

0.5 Watt**4 Pin SIL Package K**

- o Ultra-Miniature Size
- o Unregulated Output
- o 1000 VDC Isolation
3000 VDC Isolation add Suffix „H3“
- o Only Single Output

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	INPUT CURRENT		OUTPUT CURRENT	%EFF	CAPACITIVE LOAD
			NO LOAD	FULL LOAD	FULL LOAD		
0.5KUS5N3.3M	5 VDC	3.3 VDC	30 mA	134 mA	151.5 mA	75	100 μF
0.5KUS5N5M		5 VDC		129 mA	100 mA	78	
0.5KUS5N7.2M		7.2 VDC		136 mA	69.44 mA	74	
0.5KUS5N9M		9 VDC		134 mA	55.55 mA	75	
0.5KUS5N12M		12 VDC		132 mA	41.67 mA	76	
0.5KUS5N15M		15 VDC			33.33 mA		
0.5KUS5N18M		18 VDC		134 mA	27.77 mA	75	
0.5KUS5N24M		24 VDC		139 mA	20.83 mA	72	
0.5KUS12N3.3M	12 VDC	3.3 VDC	20 mA	60 mA	151.5 mA	70	
0.5KUS12N5M		5 VDC		56 mA	100 mA	74	
0.5KUS12N7.2M		7.2 VDC			69.44 mA		
0.5KUS12N9M		9 VDC			55.55 mA	75	
0.5KUS12N12M		12 VDC		60 mA	41.67 mA	70	
0.5KUS12N15M		15 VDC			33.33 mA		
0.5KUS12N18M		18 VDC			27.77 mA		
0.5KUS12N24M		24 VDC			20.83 mA		
0.5KUS24N3.3M	24 VDC	3.3 VDC	10 mA	31 mA	151.5 mA	67	
0.5KUS24N5M		5 VDC		29 mA	100 mA	72	
0.5KUS24N7.2M		7.2 VDC		31 mA	69.44 mA	67	
0.5KUS24N9M		9 VDC			55.55 mA		
0.5KUS24N12M		12 VDC		31 mA	41.67 mA	72	
0.5KUS24N15M		15 VDC		29 mA	33.33 mA		
0.5KUS24N18M		18 VDC		30 mA	27.77 mA	70	
0.5KUS24N24M		24 VDC			20.83 mA		

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	INPUT CURRENT		OUTPUT CURRENT	%EFF	CAPACITIVE LOAD
			NO LOAD	FULL LOAD	FULL LOAD		
0.5KUS48N3.3M	48 VDC	3.3 VDC	6 mA	17 mA	151.5 mA	62	100 μF
0.5KUS48N5M		5 VDC		16 mA	100 mA	65	
0.5KUS48N7.2M		7.2 VDC		17 mA	69.44 mA	62	
0.5KUS48N9M		9 VDC			55.55 mA		
0.5KUS48N12M		12 VDC			41.67 mA		
0.5KUS48N15M		15 VDC			33.33 mA		
0.5KUS48N18M		18 VDC			27.77 mA		
0.5KUS48N24M		24 VDC			20.83 mA		

INPUT SPECIFICATIONS

Input Voltage Range	$\pm 10\%$
Input Filter	Capacitors
Input Reflected Ripple Current ¹⁾	20 mA p-p

OUTPUT SPECIFICATIONS

Voltage Accuracy	$\pm 3\%$
Temperature Coefficient	$\pm 0.02\%/^{\circ}\text{C}$
Capacitive Load ²⁾	100 μ F
Ripple and Noise ³⁾ , 20MHz BW	100 mV p-p
Line Regulation	$\pm 1.2\%/1\%$ of Vin Change
Load Regulation	20% to 100% Load 3.3 V Models
	$\pm 10\%$ $\pm 20\%$

NOTE:

1. Measured Input reflected ripple current with a simulated source inductance of 12 μ H.
2. Tested by minimal Vin and constant resistive load.
3. Ripple/Noise is measured with 20 MHz bandwidth.

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GENERAL SPECIFICATION

Efficiency	see table	
Isolation Voltage (3 sec) add Suffix "H3"	Input/Output	1000 VDC 3000 VDC
Isolation Resistance	1000 Mohms	
Isolation Capacitance	60 pF	
Switching Frequency	variable 80 kHz	
Operating Temperature Range	-40°C to +85°C (see Derating Curve)	
Case Temperature	+100°C max.	
Storage Temperature Range	-40°C to +125°C	
Humidity	95% rel H	
Reliability Calculated MTBF (MIL-HDBK-217F)	>1.121 Mhrs	
Safety Standard (designed to meet)	IEC60950-1	
Radiated Emissions	EN55022 Class B FCC 47 CFR Part 15 Subpart B Class B	
ESD (Electrostatic Discharge)	IEC61000-4-2 Perf. Criteria B	
RS (Radiated, Radio-Frequency, Electromagnetic Field)	IEC61000-4-3 Perf. Criteria A	
Cooling	Natural Convection	
Case Material	Non-Conductive Black Plastic (UL94V-0 rated)	
Pin Material	0.5 mm Alloy42 Solder-coated	
Potting Material	Epoxy (UL94V-0 rated)	
Weight	1.5 g	
Dimensions	48 V	11.68 x 6.00 x 10.15 mm (0.46 x 0.24 x 0.40 Inches) 11.68 x 7.50 x 10.15 mm (0.46 x 0.29 x 0.40 Inches)

ABSOLUTE SPECIFICATIONS

These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.

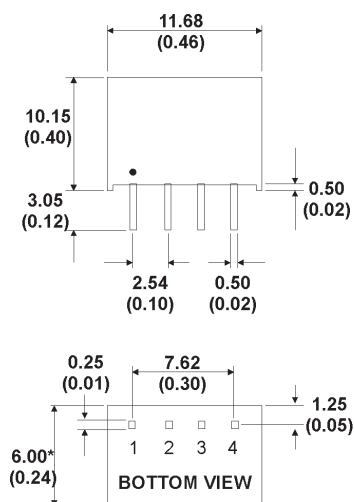
Input Voltage (100 mS)	5 V	0 VDC to 7 VDC
	12 V	0 VDC to 15 VDC
	24 V	0 VDC to 28 VDC
	48 V	0 VDC to 54 VDC
Models Lead Soldering Temperature (1.5 mm from case 10 sec.)		+260°C

NOTE:

Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.

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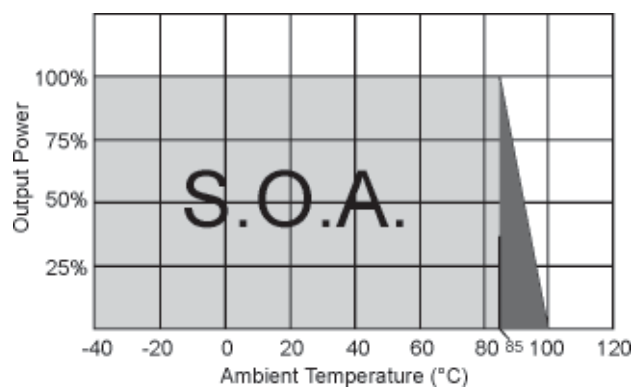
MECHANICAL SPECIFICATIONS**CASE "K"**

PIN CONNECTIONS	
1	-INPUT
2	+INPUT
3	-OUTPUT
4	+OUTPUT

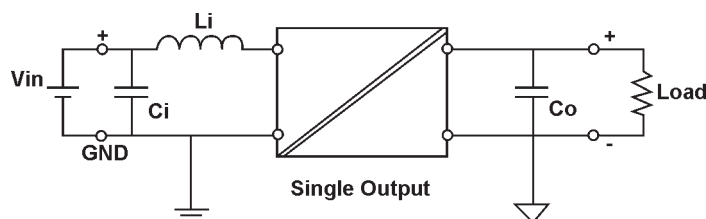
All Dimensions in mm (Inches).

Tolerances: Pin Diameter: 0.5 ± 0.05 (0.02 ± 0.002)Pin Pitch: ± 0.35 (± 0.014)Case: ± 0.5 (± 0.02)

*The thickness of 48V Input Voltage Model is 7.50 (0.29)

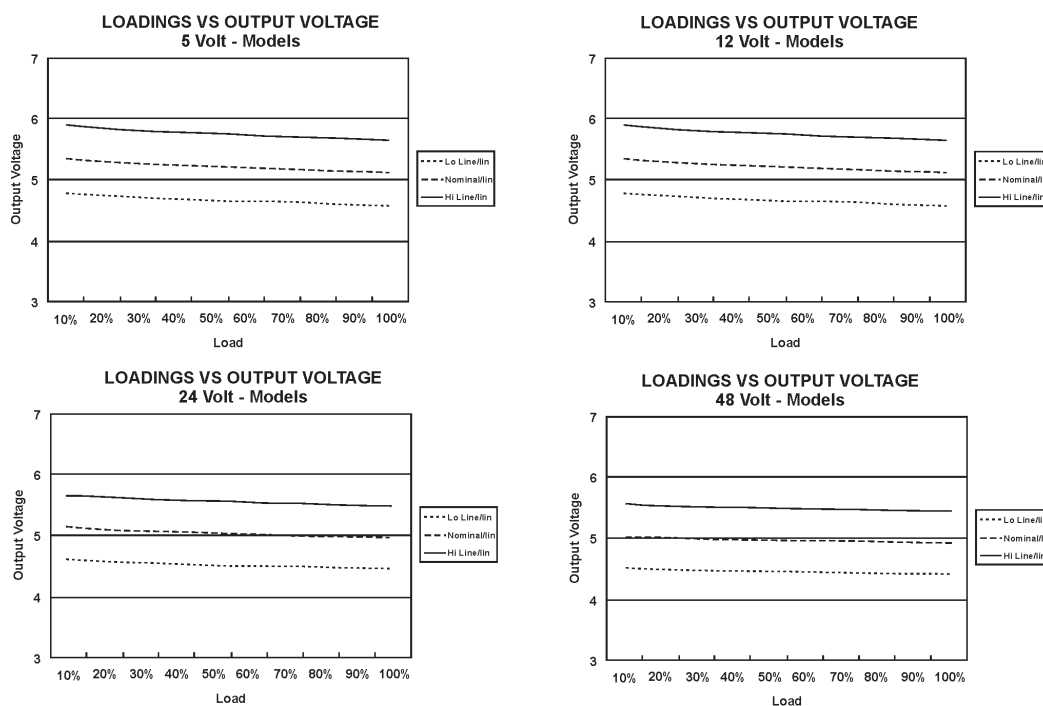
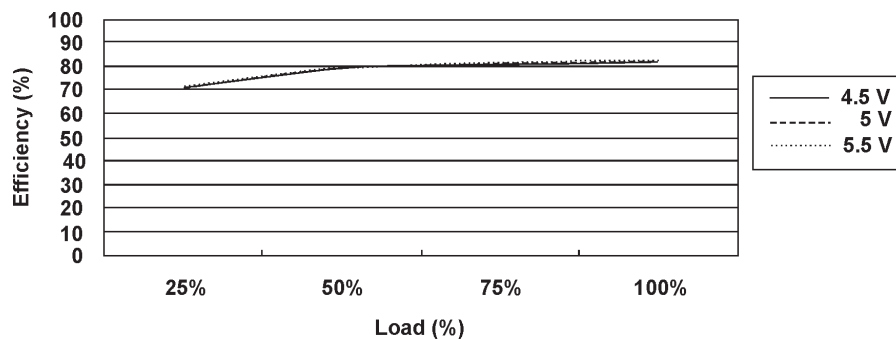
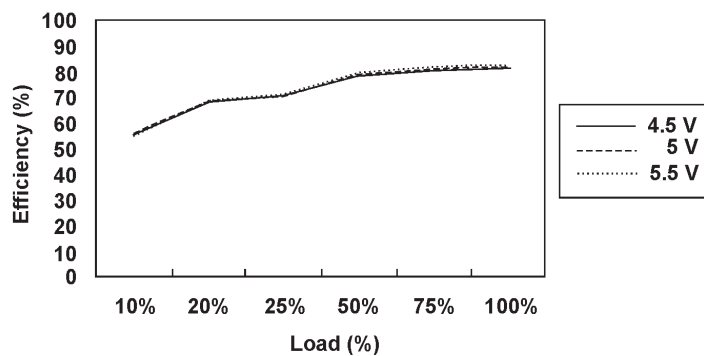
DIAGRAMS & APPLICATION NOTES**Derating Curve**

For reduce coverter's ripple & noise, it is recommended to add a 4.7 μF to 100 μF capacitor in output end. For EMI performance improvement, it is recommended to add a 12 μH inductor and a 10 μF to 220 μF capacitor in input end.



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Loading vs Output Voltage**Efficiency vs Output Current 0.5KUS5N5M****Efficiency vs Output Current 0.5KUS5N5M****NOTICE:**

The information in this document has been carefully checked. However, no responsibility is assumed for inaccuracies! Specifications can be changed without notice. The latest and most complete information can be found on our website.