1048D12	DCU1048D15
Output	±12 V(24) @ 0.35 A	±15 V(30) @ 0.3 A	±12 V(24) @ 0.45 A	±15 V(30) @ 0.35 A	±12 V(24) @ 0.45 A	±15 V(30) @ 0.35 A	±12 V(24) @ 0.45 A	±15 V(30) @ 0.35 A
Model No.	DCU1505D12	DCU1505D15	DCU1512D12	DCU1512D15	DCU1524D12	DCU1524D15	DCU1548D12	DCU1548D15
Output	±12 V(24) @ 0.6 A	±15 V(30) @ 0.5 A	±12 V(24) @ 0.65 A	±15 V(30) @ 0.5 A	±12 V(24) @ 0.65 A	±15 V(30) @ 0.5 A	±12 V(24) @ 0.65 A	±15 V(30) @ 0.5 A
Model No.	DCU2505D12	DCU2505D15	<b>DCU2512D12</b>	<b>DCU2512D15</b>	<b>DCU2524D12</b>	DCU2524D15	DCU2548D12	DCU2548D15
Output	±12 V(24) @ 0.84 A	±15 V(30) @ 0.67 A	±12 V(24) @ 1.05 A	±15 V(30) @ 0.85 A	±12 V(24) @ 1.05 A	±15 V(30) @ 0.85 A	±12 V(24) @ 1.05 A	±15 V(30) @ 0.85 A

### Application Notes

Temperature Derating



Output trim (±5%) DCU15 & 25 models



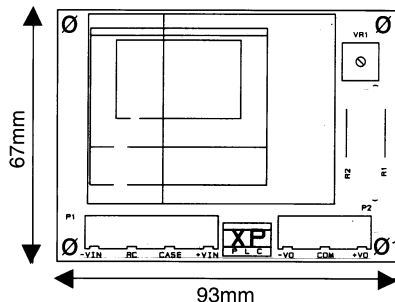
O/P	VR1	R1	R2
5 V	1 kΩ	100 Ω	270 Ω
12 V	5 kΩ	270 Ω	2.7 kΩ
±12 V	5 kΩ	10 kΩ	3.9 kΩ
±15 V	5 kΩ	10 kΩ	2.7 kΩ

Note: if output set too high OVP may operate

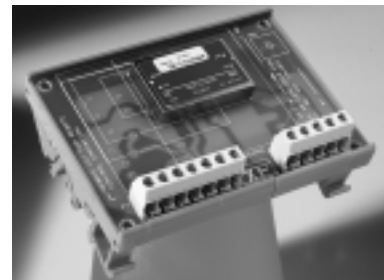
### Mounting Accessories

**DCU-BOARD**

The DCU-BOARD is designed to accept any of the DCU Series, it provides screw terminals and has provision for the trim resistors for the DCU15 and 25 watt models. It can be supplied with a DIN HOUSING for mounting on DIN rails - both top hat and G types.

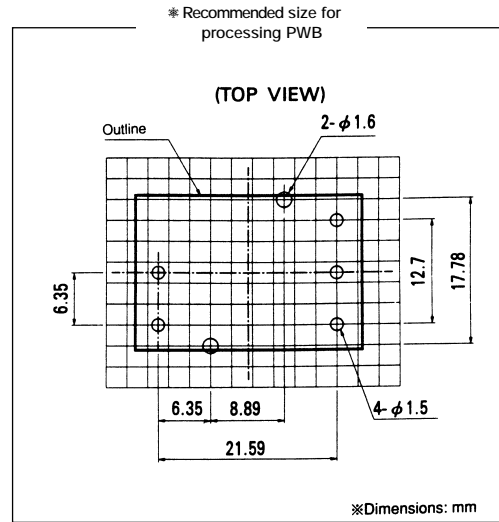
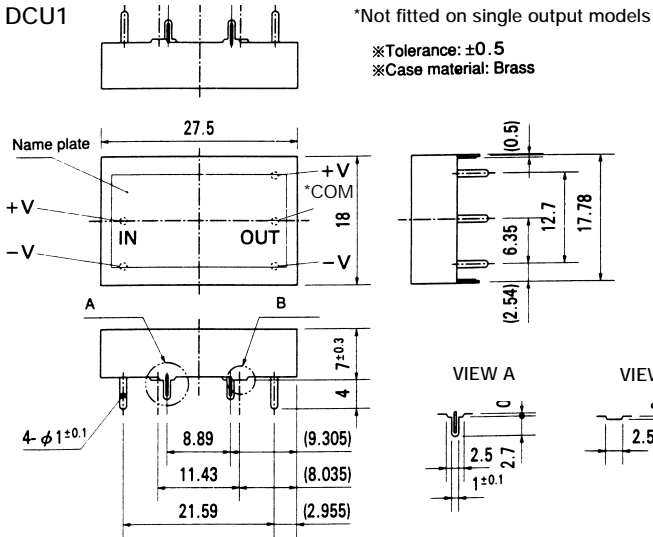


4 x 4mm ø holes  
85 x 60mm centres



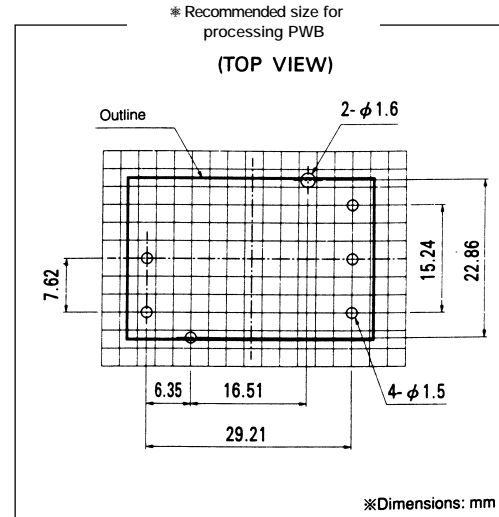
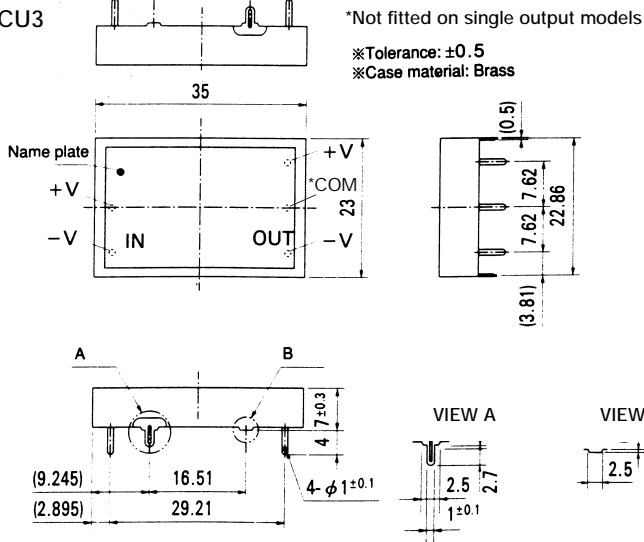
## Mechanical Details - 1.5 to 6 Watt Models

DCU1



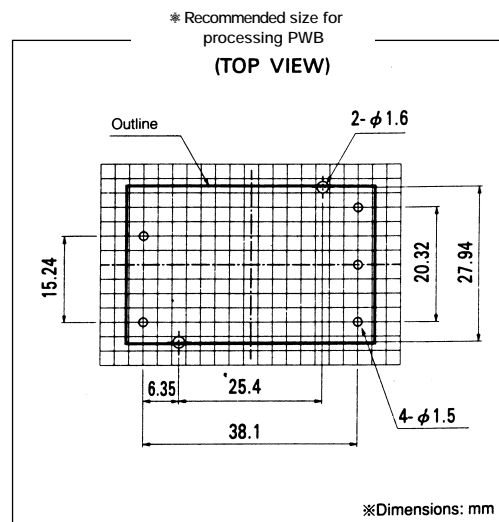
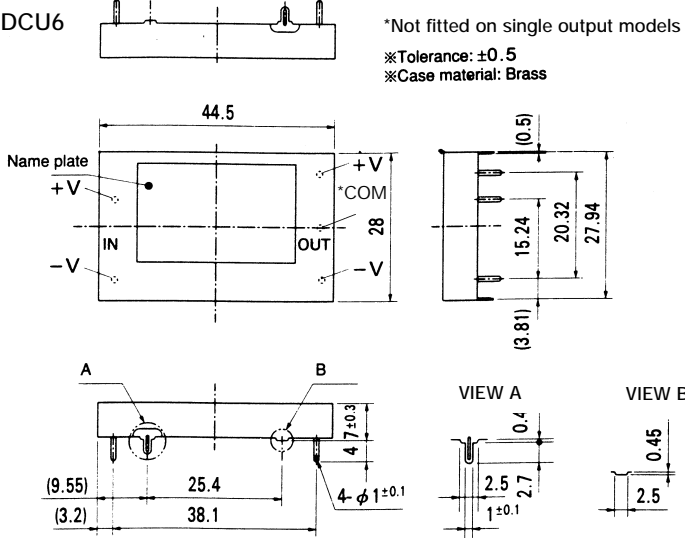
Weight 10g

DCU3



Weight 16g

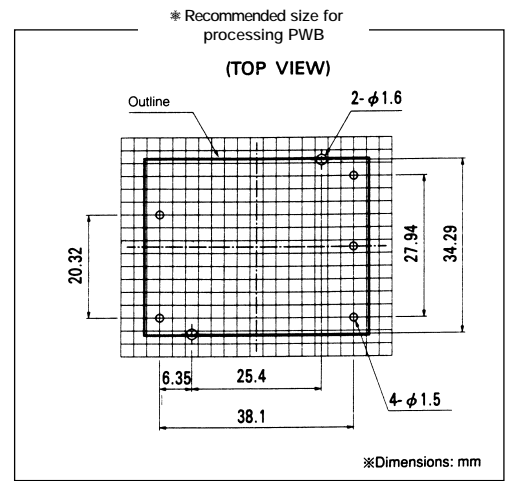
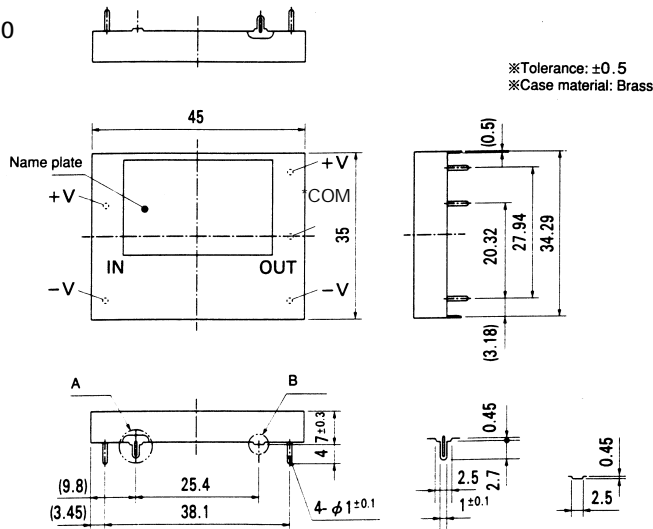
DCU6



Weight 25g

## Mechanical Details - 10 to 25 Watt Models

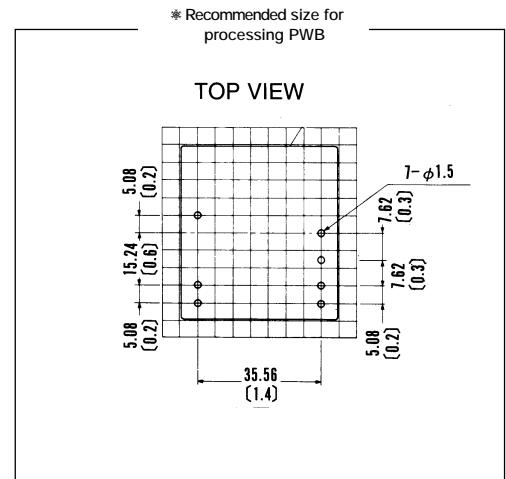
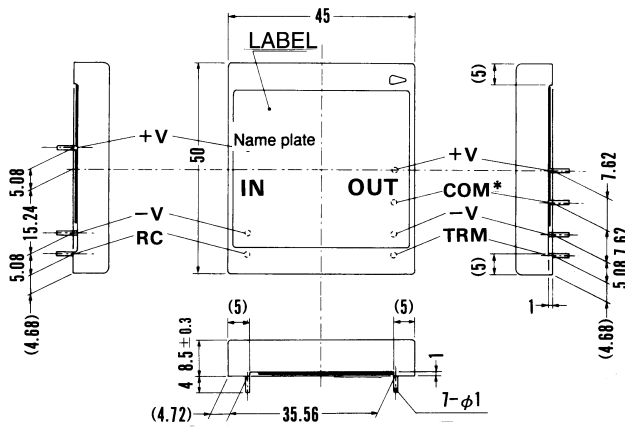
DCU10



Weight 40g

\*Not fitted on single output models

DCU15



Weight 55g

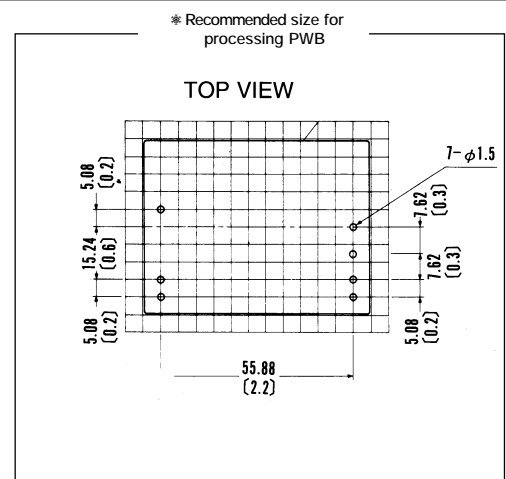
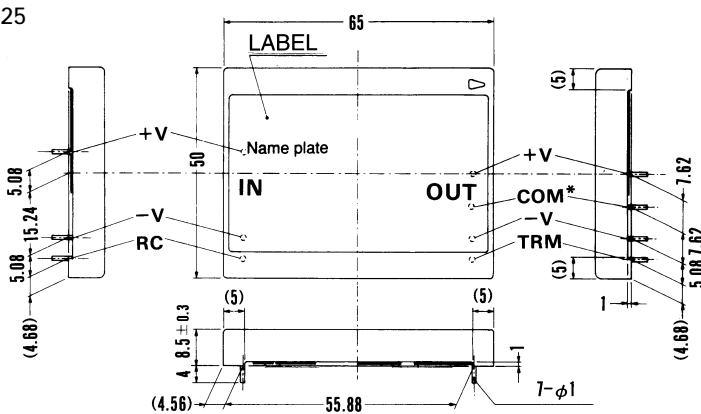
\*Not fitted on single output models.

N.B. Link RC to -ve I/P for operation (or TTL Low), O/C for shutdown (or TTL High)

\*Tolerance:  $\pm 0.5$

\*Dimensions in mm.

DCU25



Weight 65g

\*Not fitted on single output models.

N.B. Link RC to -ve I/P for operation (or TTL Low), O/C for shutdown (or TTL High)

\*Tolerance:  $\pm 0.5$

\*Dimensions in mm.