

### Features:



- 5W Small Compact Size 25.4 x 25.4 x 17.6mm
- Wide AC & DC Input 85V to 305VAC
- Temperature Range -40°C to +85°C
- Output Range: 3.3V - 24VDC
- Low Standby Power <0.1W
- Fully Isolated Pri - Sec >4200Vrms
- Insulation: Class II
- OVC III
- Materials: UL94-V0
- IEC/EN/UL62368, EN61558, EN60335
- 3 Year Warranty



### Description

VTX-214-005-6### is a compact size AC-DC converter. It features a wide AC input 85V to 305Vac and a DC input voltage 100 to 430VDC. The converters have been designed with low power consumption, high efficiency, high reliability, reinforced isolation. It offers good EMC performance compliant to IEC/EN61000-4 and CIS-PR32/EN55032 and meets IEC/EN/UL62368, EN60335, EN61558 standards. The converters are widely used in industrial power, home appliances, instrumentation, communication and civil applications. For extremely harsh EMC environment, we recommend using the application circuit show in this Datasheet or contact our Technical team for further support.

### Selection Guide

Part Number	Power Rating Watts	Output Voltage (VDC)	Output Current (mA)	Ambient Temp. (°C)	Efficiency Typical	Input Range
<b>VTX-214-005-603</b>	5	3.3	1515	55°C (85°C @ 50%)	>72%	85 - 305VAC (100 - 430VDC)
<b>VTX-214-005-605</b>	5	5	1000			
<b>VTX-214-005-609</b>	5	9	555			
<b>VTX-214-005-612</b>	5	12	416			
<b>VTX-214-005-615</b>	5	15	333			
<b>VTX-214-005-618</b>	5	18	277			
<b>VTX-214-005-624</b>	5	24	208			

**Note: Other output voltages are available upon request.**

Please contact Vigortronix for any enquiries. Products can be altered to suit custom requirements.  
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Input Specification					
Item	Conditions	Min	Typical	Max	Unit
<b>Input Voltage</b>	AC Input	85	-	305	VAC
	DC Input	100	-	430	VDC
<b>Input Frequency</b>		47	-	63	Hz
<b>Input Current</b>	115VAC	-	-	0.13	A
	230VAC	-	-	0.07	
<b>Inrush Current</b>	115VAC	-	15	-	
	230VAC	-	25	-	
<b>Leakage Current</b>	277VAC / 50Hz	0.3mA RMS Max			
<b>External Input Fuse</b>		2Amp Slow Blow Fuse			

Output Specification					
Item	Conditions	Min	Typical	Max	Unit
<b>Output Voltage</b>	3.3VAV Output	-	+/-3	-	%
	Other Outputs	-	+/-2-	-	
<b>Line Regulation</b>	Full Load	-	+/-0.5	-	
<b>Load Regulation</b>	0% - 100% Load	-	+/-1	-	
<b>Ripple / Noise</b>	20MHz Bandwidth (Peak to Peak Value)	-	50	120	mV
<b>Stand by Power</b>	230VAC	-	0.1	-	W
<b>Temp. Coefficient</b>		-	+/-0.02	-	%/°C
<b>Short Circuit Protection</b>		Hiccup, Continuous, Self-recovery			
<b>Over Current Protection</b>		>110% Load Self-recovery			
<b>Over Voltage Protection</b>		Hiccup, Continuous, Self-recovery			
<b>Minimum Load</b>		0	-	-	%
<b>Hold-up Time</b>	115VAC Input	-	5	-	mS
	230VAC Input	-	50	-	

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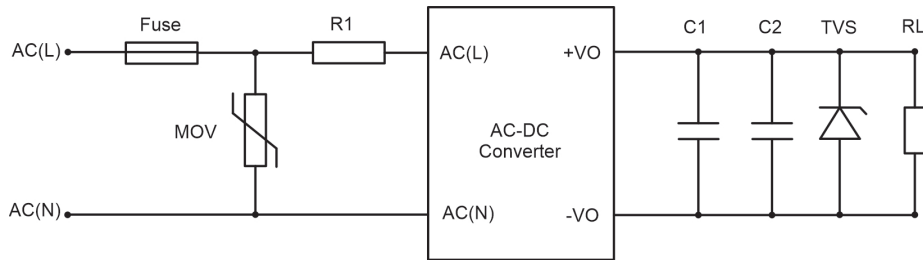
General Specification					
Item	Conditions	Min	Typical	Max	Unit
<b>Dielectric Strength</b>	Input to Output (1Min, 5mA)	4000	-	-	VAC
<b>Operating Temperature</b>		-40	-	+85	°C
<b>Storage Temperature</b>		-40	-	+105	
<b>Storage Humidity</b>		-	-	+95	%RH
<b>Soldering Temperature</b>	Wave Soldering	260 +/-5°C			
	Manual Soldering	360 +/-5°C			
<b>Switching Frequency</b>		-	65	-	KHz
<b>Altitude</b>		-	-	5000	m
<b>Safety Class</b>		CLASS II			
<b>MTBF</b>		>2600,000Hrs @ 25°C (MIL-HDBK-217F)			
<b>Designed Life</b>	25°C, 230VAC 100% Load	>150x10 <sup>3</sup> h			
	70°C, 230VAC 100% Load	>27x10 <sup>3</sup> h			
<b>Safety Approvals</b>		IEC/EN/UL62368, EN61558, EN60335			
<b>Cooling Method</b>		Free Air Convection			
<b>Weight</b>		18g			
<b>Body Colour</b>		Orange or Black			

EMC Specification		
<b>Emissions</b>	CE /RE	CISPR32 / EN55032 CLASS B EN55014-1
<b>Immunity</b>	ESD	IEC/EN 61000-4-2 CONTACT +/-6KV CONTACT +/-8KV
	RS	IEC/EN 61000-4-3 10V/m EN55014-2
	EFT	IEC/EN 61000-4-4
	SURGE	IEC/EN 61000-4-5, EN55014-2
	CS	IEC/EN 61000-4-6 10V/r.m.s. EN55014-2
	Voltage Variation	IEC/EN 61000-4-11, EN55014-2

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**Application Schematic for EMC Figure 1**

Typical Application EMC

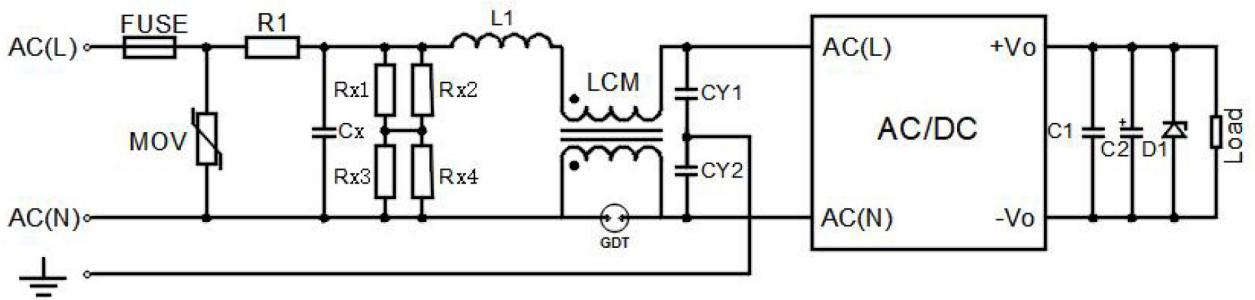


Optional: R1 to reduce any Surge currents, 12Ω/3W wire wound resistor

Part Number	C1 (uF)	C2 (uF)	TVS	Fuse	MOV	Capacitance Load Max
VTX-214-005-603	1.0	150	SMBJ7.0A	2Amp/300V Slow Blow	S14K350	4000 uF
VTX-214-005-605		150	SMBJ7.0A			3000 uF
VTX-214-005-609		120	SMBJ12A			1200 uF
VTX-214-005-612		120	SMBJ20A			1200 uF
VTX-214-005-615		120	SMBJ20A			680 uF
VTX-214-005-618		120	SMBJ20A			680 uF
VTX-214-005-624		68	SMBJ30A			220 uF

Note: For additional filtering requirements, contact technical support

**Application Schematic for EMC Figure 2**

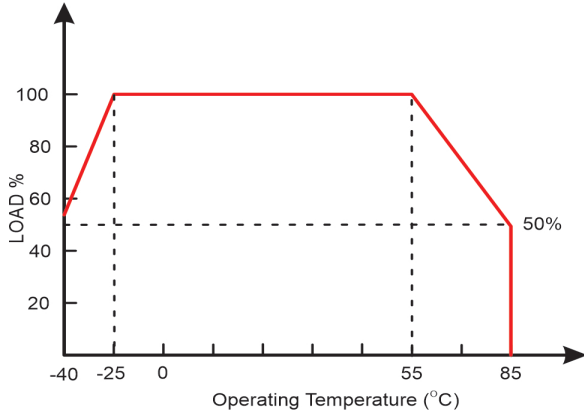


Part	Value
Cx	0.33uF/305VAC
L1	1.2mH/0.3A
CY1, CY2	1nF/400VAC
GDT	300V/1KA
LCM	22mH CM Choke
Rx1, Rx2, Rx3, Rx4	2MΩ/1206

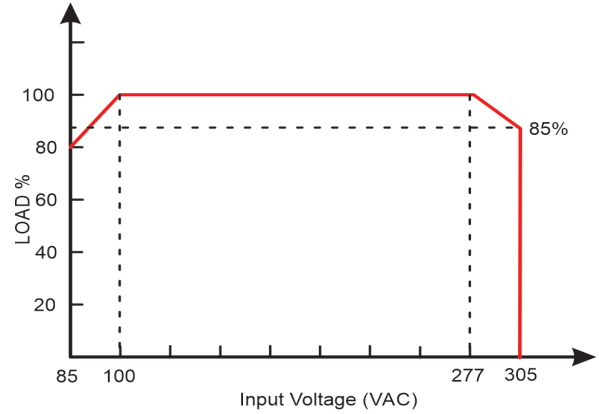
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## Derating Graphs

### Temperature Derating Graph

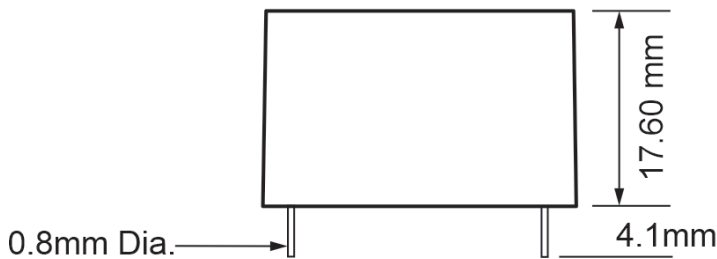


### Input Voltage Derating Graph

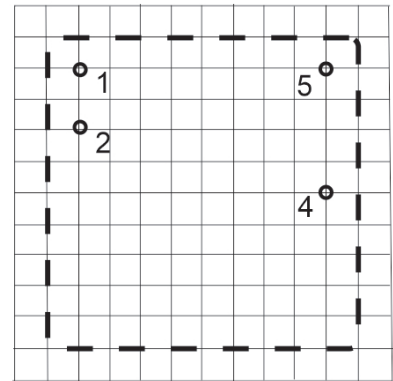


## Dimensions

### Side View



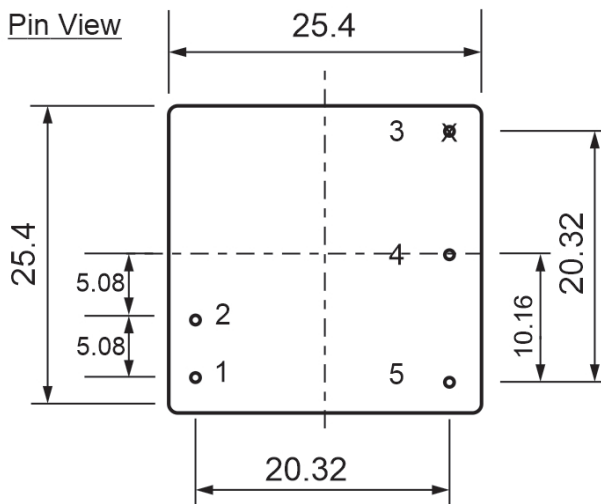
### Top View



Grid Pitch 2.54 x 2.54mm (0.1 x 0.1 Inch)

Recommended PCB Pad hole 1.2mm Dia.

### Pin View



(Tolerances: x.xx = ± 0.05, x.x = ± 0.5)

PIN Number	Function
1	AC(N)
2	AC(L)
3	Not fitted
4	-Vo
5	+Vo

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