COIL TECHNOLOGY CORPORATION

15 W DC/DC CONVERTERS

CTC TECHNOLOGY CO.,LTD.
DC / DC CONVERTER

PC15WR Series , 15 Watts

Features

- 15 Watts Output Power (PWM Design)
- 2 : 1 Wide Input Voltage Range
- 2000VDC Isolation ("H" means 3000VDC)
- Remote On/Off control
- Continuous Short Circuit Protection
- UL1950 Component Recognized
- Standard 2" * 1" Metal Package
- High Efficiency up to 87%
- ROHS Compliant

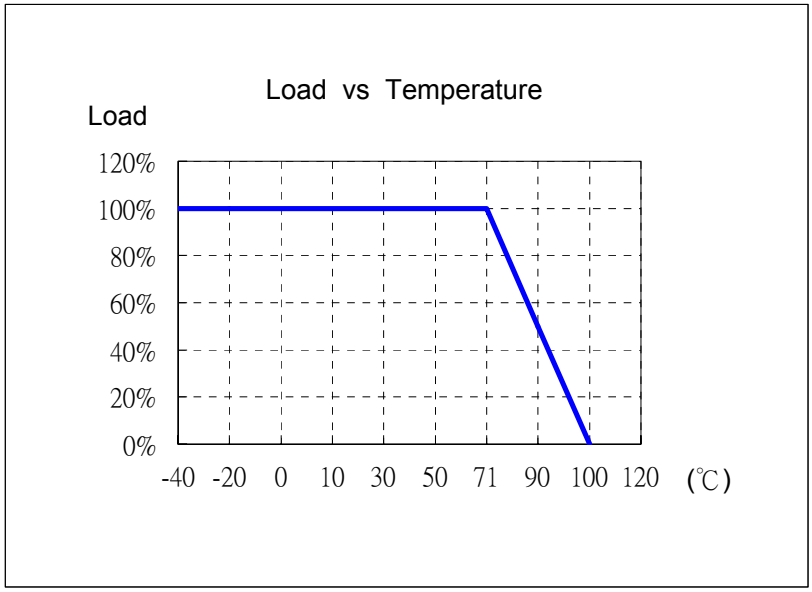
Selection Guide

Model Number	Input		Output		Efficiency (typical)
	Voltage	Current	Voltage	Current	
PC15WR - 123.3	9 - 18 VDC	982 mA	3.3 VDC	3000 mA	84%
PC15WR - 1205		1453 mA	5.0 VDC	3000 mA	86%
PC15WR - 1212		1471 mA	12 VDC	1250 mA	85%
PC15WR - 1215		1471 mA	15 VDC	1000 mA	85%
PC15WR - 1205D		1506 mA	± 5.0 VDC	± 1500 mA	83%
PC15WR - 1212D		1471 mA	± 12 VDC	± 625 mA	85%
PC15WR - 1215D		1471 mA	± 15 VDC	± 500 mA	85%
PC15WR - 243.3	18 - 36 VDC	485 mA	3.3 VDC	3000 mA	85%
PC15WR - 2405		718 mA	5.0 VDC	3000 mA	87%
PC15WR - 2412		727 mA	12 VDC	1250 mA	86%
PC15WR - 2415		727 mA	15 VDC	1000 mA	86%
PC15WR - 2405D		744 mA	± 5.0 VDC	± 1500 mA	84%
PC15WR - 2412D		727 mA	± 12 VDC	± 625 mA	86%
PC15WR - 2415D		727 mA	± 15 VDC	± 500 mA	86%
PC15WR - 483.3	36 - 75 VDC	246 mA	3.3 VDC	3000 mA	84%
PC15WR - 4805		363 mA	5.0 VDC	3000 mA	86%
PC15WR - 4812		368 mA	12 VDC	1250 mA	85%
PC15WR - 4815		368 mA	15 VDC	1000 mA	85%
PC15WR - 4805D		376 mA	± 5.0 VDC	± 1500 mA	83%
PC15WR - 4812D		368 mA	± 12 VDC	± 625 mA	85%
PC15WR - 4815D		368 mA	± 15 VDC	± 500 mA	85%

Specifications

Input Specifications		
Input Filter		Pi type
Input Voltage Range		2 : 1
Start up Times (at Nominal Vin)		300 ms typ
Remote ON / OFF (Note 1)	DC-DC ON DC-DC OFF	Open or 3.5V < Vr <12V Short or 0V < Vr <1.2V
Output Specifications		
Voltage Accuracy (Full Load & Nominal Vin)		± 2 % max
Minimum Load (Note 2)		10% of Full Load
Line Regulation (Low line to Hi line at Full Load)		± 1 % max
Load Regulation (25% to 100% Load)	Single output Dual output	± 1 % max ± 2 % max
Cross Regulation (25% to 100% Load) (Note 3)		± 5 % max
Ripple & Noise @ 20MHZ BW (Note 4)		100 mVp-p max
Temperature Coefficient		± 0.05 % / ℃ max
Over Load Protection (Full Load & Nominal Vin)		140 % typ
Short Circuit Protection		Continuous , Automatic recovery
General Specifications		
Efficiency (at Nominal Vin)		See the table
Isolation Voltage (1 second)	Input to Output	2000VDC min
Isolation Resistance		1GΩ min
Isolation Capacitance		1200 pF max
Operating Frequency		300 KHz typ
MTBF (25℃)		>700K hours
Conducted Emissions (Note 5)	EN55022	CLASS A
Radiated Emissions	EN55022	CLASS A
Vibration		10-55Hz , 2G , 30 Min along X,Yand Z
Environment Specifications		
Operating Temperature Range		- 40℃ to + 71℃
Storage Temperature Range		- 55℃ to + 105℃
Maximum Case Temperature		100 ℃ max
Relative Humidity		5 % to 95 % RH max
Physical Specifications		
Case Material		Nickel plated copper
Base Material		Non-Conductive black plastic
Potting Material		Epoxy (UL94V-0)
Dimension		50.80 * 25.40 * 10.20
Weight		27g typ

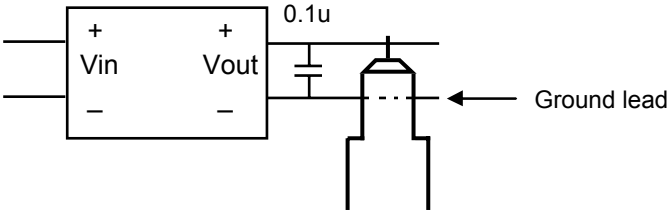
Power Derating Curve



AMBIENT TEMPERATURE (℃)

NOTE :

1. The ON/OFF control pin voltage is referenced to negative input.
2. The dc/dc converter requires a minimum of 10% loading , the output to maintain specified regulation .
3. One load is 25% to 100% load, the other load is 100% load , the output voltage variable rate is within ±5% .
4. Measured with 20MHz bandwidth and 0.1uF ceramic capacitor .
5. Requires External Filter to meet EN55022 Class A.

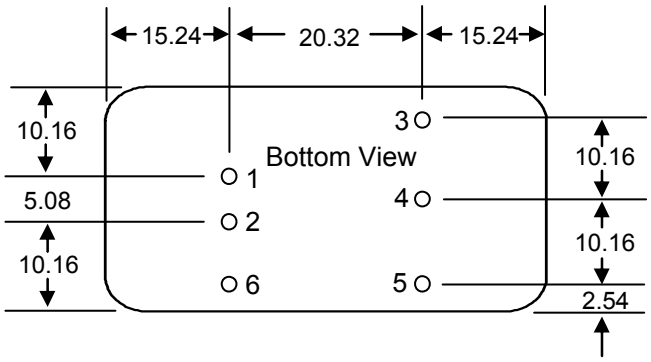


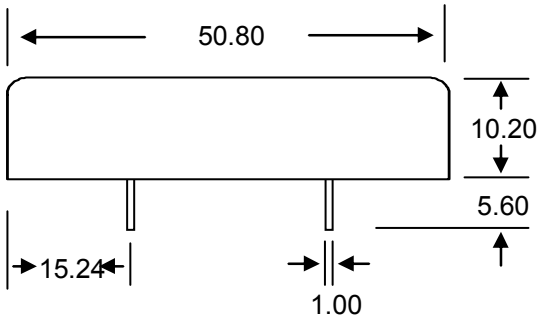
MODEL NUMBER STRUCTURE

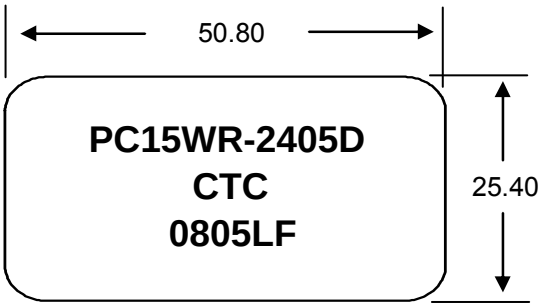
PC15WR-2405 **PC15WR-2405D** **PC15WR-2405DH**

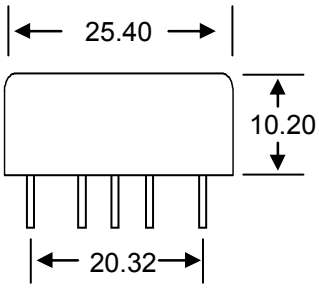
PC : 2" * 1" Package
15 : 15 Watts
WR : Wide Range (2 : 1)
24 : Input Voltage Range . 12 (9 ~ 18) , 24 (18 ~ 36) , 48 (36 ~ 75)
05 : Output Voltages . (3.3 : 3.3V) (05 : 5V) (12 : 12V) (15 : 15V)
D : Dual Output
H : 3KVDC Isolation

Mechanical Dimensions & Pin Connections









Pin	Single	Dual
1	+Vin	+Vin
2	- Vin	- Vin
3	+Vout	+Vout
4	No Pin	Com
5	- Vout	- Vout
6	Remote	Remote

Tol : ± 0.35 mm
Pin : ± 0.05 mm
Case Tolerance: ± 0.5 mm

CTC TECHNOLOGY CO.,LTD.
DC / DC CONVERTER

PC15WR4 Series , 15 Watts

Features

- 15 Watts Output Power (PWM Design)
- 4 : 1 Wide Input Voltage Range
- 2000VDC Isolation ("H" means 3000VDC)
- Remote On/Off control
- Continuous Short Circuit Protection
- UL1950 Component Recognized
- Standard 2" * 1" Metal Package
- High Efficiency up to 87%
- ROHS Compliant

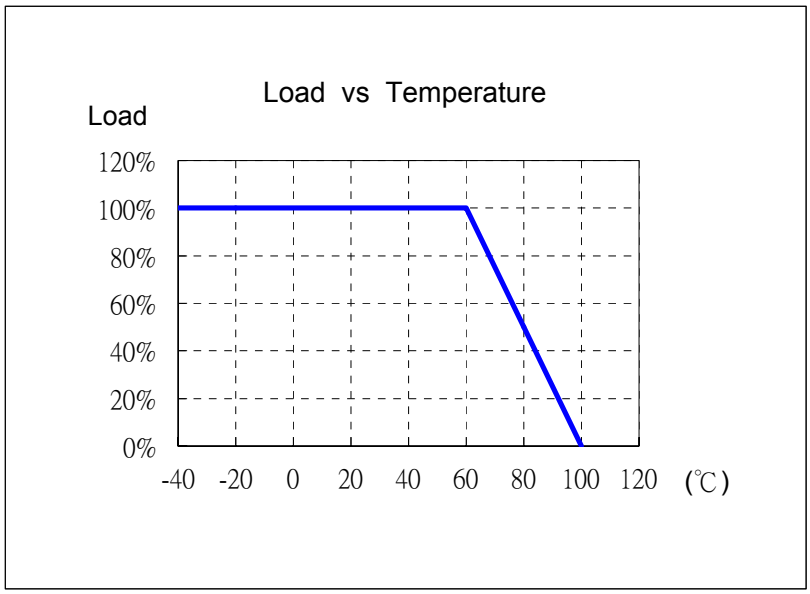
Selection Guide

Model Number	Input		Output		Efficiency (typical)
	Voltage	Current	Voltage	Current	
PC15WR4 - 243.3	9 - 36 VDC	485 mA	3.3 VDC	3000 mA	85%
PC15WR4 - 2405		718 mA	5.0 VDC	3000 mA	87%
PC15WR4 - 2412		727 mA	12 VDC	1250 mA	86%
PC15WR4 - 2415		727 mA	15 VDC	1000 mA	86%
PC15WR4 - 2412D		727 mA	± 12 VDC	± 625 mA	86%
PC15WR4 - 2415D		727 mA	± 15 VDC	± 500 mA	86%
PC15WR4 - 483.3	18 - 75 VDC	246 mA	3.3 VDC	3000 mA	84%
PC15WR4 - 4805		363 mA	5.0 VDC	3000 mA	86%
PC15WR4 - 4812		368 mA	12 VDC	1250 mA	85%
PC15WR4 - 4815		368 mA	15 VDC	1000 mA	85%
PC15WR4 - 4812D		368 mA	± 12 VDC	± 625 mA	85%
PC15WR4 - 4815D		368 mA	± 15 VDC	± 500 mA	85%

Specifications

Input Specifications		
Input Filter		Pi type
Input Voltage Range		4 : 1
Start up Times (at Nominal Vin)		300 ms typ
Remote ON / OFF (Note 1)	DC-DC ON	Open or 3.5V < Vr <12V
	DC-DC OFF	Short or 0V < Vr <1.2V
Output Specifications		
Voltage Accuracy (Full Load & Nominal Vin)		± 1.5 % max
Minimum Load (Note 2)		2% of Full Load
Line Regulation (Low line to Hi line at Full Load)		± 1 % max
Load Regulation (25% to 100% Load)	Single output	± 1 % max
	Dual output	± 2 % max
Cross Regulation (25% to 100% Load) (Note 3)		± 5 % max
Ripple & Noise @ 20MHZ BW (at Nominal Vin) (Note 4)		100 mVp-p max
Temperature Coefficient		± 0.05 % / ℃ max
Over Load Protection (Full Load & Nominal Vin)		150 % typ
Short Circuit Protection		Continuous , Automatic Recovery
General Specifications		
Efficiency (at Nominal Vin)		See the table
Isolation Voltage (1 second)	Input to Output	2000VDC min
Isolation Resistance		1GΩ min
Isolation Capacitance		1200 pF max
Operating Frequency		300 KHz typ
MTBF (25℃)		>700K Hours
Conducted Emissions (Note 5)	EN55022	CLASS A
Radiated Emissions (Note 5)	EN55022	CLASS A
Vibration		10-55Hz , 2G , 30 Min along X,Yand Z
Environment Specifications		
Operating Temperature Range		(with Derating) - 40℃ to + 85℃
Storage Temperature Range		- 55℃ to + 105℃
Maximum Case Temperature		100 ℃ max
Relative Humidity		5 % to 95 % RH max
Physical Specifications		
Case Material		Nickel plated copper
Base Material		Non-Conductive black plastic
Potting Material		Epoxy (UL94V-0)
Dimension		50.80 * 25.40 * 10.20
Weight		27g typ

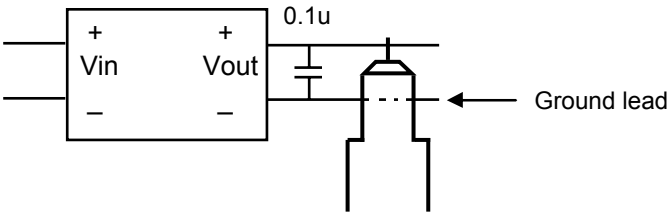
Power Derating Curve



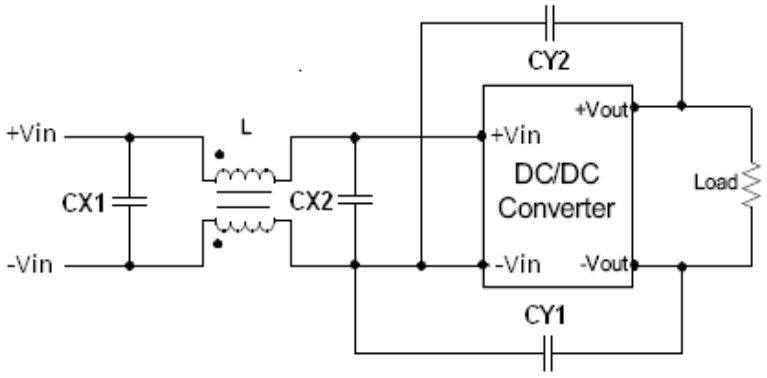
AMBIENT TEMPERATURE (℃)

NOTE :

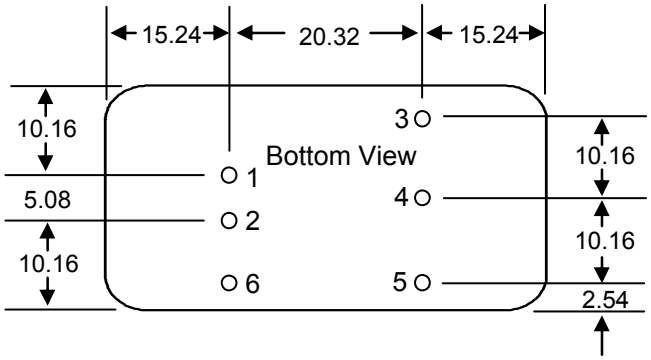
1. The ON/OFF control pin voltage is referenced to negative input.
2. The dc/dc converter requires a minimum of 2% loading , the output to maintain specified regulation .
3. One load is 25% to 100% load, the other load is 100% load , the output voltage variable rate is within ±5% .
4. Measured with 20MHz bandwidth and 0.1uF ceramic capacitor .

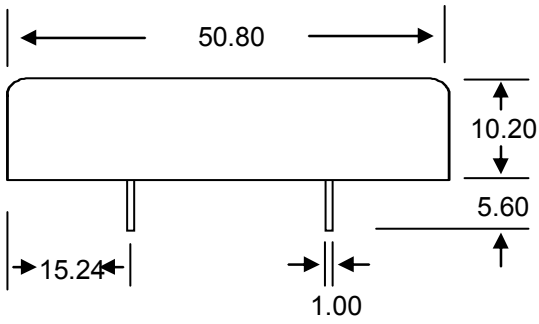


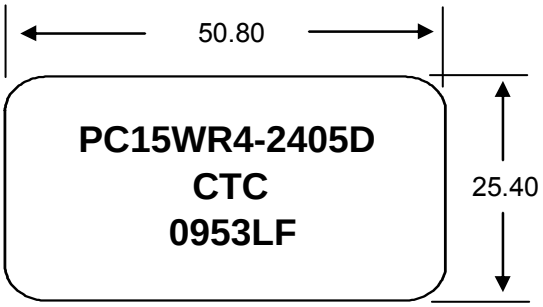
5. Requires External Filter to meet EN55022 Class A.

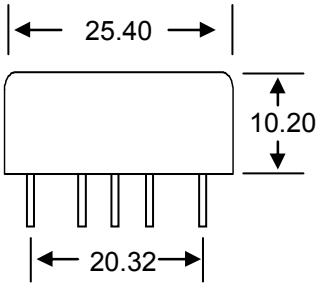


Mechanical Dimensions & Pin Connections









1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Com
5	-Vout	-Vout
6	Remote ON/OFF	

Tol : ± 0.35 mm
Pin : ± 0.05 mm
Case Tolerance: ± 0.5 mm