

M8053 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- **MINIATURE**
- **HIGH DENSITY**
- **WIDE INPUT RANGE**
- **DUAL OUTPUT**
- **DC/DC CONVERTER**
- **UP TO 125W**

APPLICATIONS

Military, Ruggedized, Telecom, Industrial

SPECIAL FEATURES

- Miniature size
- High efficiency
- Wide input range
- Up to 20 W/in³
- Input / Output isolation
- Fixed switching frequency (250 kHz)
- TTL logic enable
- EMI filters included
- Indefinite short circuit protection with auto-recovery
- Input over-voltage shutdown with auto-recovery
- Over temperature shutdown with auto-recovery

ENVIRONMENTAL

Meets or exceeds MIL-STD-810D

Temperature:

Operating: -55 °C to +85 °C (baseplate)

Storage: -55 °C to +125 °C (ambient)

RELIABILITY

150,000 hours, calculated per MIL-STD-217F

Notice 2 at +85 °C baseplate, ground fixed.

ELECTRICAL SPECIFICATIONS

DC INPUT

DC Input range: 18 to 70 V_{DC}

Input transient protection:

All models meet or exceed (no damage)

MIL-STD-1275A (100 V for 50 ms) and

MIL-STD-704A (80 V for 0.1 s)

Efficiency: up to 80%

EMC:

Designed to meet MIL-STD-461F*

CE101, CE102, CS101, CS114, CS115, CS116, RE101,

RE102, RS101, RS103

Isolation:

Input to Output: 200 V_{DC}

Input to Case: 200 V_{DC}

DC OUTPUTS (floating)

Line/Load regulation: Less than ±1%

(no load to full load, -55 °C to +90 °C)

Ripple and Noise: 50 mV_{p-p}, typical (max. 1%)

Current limiting (Hiccup):

Continuous protection for unlimited time

Over voltage protection:

Passive transorb on outputs.

Over temperature protection:

Shutdown at baseplate temperature of +105 °C ± 5 °C.

Automatic recovery at baseplate temperature lower

than +95 °C ± 5 °C.

Isolation: Output to Case: 100V_{DC}

* Compliance achieved with 5μH LISN, shielded harness and static resistive load.

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PIN ASSIGNMENT

Connector type: 30 pin connector M55302/61-A30 with fixed threaded jackset or eq. (Add suffix SL to specify connector with guideset per M55302/57-A30X)

Mates with: WTAX 30 SAC JT# (solder cup contacts, turning jackset) or WTDXA 30 S JT# (crimp removeable #22 AWG contacts, turning jackset) or eq. (replace # with a letter for the required hardware type).

Pin No.	Pin Function	Pin No.	Pin Function	Pin No.	Pin Function
1	OUT 1 (+)	11	SIGNAL RTN	21	OUT 2 (+)
2	OUT 1 (+)	12	VIN RTN (-)	22	OUT 2 RTN (-)
3	OUT 1 RTN (-)	13	VIN RTN (-)	23	OUT 2 RTN (-)
4	OUT 1 RTN (-)	14	VIN (+)	24	N.C.
5	OUT 2 (+)	15	VIN (+)	25	INHIBIT
6	OUT 2 (+)	16	OUT 1 (+)	26	VIN RTN (-)
7	OUT 2 RTN (-)	17	OUT 1 (+)	27	VIN RTN (-)
8	OUT 2 RTN (-)	18	OUT 1 RTN (-)	28	VIN (+)
9	N.C.	19	OUT 1 RTN (-)	29	VIN (+)
10	N.C.	20	OUT 2 (+)	30	SYNC

Note: All pins with identical function should be connected together for best performance and reliability.

FUNCTIONS AND SIGNALS

INHIBIT signal

The **INHIBIT** signal is used to turn the power supply ON and OFF.

TTL "1" or OPEN – will turn on the power supply (For normal operation leave this signal unconnected).

TTL "0" or short– will turn off the power supply. This signal is referenced to the **SIGNAL RTN**.

SYNC signal

The **SYNC** signal is used to allow the power supply frequency to sync with the system frequency.

The system frequency should be 250 kHz \pm 10 kHz.

When not connected the power supply will work at 250 kHz \pm 10 kHz.

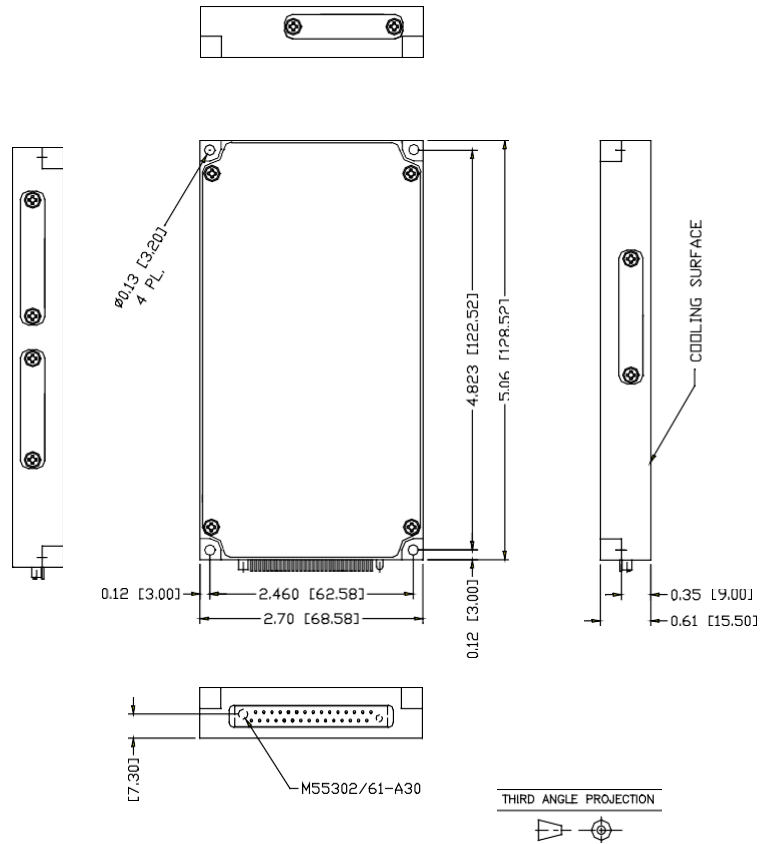
This signal is referenced to the **SIGNAL RTN**.

SIGNAL RTN

The **SIGNAL RTN** is used as grounding for all signals. This pin is referenced to the **VIN RTN**.

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OUTLINE DRAWING



Notes

1. Dimensions are in inches [mm]
2. Tolerance is:
.XX ± 0.02 in
.XXX ± 0.01 in
3. Weight: 9.55 oz [270.5 g]

Note: Specifications are subject to change without prior notice by the manufacturer