1 Watt 4 Pin SIL Package K

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

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (FULL LOAD)	INPUT CURRENT		%EFF
				NO-LOAD	FULL LOAD	
1KUS5N3.3M	5 VDC	3.3 VDC	303 mA	25 mA	278 mA	72
1KUS5N5M		5 VDC	200 mA		267 mA	75
1KUS5N7.2M		7.2 VDC	138.8 mA		264 mA	76
1KUS5N9M		9 VDC	111.1 mA		260 mA	77
1KUS5N12M		12 VDC	83.3 mA		257 mA	78
1KUS5N15M		15 VDC	66.67 mA			
1KUS5N18M		18 VDC	55.5 VDC			
1KUS5N24M		24 VDC	41.67 mA			
1KUS12N3.3M	12 VDC	3.3 VDC	303 mA	16 mA	116 mA	72
1KUS12N5M		5 VDC	200 mA		112 mA	75
1KUS12N7.2M		7.2 VDC	138.8 mA		110 mA	76
1KUS12N9M		9 VDC	111.1 mA		109 mA	77
1KUS12N12M		12 VDC	83.3 mA		107 mA	78
1KUS12N15M		15 VDC	66.67 mA			
1KUS12N18M		18 VDC	55.5 mA			
1KUS12N24M		24 VDC	41.67 mA			
1KUS24N3.3M	24 VDC	3.3 VDC	303 mA	10 mA	58 mA	72
1KUS24N5M		5 VDC	200 mA		56 mA	75
1KUS24N7.2M		7.2 VDC	138.8 mA		55 mA	76
1KUS24N9M		9 VDC	111.1 mA			77
1KUS24N12M		12 VDC	83.3 mA		54 mA	78
1KUS24N15M		15 VDC	66.67 mA			
1KUS24N18M		18 VDC	55.5 mA			
1KUS24N24M		24 VDC	41.67 mA			

SPECIFICATIONS

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

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (FULL LOAD)	INPUT CURRENT		%EFF
				NO-LOAD	FULL LOAD	
1KUS48N3.3M	48 VDC	3.3 VDC	303 mA	7 mA	29 mA	72
1KUS48N5M		5 VDC	200 mA		28 mA	75
1KUS48N7.2M		7.2 VDC	138.8 mA		27 mA	76
1KUS48N9M		9 VDC	111.1 mA			
1KUS48N12M		12 VDC	83.3 mA			
1KUS48N15M		15 VDC	66.67 mA			
1KUS48N18M		18 VDC	55.5 mA			
1KUS48N24M		24 VDC	41.67 mA			

INPUT SPECIFICATIONS	
Input Voltage Range	±10 %
Input Filter	Capacitor Type
Input Reflected Ripple Current[1)]	20 mA p-p

OUTPUT SPECIFICATIONS		
Voltage Accuracy		±3%
Temperature Coefficient		±0.02%/°C
Capacitive Load[2)]		220 µF
Ripple and Noise[3)], 20MHz BW		100 mV p-p
Line Regulation		±1.2%/1% of Vin Change
Load Regulation	20% to 100% 3.3 V Models	±10% ±20%

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

SPECIFICATIONS

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

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

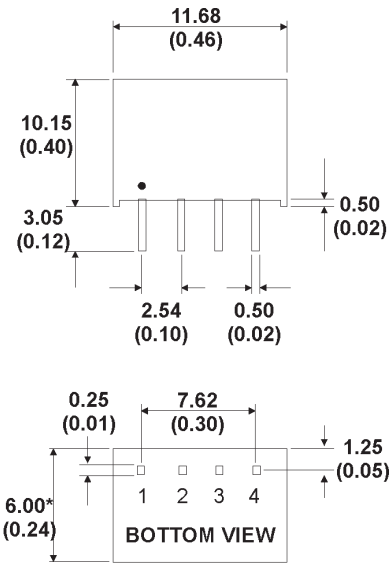
NOTE:
Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.

SPECIFICATIONS

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

MECHANICAL SPECIFICATIONS

CASE "K"

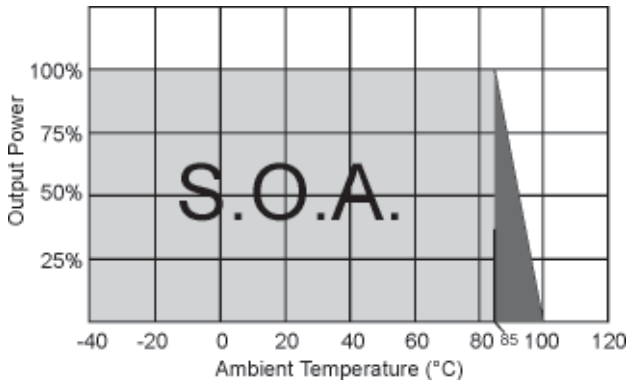


PIN CONNECTIONS	
1	-INPUT
2	+INPUT
3	-OUTPUT
4	+OUTPUT

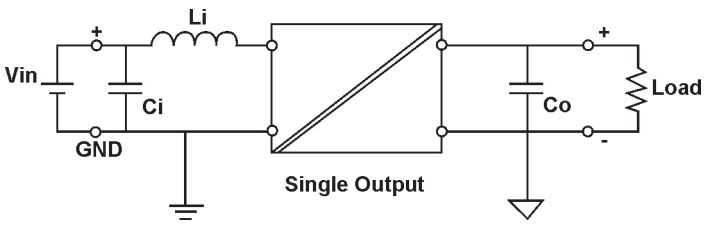
All Dimensions in mm (Inches).
Tolerances: Pin Diameter: 0.5 ±0.05 (0.02 ±0.002)
Pin Pitch: ±0.35 (±0.014)
Case: ±0.5 (±0.02)
***The thickness of 48V Input Voltage Model is 7.50 (0.29)**

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.

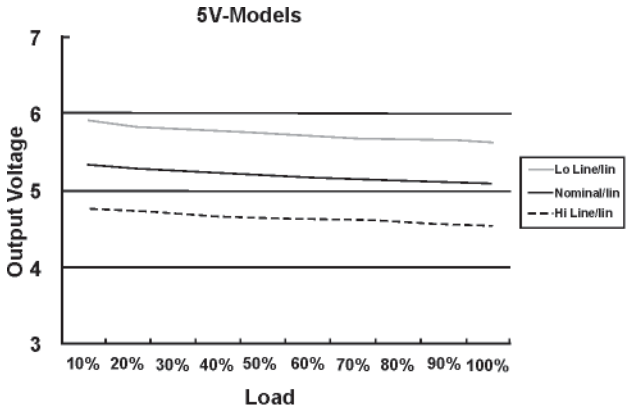


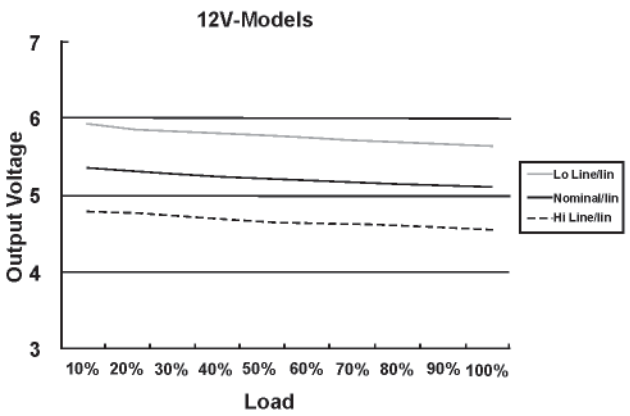
M + R Multitronik GmbH
Kaninchenbergweg 78 • 23564 Lübeck • Germany
Tel. (+49) 0451 - 60 99 50 • Fax (+49) 0451 - 60 46 95
www.multitronik.com
info@multitronik.com

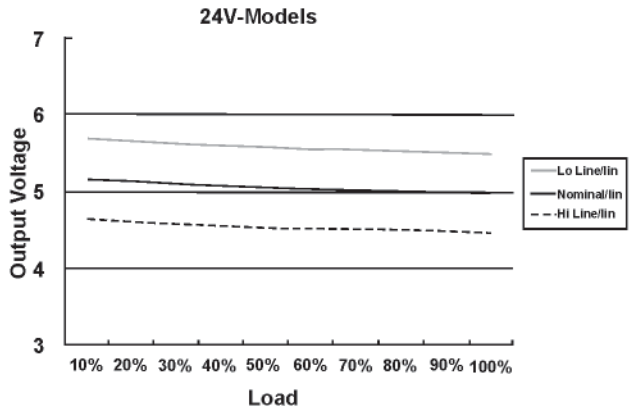
SPECIFICATIONS

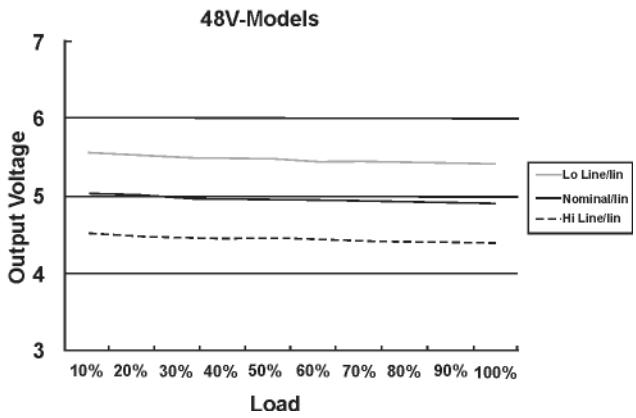
All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

Loading vs Output Voltage









M + R Multitronik GmbH

M + R Multitronik GmbH
Kaninchenbergweg 78 • 23564 Lübeck • Germany
Tel. (+49) 0451 - 60 99 50 • Fax (+49) 0451 - 60 46 95
www.multitronik.com
info@multitronik.com