

M8053 SERIES

THE MOST COMPLETE
MINIATURE, HIGH DENSITY,
DUAL OUTPUT,
DC/DC CONVERTERS
(UP TO 125W)



APPLICATIONS

Military, Ruggedized, Telecom, Industrial

SPECIAL FEATURES

- Miniature size
- High efficiency
- Wide input range
- Input / Output isolation
- Fixed switching frequency (250 KHz)
- External synchronization capability
- TTL logic enable
- EMI/RFI filters included
- Indefinite short circuit protection with auto-recovery
- Over-voltage shutdown with auto-recovery
- Over temperature shutdown with auto-recovery

ENVIRONMENTAL

Meets or exceeds MIL-STD-810D

Temperature:

Operating -55°C to $+90^{\circ}\text{C}$ (baseplate)

Storage -55°C to $+125^{\circ}\text{C}$

RELIABILITY

150,000 hours, calculated per
MIL-STD-217F at $+85^{\circ}\text{C}$ baseplate,
ground fixed.

ELECTRICAL SPECIFICATIONS

DC INPUT

DC Input range: 18 to 70 VDC

Input transient protection:

All models meet or exceed (no damage)

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

MIL-STD-704A, MIL-STD-704D (80V for 0.1 Sec)

Efficiency: up to 80%

EMI/RFI:

Meets or exceeds MIL-STD-461D

CE101, CE102, CS101, CS114, CS115,

CS116, RE101, RE102, RS101, RS103

Isolation:

200V between Input and Output

200V between Input and Case

DC OUTPUT (floating)

Line/Load regulation:

Less than 1% (no load to full load, -55°C to $+90^{\circ}\text{C}$)

Ripple and Noise: 50mVp-p, typical (max. 1%)

Current limiting (HickUp):

Continuous protection for unlimited time

Over voltage protection:

Passive tranzorb on outputs.

Over temperature protection:

Shutdown at baseplate temperature of $+105^{\circ}\text{C}$ ($\pm 5^{\circ}\text{C}$)

Automatic recovery at baseplate temperature

lower than $+95^{\circ}\text{C}$ ($\pm 5^{\circ}\text{C}$)

Isolation:

200V between Output and Input

100V between Output and Case

SELECTION GUIDE

Model	Input	Output #1	Output #2	Regulation	Ripple (20 MHz BW)
M8053-1	18-70V	5V/10A	5V/10A	± 1%	50 mVp-p
M8053-2	18-70V	12V/4.5A	12V/4.5A	± 1%	50 mVp-p
M 8053-3	18-70V	15V/4A	15V/4A	± 1%	50 mVp-p
M8053-4	18-70V	24V/2.5A	24V/2.5A	± 1%	50 mVp-p
M8053-5	18-70V	28V/2A	28V/2A	± 1%	50 mVp-p
M8053-6	18-70V	28V/3A	28V/1A	± 1%	50 mVp-p
M8053-7	18-70V	12V/0.024A	12V/0.166A	± 1%	50 mVp-p
M8053-8	18-70V	28V/1A	12V/2A	± 1%	50 mVp-p
M8053-9	18-70V	18V/3.4A	28V/0.7A	± 1%	50 mVp-p
M8053-10	18-70V	25V/2.9A	25V/2.9A	± 1%	50 mVp-p
M8053-11	18-70V	25V/1.6A	25V/1.6A	± 1%	50 mVp-p
M8053-12	18-70V	5V/1A	5V/1A	± 1%	50 mVp-p
M8053-13	18-70V	27V/2A	27V/2A	± 1%	50 mVp-p
M8053-14	18-70V	15V/4A	15V/4A	± 1%	50 mVp-p
M8053-15	18-70V	12V/4.5A	12V/4.5A	± 1%	50 mVp-p
M8053-16	18-70V	15V/4A	15V/4A	± 1%	50 mVp-p
M8053-17SL	18-70V	5V/10A	12V/2A	± 1%	50 mVp-p
M8053-18	18-70V	15V/6A	5V/4.5A	± 1%	50 mVp-p
M8053-19	18-70V	15V/6A	5V/7A	± 1%	50 mVp-p
M8053-22	18-70V	12V/8.5A	12V/1.5A	± 1%	50 mVp-p
M8053-23	18-70V	18V/3A	18V/3A	± 1%	50 mVp-p
M8053-25	18-70V	15V/3A	12V/3A	± 1%	50 mVp-p
M8053-26	18-70V	5V/5A	12V/3A	± 1%	50 mVp-p
M8053-27	18-70V	28V/2A	5V/2A	± 1%	50 mVp-p
M8053-28	18-70V	15V/1.5A	5.4V/3A	± 1%	50 mVp-p
M8053-29	18-70V	9V/5A	9V/5A	± 1%	50 mVp-p
M8053-31	18-70V	5V/8A	3.3V/6A	± 1%	50 mVp-p
M8053-33	18-70V	12.8V/5A	28V/2A	± 1%	50 mVp-p

Note: other voltages and currents are available, consult factory.

PIN ASSIGNMENT

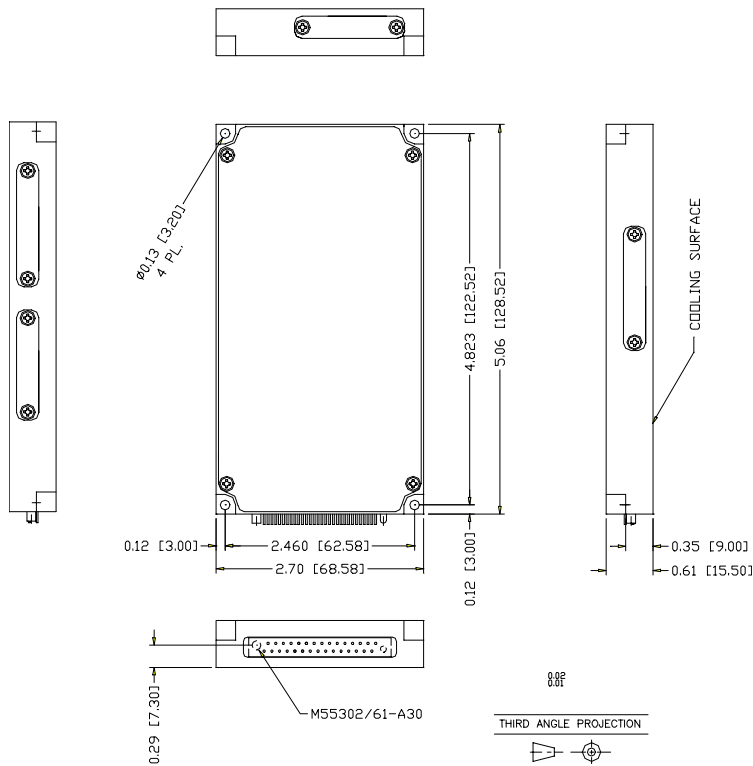
PIN No.	PIN Function
1	+ OUT 1
2	+ OUT 1
3	- OUT 1
4	- OUT 1
5	+ OUT 2
6	+ OUT 2
7	- OUT 2
8	- OUT 2
9	N.C.
10	N.C.

PIN No.	PIN Function
11	SIGNAL RTN *
12	- VIN
13	- VIN
14	+ VIN
15	+ VIN
16	+ OUT 1
17	+ OUT 1
18	- OUT 1
19	- OUT 1
20	+ OUT 2

PIN No.	PIN Function
21	+ OUT 2
22	- OUT 2
23	- OUT 2
24	N.C.
25	INHIBIT
26	- VIN
27	- VIN
28	+ VIN
29	+ VIN
30	SYN

* Signal RTN for the INHIBIT and the SYN signals.

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 gr)
4. Add suffix SL to specify connector with gageset per M55302/57-A30X

* Specifications are subject to change without prior notice by the manufacturer