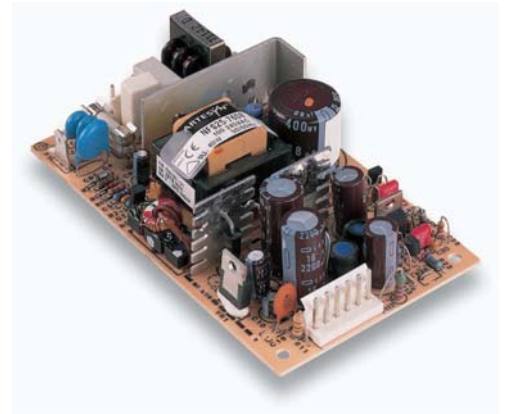


# NFS25 SERIES

AC/DC Single & Multi Output: 25Watts

- 5.0 x 3.0 x 1.2 inch package (1U applications)
- Industry standard package
- Overvoltage and short circuit protection
- 25 W with free air convection cooling
- EN55022, EN55011 conducted emissions level A
- UL, VDE and CSA safety approvals
- Available RoHS compliant



The NFS25 series is a 25 W universal input ac-dc power supply on a 5 x 3 inch card with a maximum component height of 1.2 inches for use in 1U applications. The NFS25 series is available with a wide range of models in the industry standard 5 x 3 inch footprint and has proven itself to be reliable and versatile product for a wide range of communication and industrial applications. The NFS25 provides 25 W of output power with free air convection cooling which can be boosted to 30 W with 20 CFM of air. Standard features include OVP and short-circuit protection. The series, with full international safety approval and the CE mark, meets conducted emissions EN55022 level A. The NFS25 series is designed for use in low power data networking, computer, telecom and industrial applications such as wireless switchers, hubs, POS terminals, PABX's and machine control. This list is not exclusive as the generic feature of the series with industry standard output configurations provide a solution for most high volume applications including many industrial applications.

CE (LVD)

2 YEAR WARRANTY

All specifications are typical at nominal input, full load at 25 °C unless otherwise stated

## SPECIFICATIONS

### OUTPUT SPECIFICATIONS

Output power (See Note 2)	Continuous Peak (60 s)	25 W 35 W
Line regulation LL to HL, FL	Main output (Output 1) Output 2 Output 3	±0.2% max. ±1% max. ±0.2% max.
Total regulation (See Notes 4, 5)	Main output (Output 1) Auxiliary output 2 Auxiliary output 3	±2.0% max. See table See table
Overshoot/undershoot	At turn-on	0%
Transient response	+5 V (1.5-3 A step)	±120 mV max. dev. 500 µs recovery
Temperature coefficient	All outputs	±0.02%/°C max.
Overvoltage protection	+5 V output	6.25 V ±0.75 V
Output power limit	Primary power limited	60 W Pin limit max. 35 W Pout limit min.
Short circuit protection		Continuous

### INPUT SPECIFICATIONS

Input voltage range	Universal input	85-264 Vac 120-370 Vdc
Input frequency range		47-440 Hz
Input surge current	110 Vac, cold start 230 Vac, cold start	15 A max. 32 A max.
Safety ground leakage current	132 Vac, 60 Hz 264 Vac, 50 Hz	0.62 mA max. 1 mA max.

### EMC CHARACTERISTICS

Conducted emissions	EN55022, FCC part 15	Level A
Radiated emissions	EN55022, FCC part 15	Level A
ESD air	EN61000-4-2, level 3	Perf. criteria 1
ESD contact	EN61000-4-2, level 4	Perf. criteria 1
Surge	EN61000-4-5, level 3	Perf. criteria 1
Fast transients	EN61000-4-4, level 3	Perf. criteria 1
Radiated immunity	EN61000-4-3, level 3	Perf. criteria 2
Conducted immunity	EN61000-4-6, level 3	Perf. criteria 1

### GENERAL SPECIFICATIONS

Hold-up time	110 Vac input 230 Vac input	16 ms 80 ms
Efficiency	25 W output	70% typical
Isolation voltage	Input/output Input/chassis	3000 Vac 1500 Vac
Switching frequency		Variable
Approvals and standards (See Note 10)		IEC950, IEC1010, EN60950 UL1950, VDE0805 CSA C22.2 No. 950
Weight		280 g (9.6 oz)
MTBF (See Note 9)	MIL-HDBK-217E, 25 °C	170,000 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Notes 6, 7, 8)	0 °C to 50 °C ambient, convection cooled 50 °C to +70 °C ambient convection cooled Peak (0 °C to +50 °C, max. 60 seconds) Non-operating	25 W max. Derate to 50% load 35 W -40 °C to +85 °C
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating Non-operating	10,000 feet max. 30,000 feet max.
Vibration	Random vibration Three orthogonal axes 10 min. test per axis	2.4 G rms approx. 5-500 Hz

# NFS25 SERIES

## AC/DC Single & Multi Output: 25Watts

OUTPUT VOLTAGE	OUTPUT CURRENTS			RIPPLE (3)	TOTAL REGULATION (4)	MODEL NUMBER (11,12,D)
	MIN (9)	MAX (1)	PEAK (2)			
+5.1 V (I <sub>A</sub> )	0 A	2 A	5 A	50 mV	±2.0%	NFS25-7608J (4)
+12 V (I <sub>B</sub> )	0 A	1.5 A	3 A	120 mV	±5.0%	
-12 V	0 A	0.2 A	1 A	120 mV	±5.0%	
+5.1 V	0 A	3 A	5 A	50 mV	±2.0%	NFS25-7628J (5)
+12 V	0 A	0.2 A	1 A	120 mV	±2.0%	
-12 V	0 A	0.2 A	1 A	120 mV	±2.0%	
+5.1 V (I <sub>A</sub> )	0 A	2 A	5 A	50 mV	±2.0%	NFS25-7629J (4)
+12 V (I <sub>B</sub> )	0 A	1.5 A	3 A	120 mV	±5.0%	

### Notes

- Natural convection cooling.
- Peak output current lasting less than 60 seconds with duty cycle less than 5%. During peak loading, outputs may go outside of total regulation limits. Total peak power output is 35 Watts.
- Figure is peak-to-peak. Output noise measurements are made across a 50 MHz bandwidth using a 12 inch twisted pair, terminated with a 47 µF capacitor.
- Total regulation is defined as the static output regulation at 25 °C, including initial tolerance, line voltage within stated limits, load currents within stated limits and output voltages adjusted to their factory settings. Also,  $0.5 \leq I_A / I_B \leq 3$  to maintain stated regulation. This does not apply to the NFS25-7628J.
- The NFS25-7628J has separately regulated +12 V and -12 V outputs. The loading condition in note 4 does not apply.
- Derate linearly from 25 Watts at 50 °C to 12.5 Watts at 70 °C.
- Derating curve is application specific for ambient temperatures > 50 °C, for optimum reliability no part of the heatsink should exceed 120 °C and no semiconductor case temperature should exceed 125 °C.
- Caution: Allow a minimum of 1 second after disconnecting the power before making thermal measurements.
- A 4 Watt minimum load is required to achieve design MTBF.
- This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

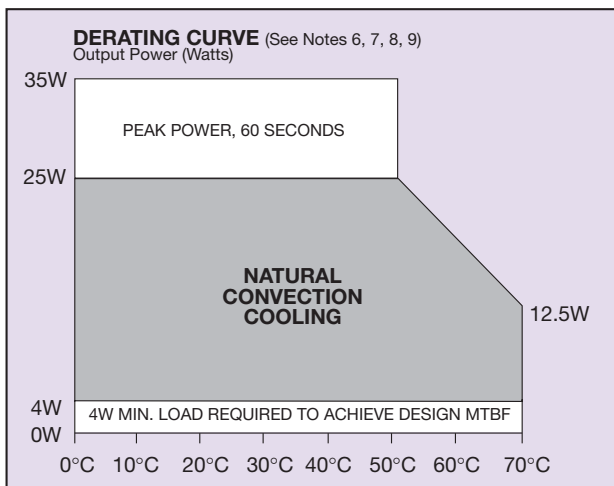
PIN CONNECTIONS			
J1	-7608J	-7628J	-7629J
Pin 1	AC Line	AC Line	AC Line
Pin 2	AC Neutral	AC Neutral	AC Neutral
J2			
Pin 1	+12 V	+12 V	+12 V
Pin 2	+5.1 V	+5.1 V	+5.1 V
Pin 3	+5.1 V	+5.1 V	+5.1 V
Pin 4	Return	Return	Return
Pin 5	Return	Return	Return
Pin 6	-12 V	-12 V	N/C
P1			
Pin 1	Safety Ground		

### AC mating connector

Molex 09-50-3031 or equivalent with Molex 08-50-0105 crimp terminals or equivalent

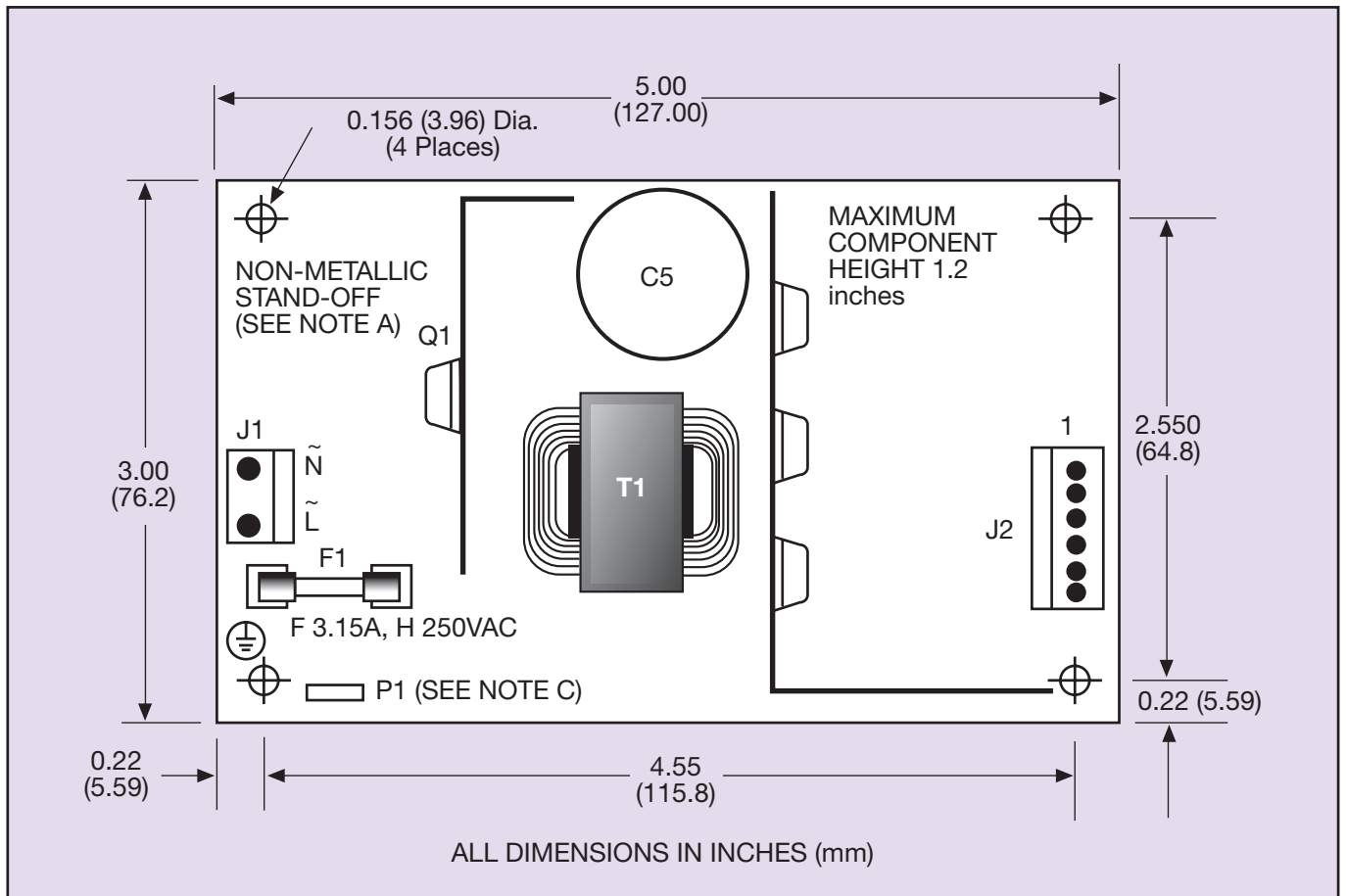
### DC mating connector

Molex 09-91-0600 or equivalent with Molex 08-50-0164 crimp terminals or equivalent






**Mechanical Notes**

- A** In order to meet safety requirements, a non-metallic stand-off is mandatory for one hole as specified in the mechanical drawing above.
- B** The ground pad of the mounting hole near P1 allows system grounding through a metal stand-off.
- C** To improve conducted noise, the ground pad of the mounting hole near the output connector should be connected with the ground pad of the mounting hole near P1. Use metal stand-offs attached to a common metal chassis. This connection also significantly attenuates common mode noise.
- D** A standard L-bracket and cover is available for mounting which contains all screws, connectors and necessary mounting hardware. Order part number 'NFS40 COVER KIT'.



**International Safety Standard Approvals**

-  VDE0805/EN60950/IEC950/IEC1010 File No. 10401-3336-0044  
Licence No. 2559, 1651
-  UL1950 File No. E136005
-  CSA C22.2 No. 950 File No. LR41062C