

MMT

A decorative graphic consisting of several overlapping, wavy, translucent blue bands that flow across the top of the page.

DC/DC CONVERTER

A graphic of a green leafy branch with several leaves and small water droplets, positioned on the left side of the page.

12

Watt

Wide Input Voltage Range 12Watt Dc-Dc Converter



FEATURES:

- 12W DIL PACKAGE
- 2:1 WIDE INPUT RANGE
- 100% BURNED IN
- HIGH EFFICIENCY
- UL94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- 3 YEARS WARRANTY
- Remote Control:On/Off



Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Input Voltage	Input Current		Output Voltage	Output Current	Efficiency
	Vdc	No Load (mA TYP)	Full Load (mA TYP)	Vdc	Full Load (mA)	
68D12-12S03RNL	9-18	40	1203	3.3	3500	80
68D12-12S05RNL	9-18	40	1220	5	2400	82
68D12-12S12RNL	9-18	40	1205	12	1000	83
68D12-12S15RNL	9-18	40	1205	15	800	83
68D12-12D05RNL	9-18	40	1205	±5	±1200	83
68D12-12D12RNL	9-18	40	1205	±12	±500	83
68D12-12D15RNL	9-18	40	1205	±15	±400	83
68D12-24S03RNL	18-36	30	602	3.3	3500	80
68D12-24S05RNL	18-36	30	610	5	2400	82
68D12-24S12RNL	18-36	30	602	12	1000	83
68D12-24S15RNL	18-36	30	602	15	800	83
68D12-24D05RNL	18-36	30	602	±5	±1200	83
68D12-24D12RNL	18-36	30	602	±12	±500	83
68D12-24D15RNL	18-36	30	602	±15	±400	83
68D12-48S03RNL	36-75	30	301	3.3	3500	80
68D12-48S05RNL	36-75	30	305	5	2400	82
68D12-48S12RNL	36-75	30	301	12	1000	83
68D12-48S15RNL	36-75	30	301	15	800	83
68D12-48D05RNL	36-75	30	301	±5	±1200	83
68D12-48D12RNL	36-75	30	301	±12	±500	83
68D12-48D15RNL	36-75	30	301	±15	±400	83

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Type				2:1	
Filter		PI Network			

Output Specifications

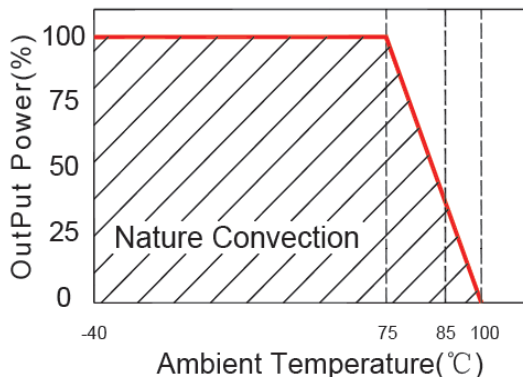
Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	Full load@Vin(nom.)			±2	%
Short Circuit Protection	Hiccup, automatic Recovery				
Line Regulation				±0.5	%
Load Regulation	Single Dual(Balance Load)			±0.5 ±0.5	%
Cross Regulation	Dual(25% To 100% Load)			±5	%
Ripple & Noise	Output:3-15V TYPES BW=DC To 20MHz			100	mVp-p
Ripple & Noise	Output > 15V TYPES BW=DC To 20MHz			1% of Vout	mVp-p
Transient response setting time	25% load step change		350		us

Wide Input Voltage Range 12Watt Dc-Dc Converter

General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Voltage			1500		Vdc
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency			400		KHz
Operating Temperature	With derating	-40		100	°C
Storage Temperature		-55		125	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	Nickel coated copper with no-conductive base				
MTBF	MIL-HDBK-217F@25°C	900000			Hours
Weight			17.5		g
Dimensions		31.6x20.1x10.0			mm

Temperature Derating Graph

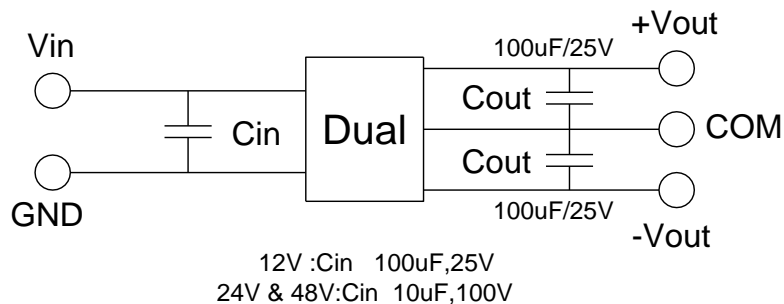
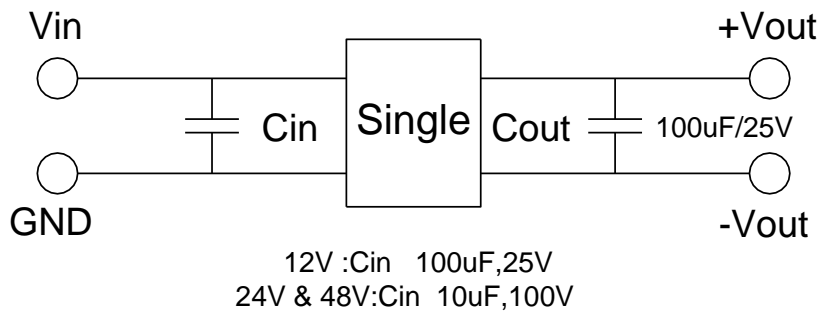


Part Number

68D12 - 24 S 05 R NL
 A B C D E F

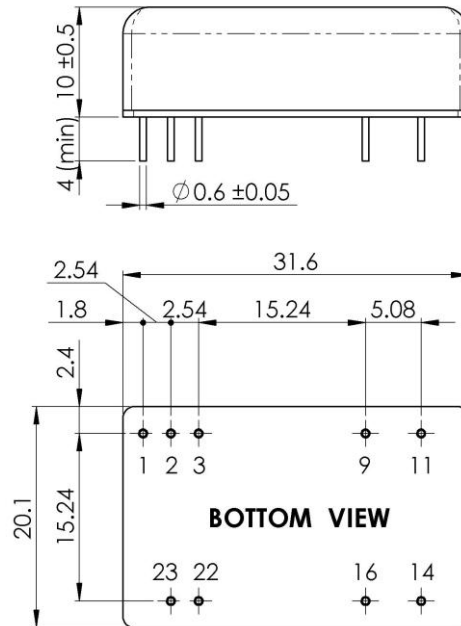
- A : Series
- B : Input Voltage
- C : Single Output(S), DUAL(D)
- D : Output Voltage
- E : Regulated(R)
- F : RoHs Version

Recommended Test Circuit



Wide Input Voltage Range 12Watt Dc-Dc Converter

Markings and Dimensions



Unit : mm
Tolerance : XX.X \pm 0.5 , XX.XX \pm 0.25

PIN Assignment							
PIN	1	2,3	9	11	14	16	22,23
SINGLE	Remote ON/OFF	-Vin	NC	NC	+Vout	-Vout	+Vin
DUAL	Remote ON/OFF	-Vin	Common	-Vout	+Vout	Common	+Vin

Wide Input Voltage Range 12Watt Dc-Dc Converter



FEATURES:

- 12W DIL PACKAGE
- 4:1 WIDE INPUT RANGE
- 100% BURNED IN
- HIGH EFFICIENCY
- UL94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- 3 YEARS WARRANTY
- Remote Control:On/Off



Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Input Voltage	Input Current		Output Voltage	Output Current	Efficiency
	Vdc	No Load (mA TYP)	Full Load (mA TYP)	Vdc	Full Load (mA)	%TYP
68DW12-24S03RNL	9-36	50	602	3.3	3500	80
68DW12-24S05RNL	9-36	50	610	5	2400	82
68DW12-24S12RNL	9-36	30	602	12	1000	83
68DW12-24S15RNL	9-36	30	602	15	800	83
68DW12-24D05RNL	9-36	30	602	±5	±1200	83
68DW12-24D12RNL	9-36	30	602	±12	±500	83
68DW12-24D15RNL	9-36	30	602	±15	±400	83
68DW12-48S03RNL	18-75	40	301	3.3	3500	80
68DW12-48S05RNL	18-75	40	305	5	2400	82
68DW12-48S12RNL	18-75	30	301	12	1000	83
68DW12-48S15RNL	18-75	30	301	15	800	83
68DW12-48D05RNL	18-75	30	301	±5	±1200	83
68DW12-48D12RNL	18-75	30	301	±12	±500	83
68DW12-48D15RNL	18-75	30	301	±15	±400	83

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Type				4:1	
Filter		PI Network			

Output Specifications

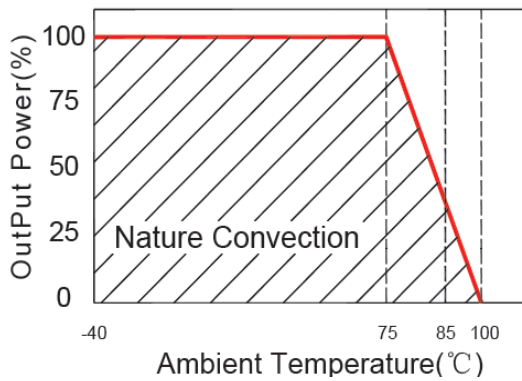
Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	Full load@Vin(nom.)			±2	%
Short Circuit Protection	Hiccup, automatic Recovery				
Line Regulation				±0.5	%
Load Regulation	Single Dual(Balance Load)			±0.5 ±0.5	%
Cross Regulation	Dual(25% To 100% Load)			±5	%
Ripple & Noise	Output:3-15V TYPES BW=DC To 20MHz			100	mVp-p
Ripple & Noise	Output > 15V TYPES BW=DC To 20MHz			1% of Vout	mVp-p
Transient response setting time	25% load step change		350		us

Wide Input Voltage Range 12Watt Dc-Dc Converter

General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Voltage			1500		Vdc
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency			400		KHz
Operating Temperature	With derating	-40		100	°C
Storage Temperature		-55		125	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	Nickel coated copper with no-conductive base				
MTBF	MIL-HDBK-217F@25°C	900000			Hours
Weight			17.5		g
Dimensions			31.6x20.1x10.0		mm

Temperature Derating Graph

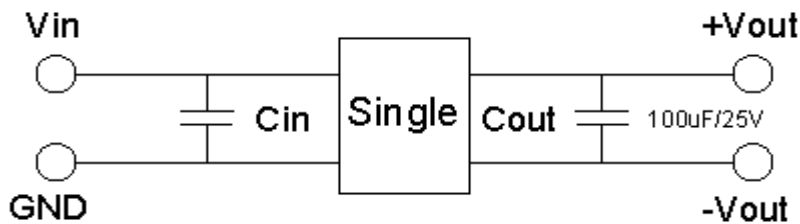


Part Number

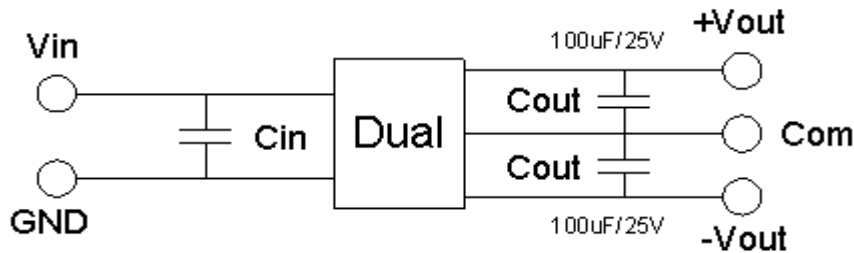
68DW12 - 24 S 05 R NL
 A B C D E F

- A : Series
- B : Input Voltage
- C : Single Output(S), DUAL(D)
- D : Output Voltage
- E : Regulated(R)
- F : RoHs Version

Recommended Test Circuit



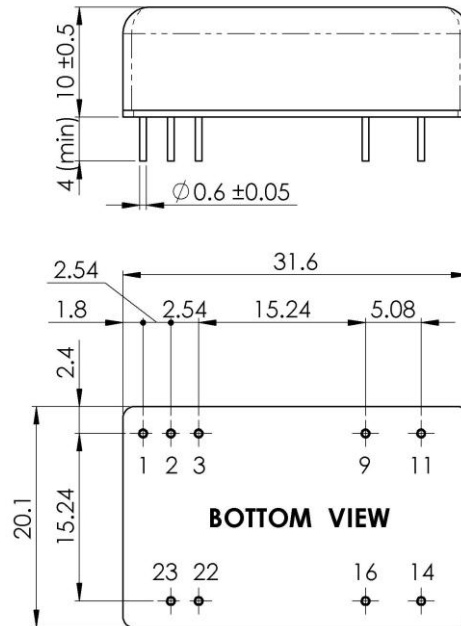
24V&48V: Cin 10uF, 100V



24V & 48V : Cin 10uF, 100V

Wide Input Voltage Range 12Watt Dc-Dc Converter

Markings and Dimensions



Unit : mm
Tolerance : XX.X \pm 0.5 , XX.XX \pm 0.25

PIN Assignment							
PIN	1	2,3	9	11	14	16	22,23
SINGLE	Remote ON/OFF	-Vin	NC	NC	+Vout	-Vout	+Vin
DUAL	Remote ON/OFF	-Vin	Common	-Vout	+Vout	Common	+Vin