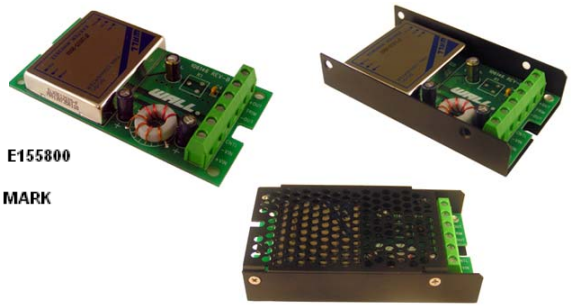
FEATURES

- Output Current up to 8A
- High Efficiency up to 88%
- Fixed Switching Frequency
- Six-Sided Continuous Shield
- 4:1 Wide Input Voltage Range
- International Safety Standard Approval
- Call Factory for More Output Power Options
- Chassis Mount Options: Open Frame, U Channel, and Enclosed Types Available

UL E155800
CB
CE MARK



SPECIFICATIONS: *CMZFW Series*

All specifications apply @ 25°C ambient unless otherwise noted

INPUT SPECIFICATIONS

Input Voltage Range	24V nominal input	10-40VDC
	48V nominal input	18-75VDC
Under Voltage Lockout		
24VDC input	DC-DC ON	10VDC
	DC-DC OFF	16VDC
48VDC input	DC-DC ON	18VDC
	DC-DC OFF	16VDC
Input Voltage Variation	dv/dt	5V/ms max.
		(Complies with ETS300 132 part 4.4)
Input Surge Voltage (100ms max)	24V input	50VDC
	48V input	100VDC

Input Reflected Ripple Current (nominal Vin and full load) 20mAp-p

Start Up Time (nominal Vin and constant resistive load)
- Power Up ..... 10ms typ.
- Remote ON/OFF ..... 10ms typ.

Remote ON/OFF (See Note 1)
(Positive Logic) ..... DC-DC ON ..... Open or 3V < Vr < 12V
DC-DC OFF ..... Short or 0V < Vr < 1.2V

Remote Off Input Current (nominal Vin) 3mA

OUTPUT SPECIFICATIONS

Output Voltage ..... see table

Voltage Accuracy (nominal Vin and full load) ..... ±1%

Voltage Adjustability ..... ±10%

Output Current ..... see table

Output Power ..... 30 watts max.

Line Regulation (LL to HL at FL) ..... ±0.5%

Load Regulation (10% to 100% FL) ..... ±0.5%

Minimum Load 0%

Ripple/Noise (20 MHz BW) ..... see table
(measured with a 104pF/50V MLCC)

Transient Response Recovery Time (25% load step change) 250us

PROTECTION SPECIFICATIONS

Over Voltage Protection	1.5V Output	3.9V
Zener diode clamp	1.8V Output	3.9V
	2.5V Output	3.9V
	3.3V Output	3.9V
	5V Output	6.2V
	12V Output	15V
	15V Output	18V

Over Load Protection (% of full load at nominal input) ..... 150% max.

Short Circuit Protection ..... Hiccup, automatic recovery

Over Temperature Protection ..... 115°C typ.

GENERAL SPECIFICATIONS

Efficiency ..... see table

Switching Frequency ..... 300KHz typ.

Isolation Voltage
- Input to Output ..... 1600VDC min.
- Input to Case ..... 1600VDC min.
- Output to Case ..... 1600VDC min.

Isolation Resistance ..... 10^9 ohms min.

Isolation Capacitance ..... 1000pF max.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature ..... -40°C to +85°C (with derating)

Storage Temperature ..... -55°C ~ +105°C

Maximum Case Temperature ..... +100°C

Relative Humidity (non-condensing) ..... 5% to 95% RH

Temperature Coefficient ..... ±0.02% / °C max.

Thermal Impedance (See Note 3)
- Natural Convection ..... 10°C / Watt
- Natural Convection with Heat-Sink ..... 8.24°C/Watt

Thermal Shock MIL-STD-810D

Vibration ..... 10~55Hz, 10G, 30 minutes along X, Y, and Z

MTBF (See Note 2) ..... 1.315 x 10^6 hrs

PHYSICAL SPECIFICATIONS

Potting material of the DC/DC Converter ..... Epoxy (UL94-V0)

Shielding of the DC/DC Converter ..... six – sided

Weight ..... Approximately 7oz.

Dimensions ..... 4.00(L) x 2.25(W) x 0.81(H) inches

SAFETY & EMC

Approvals and Standards	IEC60950-1, UL60950-1, EN60950-1	
Conducted Emissions	EN55022	Class A
Radiated Emissions	EN55022	Class A
ESD	EN61000-4-2	Perf. Criteria B
Radiated Immunity	EN61000-4-3	Perf. Criteria A
Fast Transient	EN61000-4-4	Perf. Criteria B
Surge	EN61000-4-5.	Perf. Criteria B
Conducted Immunity	EN61000-4-6	Perf. Criteria A

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

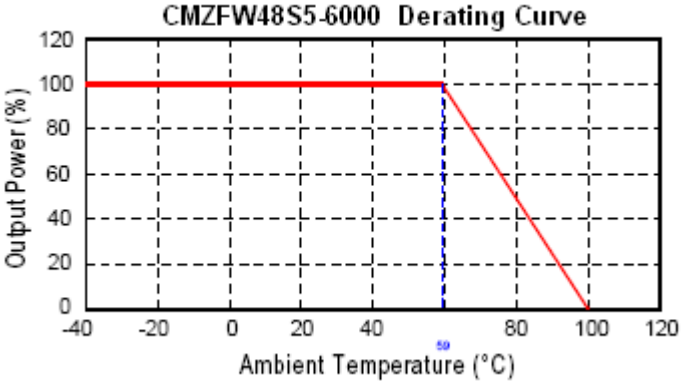
OUTPUT VOLTAGE / CURRENT RATING CHART

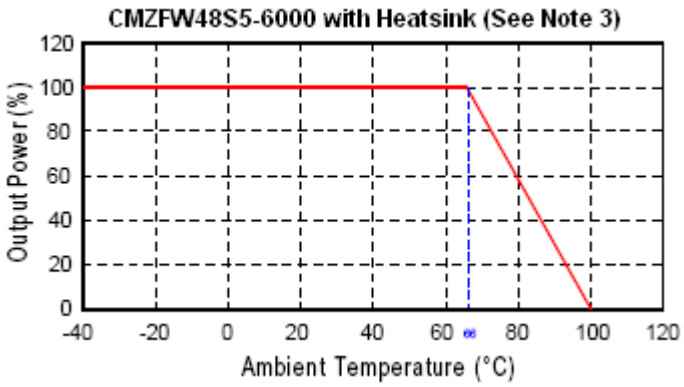
Model Number	Input Voltage	Output Voltage	Output Current	Input Current [4]	Ripple & Noise	Efficiency [5] (Typ)	Max Capacitive Load [6]
CMZFW24S1.5-8000	24 VDC (10 ~ 40 VDC)	1.5 VDC	8000 mA	658 mA	60mVp-p	80%	65000µF
CMZFW24S1.8-8000		1.8 VDC	8000 mA	759 mA	60mVp-p	83%	65000µF
CMZFW24S2.5-8000		2.5 VDC	8000 mA	1029 mA	60mVp-p	85%	33000µF
CMZFW24S3.3-6000		3.3 VDC	6000 mA	994 mA	60mVp-p	87%	195000µF
CMZFW24S5-6000		5 VDC	6000 mA	1506 mA	75mVp-p	87%	10200µF
CMZFW24S12-2500		12 VDC	2500 mA	1506 mA	100mVp-p	87%	3300µF
CMZFW24S15-2000		15 VDC	2000 mA	1488 mA	100mVp-p	88%	1100µF
CMZFW48S1.5-8000	48 VDC (18 ~ 75 VDC)	1.5 VDC	8000 mA	329 mA	60mVp-p	80%	65000µF
CMZFW48S1.8-8000		1.8 VDC	8000 mA	380 mA	60mVp-p	83%	65000µF
CMZFW48S2.5-8000		2.5 VDC	8000 mA	508 mA	60mVp-p	86%	33000µF
CMZFW48S3.3-6000		3.3 VDC	6000 mA	497 mA	60mVp-p	87%	195000µF
CMZFW48S5-6000		5 VDC	6000 mA	744 mA	75mVp-p	88%	10200µF
CMZFW48S12-2500		12 VDC	2500 mA	753 mA	100mVp-p	87%	3300µF
CMZFW48S15-2000		15 VDC	2000 mA	744 mA	100mVp-p	88%	1100µF

NOTES

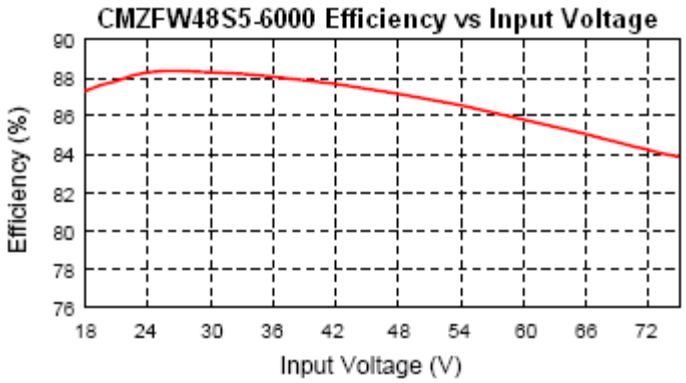
1. ON/OFF control function: There are positive logic (standard) and negative logic (option). The pin voltage is referenced to negative input. To order negative logic ON/OFF control add the suffix-R.
2. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40ºC. (Ground fixed and controlled environment).
3. Heat sink is optional. Please call factory for ordering details.
4. Maximum value at nominal input voltage and full load.
5. Typical value at nominal input voltage and full load
6. Test by minimum Vin and constant resistive load.
7. Chassis Mount Options: No suffix for open frame, “U” suffix for U Channel, and “E” suffix for Enclosed type.

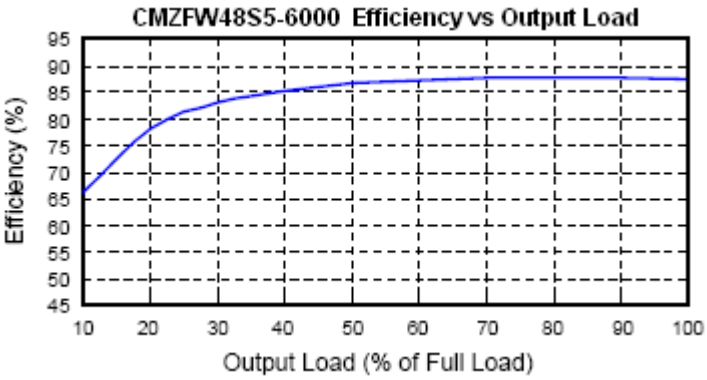
DERATING CURVES





EFFICIENCY GRAPHS





MECHANICAL DRAWING

Unit: inches [mm]

