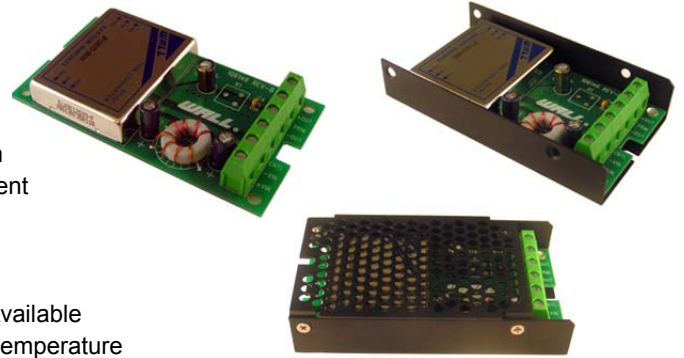


FEATURES

- Output Current up to 1A
- High Efficiency up to 83%
- Fixed Switching Frequency
- Six-Sided Continuous Shield
- 2:1 and 4:1 Wide Input Voltage Range
- ISO9001 Certified Manufacturing Facilities
- **Call Factory for More Output Power Options**
- Compliant to RoHS EU Directive 2002/95/EC
- Chassis Mount Options: Open Frame, U Channel, and Enclosed Types Available
- Options: Positive Logic and Negative Logic Remote ON/OFF, Industrial Temperature

APPLICATIONS

- Measurement
- Wireless Network
- Telecom/Datacom
- Industry Control System
- Semiconductor Equipment



SPECIFICATIONS: CMKR / CMKRW Series

All specifications apply @ 25°C ambient unless otherwise noted

INPUT SPECIFICATIONS

Input Voltage Range		
CMKR.....	12V nominal input	9-18VDC
	24V nominal input	18-36VDC
	48V nominal input	36-75VDC
CMKRW	24V nominal input	9-36VDC
	48V nominal input	18-75VDC
Input Surge Voltage (100ms max)	12V input	36 VDC
	24V input	50 VDC
	48V input	100 VDC
Input Reflected Ripple Current (nom. Vin and FL).....		20mA _{p-p}
Start Up Time (nom. Vin and constant resistive load).....		450ms max.
Remote ON/OFF (Option) (See Note 6)		
(Positive Logic).....	DC-DC ON.....	Open or 3.5V < Vr < 12V
	DC-DC OFF	Short or 0V < Vr < 1.2V
(Negative Logic).....	DC-DC ON.....	Short or 0V < Vr < 1.2V
	DC-DC OFF	Open or 3.5V < Vr < 12V
Input Current of Remote Control Pin (nominal Vin)		-0.5mA ~ +1mA
Remote Off State Input Current (nominal Vin)		2.5mA

OUTPUT SPECIFICATIONS

Output Voltage	see table
Voltage Accuracy (nominal Vin and full load)	±1%
Output Current	see table
Output Power	6 Watts max.
Line Regulation (LL to HL at FL).....	±0.2%
Load Regulation (no load to full load)	Single Output..... ±0.2%
Cross Regulation (Dual) (Asymmetrical load 25% / 100% FL)	±5%
Minimum Load	0%
Ripple/Noise (20 MHz BW)	50mV _{p-p}
Temperature Coefficient	±0.02% / °C max.
Transient Response Recovery Time	
25% load step change.....	(Single) 200us

PROTECTION SPECIFICATIONS

Over Load Protection (% of full load at nom. input)	170% typ.
Short Circuit Protection.....	Continuous, automatic recovery

GENERAL SPECIFICATIONS

Efficiency	see table
Switching Frequency	
CMKR	300KHz typ.
CMKRW	200KHz typ.
Isolation Voltage (Input to Output).....	1600VDC min.
Isolation Resistance	10 ⁹ ohms min.
Isolation Capacitance	300pF max.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	
Standard	-25°C ~ +85°C (with derating)
"J" suffix (See Note 7).....	-40°C ~ +85°C (non-derating)
"I" suffix (CMKRW series).....	-40°C ~ +85°C (with derating)
Storage Temperature	-55°C ~ +105°C
Maximum Case Temperature	100°C
Relative Humidity.....	5% to 95% RH
Thermal Shock	MIL-STD-810F
Vibration	10~55Hz, 10G, 30 minutes along X, Y, and Z
MTBF (See Note 1)	3.145 x 10 ⁶ hours

PHYSICAL SPECIFICATIONS

Weight	Approximately 6oz
Dimensions.....	4(L) x 2.2(W) x 0.81(H) inches
Potting material of the DC/DC converter	Epoxy (UL94-V0)
Shielding of the DC/DC converter	six-sided

SAFETY & EMC

Approvals and Standards	IEC60950-1, UL60950-1, EN60950-1	
EMI	EN55022	Class A
ESD	EN61000-4-2.....	Air ± 8KV Perf. Criteria B
		Contact ± 6KV
Radiated Immunity.....	EN61000-4-3.....	10V/m Perf. Criteria A
Fast Transient.....	EN61000-4-4.....	±2KV Perf. Criteria B
Surge (See Note 9).....	EN61000-4-5.....	±1KV Perf. Criteria B
Conducted Immunity.....	EN61000-4-6.....	10 Vrms Perf. Criteria A

Due to advances in technology, specifications subject to change without notice

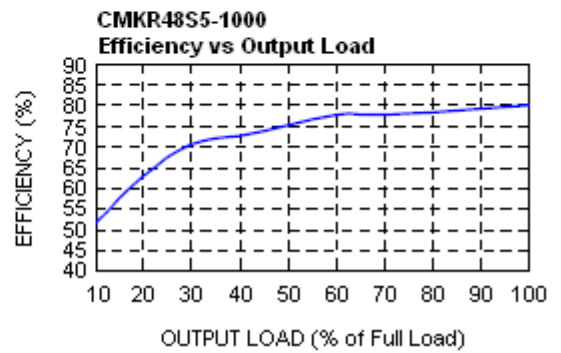
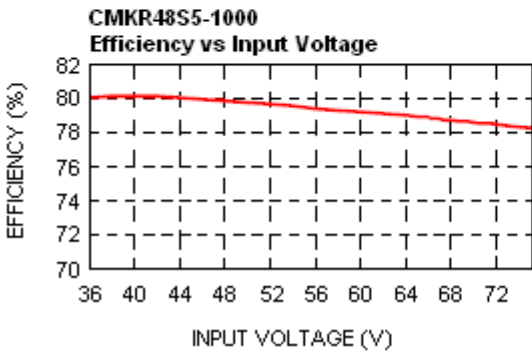
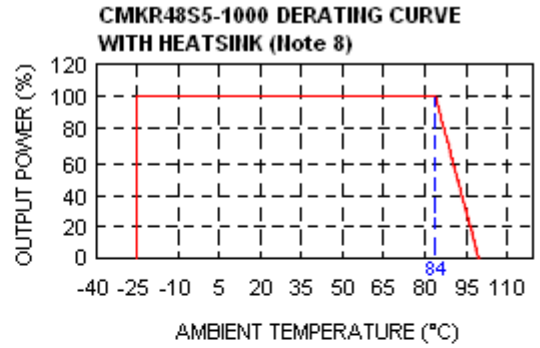
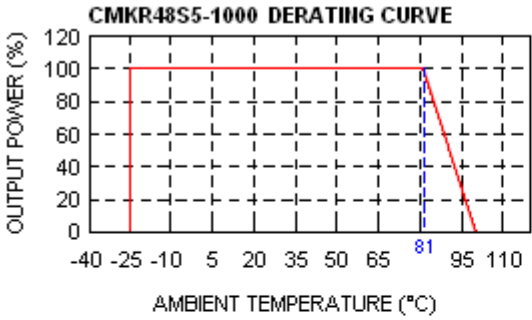
MODEL SELECTION GUIDE

Model Number	Input Range	Output Voltage	Output Current		Output ⁽⁴⁾ Ripple & Noise	Input Current		Efficiency ⁽⁴⁾	Capacitor ⁽⁵⁾ Load max
			Min. load	Full load		No load ⁽³⁾	Full load ⁽²⁾		
CMKR12S33-1000	12 VDC (9 – 18 VDC)	3.3 VDC	0mA	1000mA	50mVp-p	10mA	382mA	76	3700µF
CMKR12S5-1000		5 VDC	0mA	1000mA	50mVp-p	10mA	556mA	79	1700µF
CMKR12S12-470		12 VDC	0mA	470mA	50mVp-p	10mA	610mA	81	290µF
CMKR12S15-400		15 VDC	0mA	400mA	50mVp-p	15mA	658mA	80	188µF
CMKR24S33-1000	24 VDC (18 – 36 VDC)	3.3 VDC	0mA	1000mA	50mVp-p	15mA	199mA	73	3700µF
CMKR24S5-1000		5 VDC	0mA	1000mA	50mVp-p	15mA	282mA	78	1700µF
CMKR24S12-470		12 VDC	0mA	470mA	50mVp-p	10mA	305mA	81	290µF
CMKR24S15-400		15 VDC	0mA	400mA	50mVp-p	20mA	325mA	81	188µF
CMKR48S33-1000	48 VDC (36 – 75 VDC)	3.3 VDC	0mA	1000mA	50mVp-p	5mA	100mA	73	3700µF
CMKR48S5-1000		5 VDC	0mA	1000mA	50mVp-p	10mA	145mA	76	1700µF
CMKR48S12-470		12 VDC	0mA	470mA	50mVp-p	10mA	151mA	82	290µF
CMKR48S15-400		15 VDC	0mA	400mA	50mVp-p	10mA	160mA	82	188µF
CMKRW24S33-1000	24 VDC (9 – 36 VDC)	3.3 VDC	0mA	1000mA	50mVp-p	5mA	188mA	77	3700µF
CMKRW24S5-1000		5 VDC	0mA	1000mA	50mVp-p	5mA	274mA	80	1700µF
CMKRW24S12-470		12 VDC	0mA	470mA	50mVp-p	5mA	301mA	82	290µF
CMKRW24S15-400		15 VDC	0mA	400mA	50mVp-p	5mA	325mA	81	188µF
CMKRW48S33-1000	48 VDC (18 – 75 VDC)	3.3 VDC	0mA	1000mA	50mVp-p	5mA	100mA	73	3700µF
CMKRW48S5-1000		5 VDC	0mA	1000mA	50mVp-p	10mA	145mA	76	1700µF
CMKRW48S12-470		12 VDC	0mA	470mA	50mVp-p	10mA	151mA	82	290µF
CMKRW48S15-400		15 VDC	0mA	400mA	50mVp-p	10mA	163mA	81	188µF

NOTES

- BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment)
- Maximum value at nominal input voltage and full load of standard type.
- Typical value at nominal input voltage and no load.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive load.
- The ON/OFF control pin voltage is referenced to -Vin.
 To order positive logic ON-OFF control add the suffix "P" (Ex: CMKR48S5-1000P)
 To order negative logic ON-OFF control add the suffix "R" (Ex: CMKR48S5-1000R)
- The industrial "I" suffix for the 2:1 input version is more efficient; therefore, it can be operated in a more extensive temperature range than "standard" and "I" suffix 4:1 input versions.
 To order industrial temperature range (-40°C ~ +85°C) add the suffix "I" to the part number (Ex: CMKR48S5-1000I)
- Heat sink is optional, consult factory.
- Chassis Mount Options: No suffix for open frame, "U" suffix for U Channel, and "E" suffix for Enclosed type.

DERATING CURVE & EFFICIENCY GRAPHS



MECHANICAL DRAWING

Unit: inches [mm]

