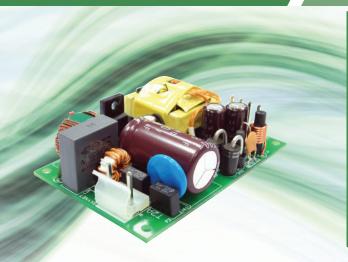


# DG040 Series | ITE & Medical Safety

# 40W/55W Peak

- Built-in active PFC
- UL/CSA/EN 60950-1, 2<sup>nd</sup> edition (ITE) ANSI/AMMI/CSA/EN 60601-1, 3rd ed. (Medical)
- Efficiency: ≥86% typical
- Operation from -20°C to 70°C convection
- Approved for 2xMOPP applications
- 10 year warranty



## **Description**

The **DG040 (ITE)** and **DG040M (Medical) Series** is a 40 Watt Open Frame power supply that is small, 2" x 3" x 0.91", in size and big on performance. The DG040(M) is compliant with Green power, Energy Star ver. 6 and ErP EC 1275/2008 with typical rated load efficiency ratings > 86% and no-load power consumption < 0.3W.

## **Specifications**

#### Input

Input Voltage Input Frequency Inrush Current

Input Protection No Load Input Power

Input Current

- 90 VAC to 264 VAC, 115/230V nominal
- 47 Hz to 63 Hz
- < 30/60A at 115/230VAC, cold start, 25°C
- Internal T3.15 A / 250 VAC fuse in line
- < 0.3W
- 2A max at 115 VAC/1A max at 230VAC

#### Output

Output Voltage Initial Set Accuracy

Minimum Load

Start Up Rise Time

Hold Up Time

Line Regulation

Load Regulation

Ripple & Noise

Overvoltage Protection

Overload Protection

Short Circuit Protection

- See tables on page 2
- See tables on page 2
- No minimum load required
- 2 ms typical
- > 18 ms typical
- ±0.5% typical
- ±1.0% typical
- < 1% pk-pk typical, 20MHz Bandwidth
- latch off
- auto recovery
- auto recovery

#### Environmental

Operating Temperature

Cooling

Operating Humidity Storage Temperature

Altitude

-20°C to 70°C

derating: 2.5% / °C > 50°C

- 40W; free air convection
- 5-95% RH, non-condensing
- -40°C to +85°C
- 0 to 3000 m

## General

Efficiency **Energy Saving** 

Isolation

Isolation Resistance

≥86% typical at rated load

Energy Star, Level V

4000 VAC Input to Output, 2x MOPP 1500 VAC Input to Ground, 1x MOPP 1500 VDC Output to Ground, 1x MOPP

Switching Frequency

**MTBF** 

**EMI** 

 $50 M\Omega$ 

120 kHz typical

>500 kHrs to MIL-HDBK-217F at 50°C

## EMC & Safety

- Safety Approvals:

Harmonic Currents

Radiated Immunity

Conducted Immunity Magnetic Fields

Dips & Interruptions

**ESD** Immunity

**EFT Burst** 

Surge

- UL/CSA/EN 60950-1, 2nd edition
- ANSI/AMMI/CSA/EN 60601-1, 3rd edition
- CB report, CE mark, RM report
- EN 61000-3-2 class D
- EN55022 (CISPR 22) Class B, EN 61000-3-3
- EN 61000-4-2, 6kV/contact, 8kV/air
- EN 61000-4-3, 10V/m with 80% AM
- EN 61000-4-4, 2kV
- EN 61000-4-5, 1kV/L-L, 2kV/L-G
- EN 61000-4-6, 10V with 80% AM
- E61000-4-8, 10A/m
- EN 61000-4-11, 30% dips 10ms, 60% dips 100ms, 95% dips 5000ms

### Warranty

Manufacturer's Warranty

10 years. Call Tri-Mag or go to www.Tri-Mag.com for details.



## **DG040 Series** | ITE & Medical Safety

## **Output Specifications**

Model No.	Application	Output	Load				Initial	Dinale Neise	Line Dea	Load Don
		Rail	Min	Rated	Max	Peak	Accuracy	Ripple Noise	Line Reg.	Load Reg.
DG040(M)-7 DG040(M)-7A	ITE/Medical	+12V	0A	3.33A	-	4.7A	+11.9V~+12.1V	< 100mVpp	+ 0.5%	+ 1%
DG040(M)-8 DG040(M)-8A	ITE/Medical	+15V	0A	2.66A	-	3.8A	+14.8V~+15.2V	< 100mVpp	+ 0.5%	+ 1%
DG040(M)-3 DG040(M)-3A	ITE/Medical	+18V	0A	2.22A	-	3.2A	+17.8V~+18.2V	< 100mVpp	+ 0.5%	+ 1%
DG040(M)-9 DG040(M)-9A	ITE/Medical	+24V	0A	1.66A	-	2.4A	+23.7V~+24.3V	< 150mVpp	+ 0.5%	+ 1%
DG040(M)-G DG040(M)-GA	ITE/Medical	+28V	0A	1.42A	-	2.0A	+27.7V~+28.3V	< 150mVpp	+ 0.5%	+ 1%
DG040(M)-J DG040(M)-JA	ITE/Medical	+36V	0A	1.11A	-	1.6A	+35.8V~+36.2V	< 150mVpp	+ 0.5%	+ 1%
DG040(M)-14 DG040(M)-14A	ITE/Medical	+48V	0A	0.83A	-	1.16A	+47.5V~+48.5V	< 150mVpp	+ 0.5%	+ 1%

#### **Notes**

1. Output Load:

Convection cooling: 40W

2. Peak Load Duration:

55W peak rating for durations up to 3 secs. (duty cycle <10%, average power <40W). Ideal for motor-starting/in-rush conditions.

3. Engineering Specification:

Contact Tri-Mag for full engineering specification for the specific part number used in your design application.

4. Standby Power Cosumption with System:

This is required by ENERGY STAR in U.S. and ErP regulation in Europe for appliances such as computers and displays. The latest requirement is measured input power to be less than 0.3W with system.

5. Step Efficiency and Average Efficiency:

Test conditions in step efficiency are referred to 3.2.2 IPS (Internal Power Supply) of the ENERGY STAR program requirements for computers. ENERGY STAR required for efficiency @ 20%, 50%, 100% load is 84.5%, 89%, 86.5%; average efficiency is the average of step efficiency.

6. Model Ordering Table:

Safety/Application	Series		
ITE	DG040-x		
Medical	DG040M-x		

## **Mechanical Specifications**

#### Notes

1. Mechanical drawing dimensions in mm Tolerance: ± 0.4mm

2. Size: 50.8 x 76.2 x 23.1 (mm)

3. Connections: AC Input:

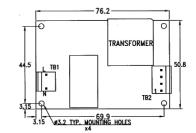
2.0 x 3.0 x 0.91 (inches) Net weight: 89 g approx. / unit

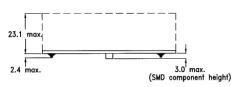
PCB Header: Molex 09-65-2029 (5277-02A) or equivalent Mating Connector: Molex 09-50-9030 (41695-N-A02) or equivalent

DC Output: PCB Header: Molex 09-65-2048 (5273-07A) or equivalent

Mating Connector: Molex 09-52-4044 (5239-04) or equivalent

Terminal Block (optional)





2014-10