

**Series R, D, and V**

**μPOWER™**

**2.5 Watts 24 DIP**

**Fixed or Adjustable Voltage DC-DC Converters**

**Features**

- Thick-film hybrid circuit
- Surface mount technology
- Up to 2.5 watts output power
- High power density
- Adjustable output voltage
- 24-lead DIP compatible package
- High input/output isolation
- Short circuit protection
- Low output ripple & noise
- Single, dual or variable outputs
- High MTBF
- 100% burned-in and tested
- Metal case shielding
- Vacuum encapsulated potting

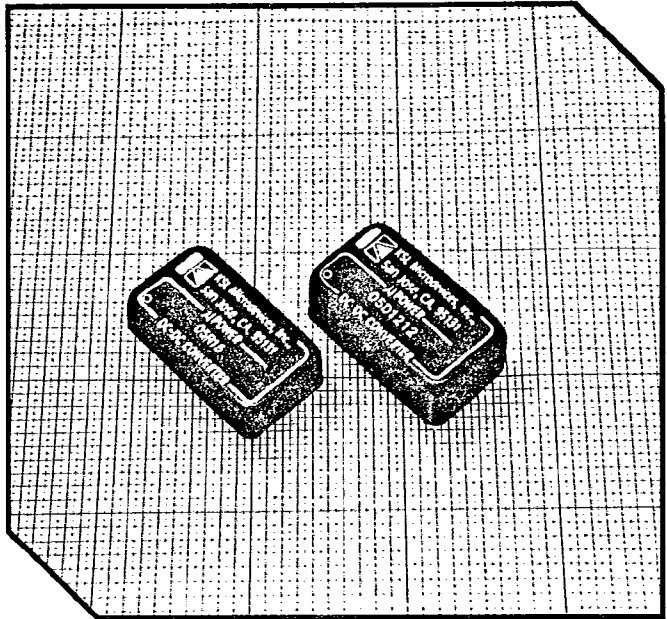
**General Specifications**

- Input Voltage Range: ±10% at nominal
- Output Voltage Tolerance: ±1% at nominal
- Input Reflected Ripple: 1% of Vin max.
- Line Regulation: ±.02% for ±10% line change
- Load Regulation: .05% (10% to 100% load)
- Output Ripple & Noise: 50mV p-p
- Input/Output Isolation: 150MΩ500VDC min.
- Short Circuit Protection: current limiting
- Efficiency: 60% @ nominal voltage
- Transient Response: Less than 10μsec.
- MTBF: 320,000 hours
- Operating Temperature: -25°C to +70°C
- Storage Temperature: -55°C to +70°C
- Temperature Coefficient: 100ppm/°C
- Burn-In: 70°C for 4 hours and tested
- Long Term Stability: 0.4%/khours

**Special Options**

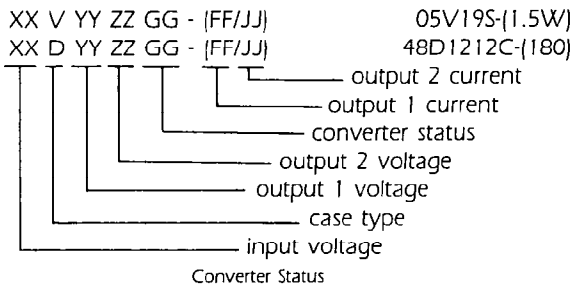
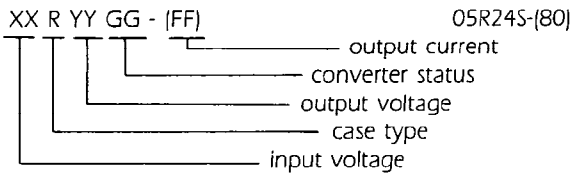
- Case: EMI/RF Continuous Shielding Package  
Six-sided enclosure grounded
- Stabilization Bake: MIL-STD-883B, method 1008.2  
24 hours at +125°C
- Burn-In: MIL-STD-883B, method 1015.4  
96 hours at +70°C case temperature
- Temperature Cycle: MIL-STD-883B, method 1010.5  
-55°C/+125°C 10 cycles minimum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

\*Specifications subject to change without notice



**Part Number — Custom Designs**

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



- |                     |                    |
|---------------------|--------------------|
| 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**

- Process Control
- Automatic Test Systems
- Data Acquisition Systems
- Analog and Digital Systems
- Telecommunications Equipment



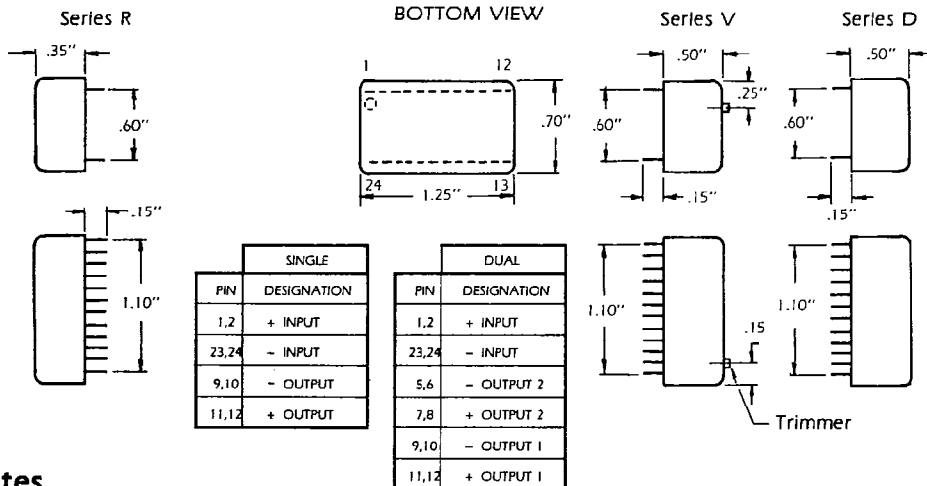
KSL Microdevices, Inc., 2153-D O'Toole Ave., San Jose, CA 95131, (408) 922-0800 FAX (408) 922-0629

Selection Chart (Maximum Rating)

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	LOAD CURRENT*	MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	LOAD CURRENT*
05R05	+/- 5V	+/- 5V	500 mA	05D0505	+/- 5V	± 5V	± 250 mA
05R09	+/- 5V	+/- 9V	270 mA	05D0909	+/- 5V	± 9V	± 130 mA
05R12	+/- 5V	+/- 12V	200 mA	05D1212	+/- 5V	± 12V	± 100 mA
05R15	+/- 5V	+/- 15V	160 mA	05D1515	+/- 5V	± 15V	± 80 mA
05R18	+/- 5V	+/- 18V	140 mA	05D1818	+/- 5V	± 18V	± 70 mA
05R24	+/- 5V	+/- 24V	100 mA	05D2424	+/- 5V	± 24V	± 50 mA
12R05	+/- 12V	+/- 5V	500 mA	12D0505	+/- 12V	± 5V	± 250 mA
12R09	+/- 12V	+/- 9V	270 mA	12D0909	+/- 12V	± 9V	± 130 mA
12R12	+/- 12V	+/- 12V	200 mA	12D1212	+/- 12V	± 12V	± 100 mA
12R15	+/- 12V	+/- 15V	160 mA	12D1515	+/- 12V	± 15V	± 80 mA
12R18	+/- 12V	+/- 18V	140 mA	12D1818	+/- 12V	± 18V	± 70 mA
12R24	+/- 12V	+/- 24V	100 mA	12D2424	+/- 12V	± 24V	± 50 mA
15R05	+/- 15V	+/- 5V	500 mA	15D0505	+/- 15V	± 5V	± 250 mA
15R09	+/- 15V	+/- 9V	270 mA	15D0909	+/- 15V	± 9V	± 130 mA
15R12	+/- 15V	+/- 12V	200 mA	15D1212	+/- 15V	± 12V	± 100 mA
15R15	+/- 15V	+/- 15V	160 mA	15D1515	+/- 15V	± 15V	± 80 mA
15R18	+/- 15V	+/- 18V	140 mA	15D1818	+/- 15V	± 18V	± 70 mA
15R24	+/- 15V	+/- 24V	100 mA	15D2424	+/- 15V	± 24V	± 50 mA
48R05	+/- 48V	+/- 5V	500 mA	48D0505	+/- 48V	± 5V	± 250 mA
48R09	+/- 48V	+/- 9V	270 mA	48D0909	+/- 48V	± 9V	± 130 mA
48R12	+/- 48V	+/- 12V	200 mA	48D1212	+/- 48V	± 12V	± 100 mA
48R15	+/- 48V	+/- 15V	160 mA	48D1515	+/- 48V	± 15V	± 80 mA
48R18	+/- 48V	+/- 18V	140 mA	48D1818	+/- 48V	± 18V	± 70 mA
48R24	+/- 48V	+/- 24V	100 mA	48D2424	+/- 48V	± 24V	± 50 mA
05V10	+/- 5V	+/- 1.25V - 10V	2.5 Watts	15V10	+/- 15V	+/- 1.25V - 10V	2.5 Watts
05V19	+/- 5V	+/- 10V - 19V	2.5 Watts	15V19	+/- 15V	+/- 10V - 19V	2.5 Watts
05V28	+/- 5V	+/- 19V - 28V	2.5 Watts	15V28	+/- 15V	+/- 19V - 28V	2.5 Watts
12V10	+/- 12V	+/- 1.25V - 10V	2.5 Watts	48V10	+/- 48V	+/- 1.25V - 10V	2.5 Watts
12V19	+/- 12V	+/- 10V - 19V	2.5 Watts	48V19	+/- 48V	+/- 10V - 19V	2.5 Watts
12V28	+/- 12V	+/- 19V - 28V	2.5 Watts	48V28	+/- 48V	+/- 19V - 28V	2.5 Watts

\*Current must be specified.

Package Dimensions



Design Notes
