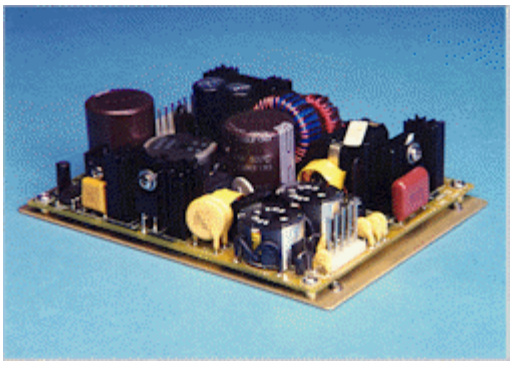
70050M2

50W MULTIPLE OUTPUT PFC POWER SUPPLY (400Hz)



The **70050M2** power supply contains all the necessary circuitry for complete AC power line compliance with aeronautics specification RTCA/DO-160C and Boeing's D6-44588. Offering three standard output voltages and providing over 50W of continuous output power, the **70050M2** is well suited for many avionics applications requiring a compact and rugged power supply solution.

Each of the standard outputs are independently over-current protected and post-regulated for optimum cross regulation regardless of load imbalances. The +12V output normally rated at 1.5A can supply peak currents of up to 2.25A essential for powering hard disk drives. The output regulators can be disabled by supplying the appropriate logic command, while an AC STATUS detector signal is provided in order to indicate loss of AC input power.

The **70050M2** is mounted to an aluminum plate with outer dimensions of 5.5"X4.0"X1.5" and can be flush mounted to any chassis surface. Interconnection is accomplished using standard Molex header/mate connectors.

FEATURES

EXCEEDS BOEING SPECIFICATION D6-44588 (AA) FOR POWER FACTOR AND INPUT CURRENT HARMONIC DISTORTION LEVELS @ 400 ± 10% Hz
EFFICIENCY: 70% TYPICAL AT FULL RATED LOAD
WIDE INPUT RANGE = 115 ± 15% VAC, 50-440Hz
COMPLIES WITH RTCA/D0-160C CONDUCTED EMISSIONS REQUIREMENTS
ACTIVE INRUSH CURRENT LIMITING (4Apk)
INPUT TRANSIENT SUPPRESSION - 30J/2mSecs
SIZE = 5.5" X 4.0" X 1.5", WEIGHT = 16oz.
OVER-CURRENT PROTECTION ON EACH OUTPUT (AUTO RESET)
THREE STANDARD OUTPUTS (+5V, ± 12V)
150mSec INTERNAL HOLD-UP TIME EXPANDABLE WITH EXTERNAL 250Vdc CAPACITOR(S)
AC FAIL STATUS LINE
OUTPUT ENABLE LINE

STANDARD OUTPUTS

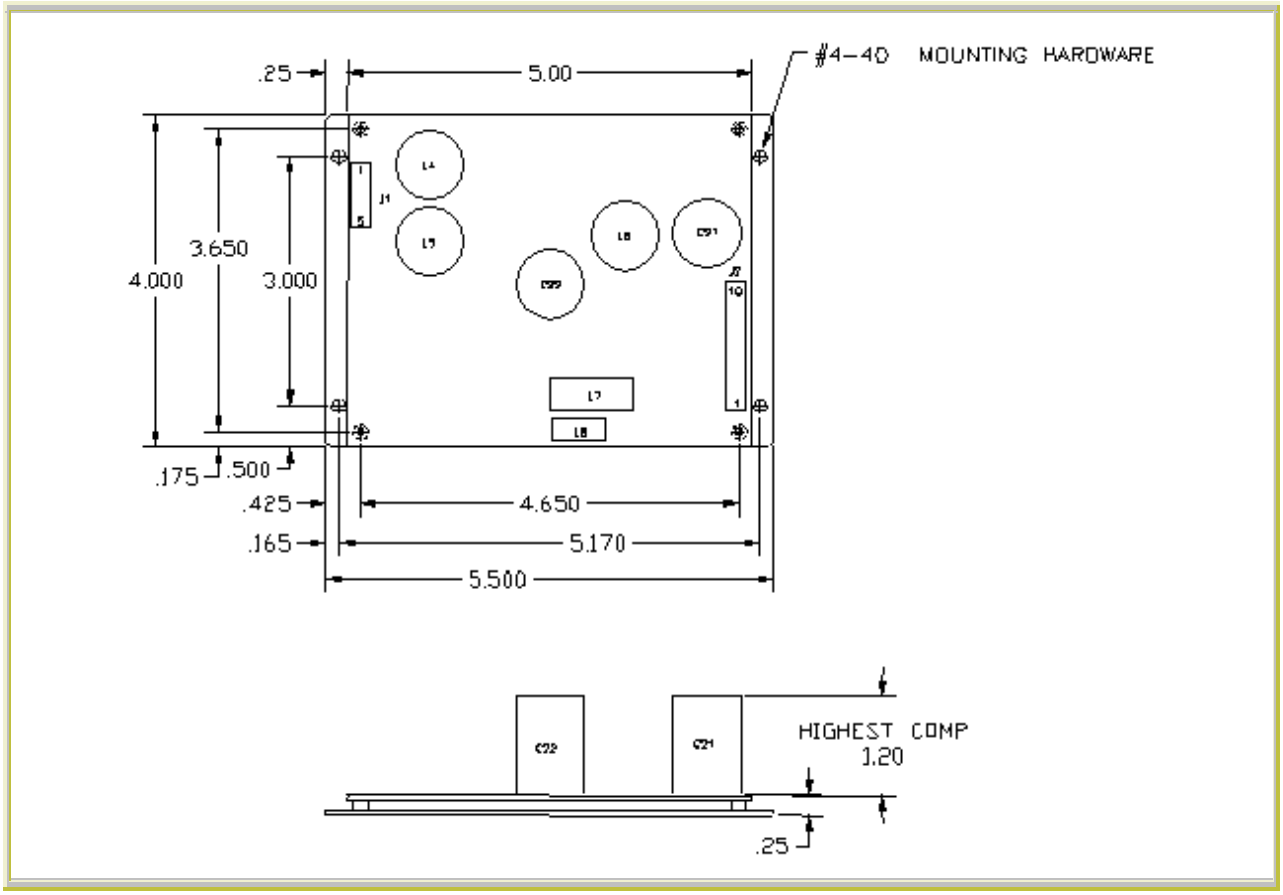
OUTPUT / PARAMETER	+5V	+12V	-12V
VOLTAGE REGULATION	1%	1%	1%
OUTPUT CURRENT	6.0A	1.5A, 2.25Apk	0.5A
OVER-CURRENT TRIP POINT	7.50A	3.5A	1.2A
MINIMUM OUTPUT CURRENT	250mA	0A	0A
RIPPLE + NOISE (20MHz BW) pk-pk	1%	1%	1%

INTERCONNECTIONS

J1	MOLEX P/N 26-60-4050
J1-1	AC LINE
J1-2	AC NEUTRAL
J1-3	CHASSIS GND
J1-4	+200Vdc (EXT CAP)
J1-5	+200Vdc RETURN (EXT CAP)

J2	MOLEX P/N 26-60-4100
J2-1	-12V
J2-2	DC RETURN
J2-3	+12V
J2-4	DC RETURN
J2-5	+5V
J2-6	+5V
J2-7	DC RETURN
J2-8	AC STATUS
J2-9	N/C
J2-10	OUTPUT ENABLE

MECHANICAL DIAGRAM



ELECTRICAL SPECIFICATIONS

UNLESS OTHERWISE SPECIFIED THE FOLLOWING TEST CONDITIONS APPLY: Ta=25°C,. CONSTANT RESISTIVE LOADS APPLIED TO OUTPUT, VIN=115Vrms, 400Hz, < 1% THD SINUSOID

INPUT CHARACTERISTICS

PARAMETER	70050M2	REMARKS
INPUT VOLTAGE RANGE	**115V_{AC}±15%**	**COMPLIES WITH NORMAL/ABNORMAL INPUT VOLTAGES PER RTCA/DO-160C**
INPUT FREQUENCY RANGE	**400Hz ± 10%**	**OPERATES @ 60Hz WITH REDUCED DISTORTION** PERFORMANCE
LEAKAGE CURRENT	**<5mA**	**AC LINE/NEUTRAL TO CHASSIS, Vin @ 400Hz**
INRUSH CURRENT	**<6Apk**	
TOTAL HARMONIC DISTORTION (INPUT CURRENT)	**<3.5%**	**50% TO FULL LOAD**
INDIVIDUAL HARMONICS - AC CLEAN	**EVEN: < 1% I_f / n, (n<10)** **EVEN: <0.1% I_f (n ≥10)** **ODD: < 30% I_f / n** **ODD TRIPLENS: < 15% I_f / n**	**I_f = FUNDAMENTAL CURRENT** **Vthd ≤ 1%, n = 1 THRU 62,** **n = ORDER OF HARMONIC**
INDIVIDUAL HARMONICS - DISTORTED INPUT	**EVEN: < 1% I_f / n + Vn (n<10)** **EVEN: <0.1% I_f + Vn (n ≥10)** **ODD: < 30% I_f / n + Vn** **ODD TRIPLENS: < 15% I_f / n + Vn**	**Vthd ≥ 5%** **Vn = CORRESPONDING INPUT VOLTAGE HARMONIC**
POWER FACTOR	**0.90 min**	**Pout > 20W**
TRANSIENT SURGE WITHSTAND	**30J / 2mSec**	**NORMAL MODE**
CREST FACTOR (CURRENT)	**1.314 - 1.514**	**RATIO OF PEAK/RMS**
START-UP TIME	**<500mSec**	**OUTPUTS WITH REGULATION**
CONDUCTED EMISSIONS	**RTCA/DO-160C**	**CATEGORY Z EQUIPMENT**
STORAGE TEMPERATURE RANGE	**-55°C TO +100°C**	
OPERATING TEMPERATURE RANGE	**-25°C TO 70°C**	**AMBIENT**

OUTPUT CHARACTERISTICS

PARAMETER	70050M2	REMARKS
RATED OUTPUT POWER	**54W**	**CONTINUOUS**
RATED OUTPUT VOLTAGES		**SEE "STANDARD OUTPUTS" TABLE**
MINIMUM OUTPUT CURRENT	**250mA**	**+5V OUTPUT**
TEMPERATURE STABILITY COEF.	**0.01% / °C**	**OUTPUT VOLTAGE**
OUTPUT RIPPLE + NOISE (pk - pk)	**<1%**	**20MHz BANDWIDTH**
LINE REGULATION	**<0.5%**	**OUTPUT DEVIATION FOR ± 20%, STEP CHANGE IN LINE VOLTAGE**
LOAD REGULATION	**<1.0%**	**50% STEP CHANGE IN OUTPUT LOAD**
HOLD-UP TIME	**150mSec**	**@ FULL LOAD, CAN INCREASE WITH EXTERNAL (250Vdc MINIMUM) CAPACITOR(S) WIRED FROM J1-4(+) TO J1-5(-)**
ISOLATION VOLTAGE INPUT TO CHASSIS	**1500Vdc**	**NO ARCING OR DAMAGE FOR 60-SECOND DURATION**
ISOLATION VOLTAGE INPUT TO OUTPUT	**1500Vdc**	**NO ARCING OR DAMAGE FOR 60-SECOND DURATION**
OUTPUT VOLTAGE ADJUSTMENT	**NONE**	
AC FAIL STATUS LINE	**3.5V Min**	**ACTIVE HIGH (W/ RESPECT TO DC(rtn) UPON AC FALLING BELOW 88Vrms + 5Vrms.**
OUTPUT ENABLE	**0.7V Min**	**APPLY LOW TO DISABLE OUTPUTS "WITH RESPECT TO 200Vdc RETURN"**

ORDERDING INFORMATION

To inquire about price and delivery please contact us.