

Series A and B μ POWER™ 1.5 Watts 24-Lead DIP

Low Noise Fully Regulated DC-DC Converters

Features

- Thick-film hybrid circuit
- Surface mount technology
- Up to 1.5 watts output power
- High power density
- Excellent regulation
- 24-lead DIP compatible package
- High input/output isolation
- Short circuit protection
- Low output ripple & noise
- Single or dual outputs
- High MTBF
- 100% burned-in and tested
- Metal case shielding
- Vacuum encapsulated potting

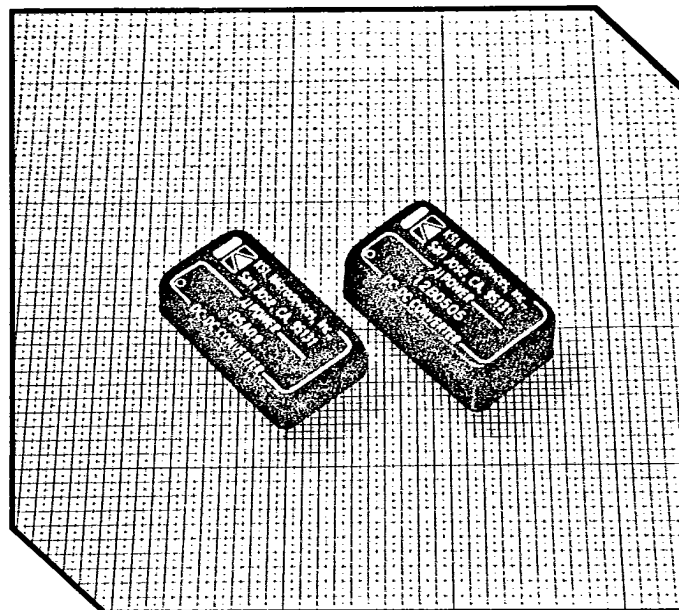
General Specifications

- Input Voltage Range: $\pm 10\%$ at nominal
- Output Voltage Tolerance: $\pm 1\%$ at nominal
- Input Reflected Ripple: 1% of V_{in} max.
- Line Regulation: $\pm .02\%$ for $\pm 10\%$ line change
- Load Regulation: .05% (10% to 100% load)
- Output Ripple & Noise: 10mV p-p
- Input/Output Isolation: 150M Ω 500VDC min.
- Short Circuit Protection: current limiting
- Efficiency: 60% @ nominal voltage
- Transient Response: Less than 10 μ sec.
- MTBF: 340,000 hours
- Operating Temperature: -25°C to $+70^{\circ}\text{C}$
- Storage Temperature: -55°C to $+70^{\circ}\text{C}$
- Temperature Coefficient: 100ppm/ $^{\circ}\text{C}$
- Burn-In: 70°C for 4 hours and tested
- Long Term Stability: 0.4%/khours

Special Options

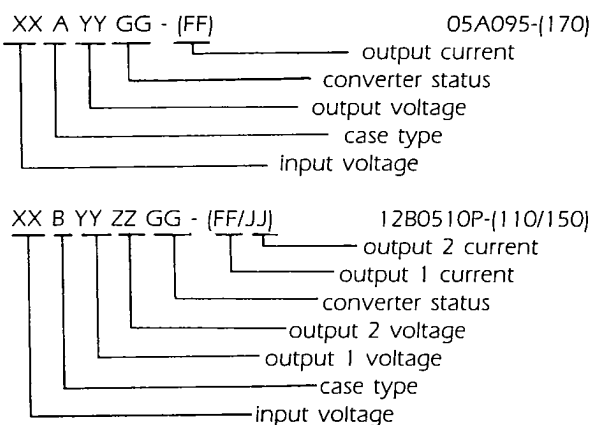
- Case: EMI/RF Continuous Shielding Package
Six-sided enclosure grounded
- Stabilization Bake: MIL-STD-883B, method 1008.2
24 hours at $+125^{\circ}\text{C}$
- Burn-In: MIL-STD-883B, method 1015.4
96 hours at $+70^{\circ}\text{C}$ case temperature
- Temperature Cycle: MIL-STD-883B, method 1010.5
 $-55^{\circ}\text{C}/+125^{\circ}\text{C}$ 10 cycles minimum
- Thermal Shock: MIL-STD-883B, method 1011.4
 $-55^{\circ}\text{C}/5$ minutes, $+125^{\circ}\text{C}/5$ minutes

*Specifications subject to change without notice



Part Number — Custom Designs

KSL μ POWER converters are used in a wide variety of special custom design applications where alternate voltages, currents, pin-outs or multiple outputs are required.



Converter Status

U: Unregulated	S: Special specs
R: Regulated	J: Hi-Rel screened
C: Custom circuit	T: Triple outputs
P: Special pin-outs	Q: Quad outputs

Applications

- LAN Networks
- ECL Applications
- Instrumentation
- Medical electronics
- Robotic control



MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	LOAD CURRENT*	MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	LOAD CURRENT*
05A05	+/- 5V	+/- 5V	300 mA	05B0505	+/- 5V	± 5V	± 150 mA
05A09	+/- 5V	+/- 9V	160 mA	05B0909	+/- 5V	± 9V	± 80 mA
05A12	+/- 5V	+/- 12V	120 mA	05B1212	+/- 5V	± 12V	± 60 mA
05A15	+/- 5V	+/- 15V	100 mA	05B1515	+/- 5V	± 15V	± 50 mA
05A24	+/- 5V	+/- 24V	60 mA	05B2424	+/- 5V	± 24V	± 30 mA
05A28	+/- 5V	+/- 28V	50 mA	05B2828	+/- 5V	± 28V	± 25 mA
12A05	+/- 12V	+/- 5V	300 mA	12B0505	+/- 12V	± 5V	± 150 mA
12A09	+/- 12V	+/- 9V	160 mA	12B0909	+/- 12V	± 9V	± 80 mA
12A12	+/- 12V	+/- 12V	120 mA	12B1212	+/- 12V	± 12V	± 60 mA
12A15	+/- 12V	+/- 15V	100 mA	12B1515	+/- 12V	± 15V	± 50 mA
12A24	+/- 12V	+/- 24V	60 mA	12B2424	+/- 12V	± 24V	± 30 mA
12A28	+/- 12V	+/- 28V	50 mA	12B2828	+/- 12V	± 28V	± 25 mA
15A05	+/- 15V	+/- 5V	300 mA	15B0505	+/- 15V	± 5V	± 150 mA
15A09	+/- 15V	+/- 9V	160 mA	15B0909	+/- 15V	± 9V	± 80 mA
15A12	+/- 15V	+/- 12V	120 mA	15B1212	+/- 15V	± 12V	± 60 mA
15A15	+/- 15V	+/- 15V	100 mA	15B1515	+/- 15V	± 15V	± 50 mA
15A24	+/- 15V	+/- 24V	60 mA	15B2424	+/- 15V	± 24V	± 30 mA
15A28	+/- 15V	+/- 28V	50 mA	15B2828	+/- 15V	± 28V	± 25 mA
24A05	+/- 24V	+/- 5V	300 mA	24B0505	+/- 24V	± 5V	± 150 mA
24A09	+/- 24V	+/- 9V	160 mA	24B0909	+/- 24V	± 9V	± 80 mA
24A12	+/- 24V	+/- 12V	120 mA	24B1212	+/- 24V	± 12V	± 60 mA
24A15	+/- 24V	+/- 15V	100 mA	24B1515	+/- 24V	± 15V	± 50 mA
24A24	+/- 24V	+/- 24V	60 mA	24B2424	+/- 24V	± 24V	± 30 mA
24A28	+/- 24V	+/- 28V	50 mA	24B2828	+/- 24V	± 28V	± 25 mA
48A05	+/- 48V	+/- 5V	300 mA	48B0505	+/- 48V	± 5V	± 150 mA
48A09	+/- 48V	+/- 9V	160 mA	48B0909	+/- 48V	± 9V	± 80 mA
48A12	+/- 48V	+/- 12V	120 mA	48B1212	+/- 48V	± 12V	± 60 mA
48A15	+/- 48V	+/- 15V	100 mA	48B1515	+/- 48V	± 15V	± 50 mA
48A24	+/- 48V	+/- 24V	60 mA	48B2424	+/- 48V	± 24V	± 30 mA
48A28	+/- 48V	+/- 28V	50 mA	48B2828	+/- 48V	± 28V	± 25 mA

Package Dimensions

Figure 1 shows the dimensions and pin configurations for Series A and Series B components. The dimensions are given in inches.

Series A Dimensions:

- Top width: .35"
- Top height: .60"
- Bottom width: .15"
- Bottom height: 1.10"
- Pin 1: 12
- Pin 2: 12
- Pin 3: 12
- Pin 4: 12
- Pin 5: 12
- Pin 6: 12
- Pin 7: 12
- Pin 8: 12
- Pin 9: 12
- Pin 10: 12
- Pin 11: 12
- Pin 12: 12

Series B Dimensions:

- Top width: .50"
- Top height: .60"
- Bottom width: .15"
- Bottom height: 1.10"
- Pin 1: 12
- Pin 2: 12
- Pin 3: 12
- Pin 4: 12
- Pin 5: 12
- Pin 6: 12
- Pin 7: 12
- Pin 8: 12
- Pin 9: 12
- Pin 10: 12
- Pin 11: 12
- Pin 12: 12

Pin Configurations:

SINGLE OUTPUT		DUAL OUTPUT	
PINS	DESIGNATION	PINS	DESIGNATION
1, 2	+ INPUT	1, 2	+ INPUT
23, 24	- INPUT	23, 24	- INPUT
9, 10	- OUTPUT	5, 6	- OUTPUT 2
11, 12	+ OUTPUT	7, 8	+ OUTPUT 2
		9, 10	- OUTPUT 1
		11, 12	+ OUTPUT 1

[illegible]