## **COPAL ELECTRONICS**

# **BRUSHLESS DC FANS**



#### **FEATURES**

- FG signal type
- Low noise, 11 dB (A) type by the correct application of hydrodynamic design of impeller and frame
- Light weight (approx. 7 g)

#### **STRUCTURE**

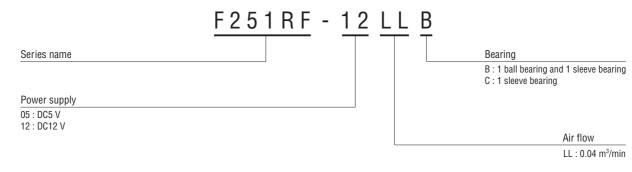
- Frame and impeller ABS/PBT alloy
- Bearing
  - B type : 1 ball bearing and 1 sleeve bearing C type : 1 sleeve bearing

#### **RoHS compliant**



Oct, 2005

### ■ PART NUMBER DESIGNATION



### ■ LIST OF PART NUMBERS

Power supply	Part number
DC5 V	F251RF-05LLB
DC12 V	F251RF-12LLB
	F251RF-12LLC

₩ : Verify the above part numbers when placing orders.

**F251RF** BRUSHLESS DC FANS

## STANDARD SPECIFICATIONS

Item	F251RF-05LLB	F251RF-12LLB	F251RF-12LLC
Rated voltage	DC5 V	DC12 V	DC12 V
Voltage range	4.2 ~ 5.7 V	1.2 ~ 5.7 V 10.2 ~ 13.8 V	
Rated current	0.05 A	0.0	3 A
Rotating speed	6500 min <sup>-1</sup>		
Air flow	0.04 m³/min		
Static pressure	20 Pa		
Noise	11 dB (A)		
Net weight	Approx. 7 g		

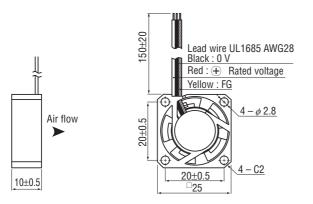
\* : Figures in the table are typical values under rated operating condition.

#### FG SIGNAL CHARACTERISTICS

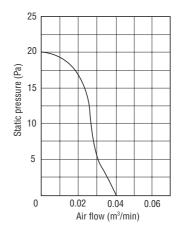
Item	Specification	
Output circuit	Open collector	
Maximum output voltage	15 V	
Maximum sink current	5 mA	
Output saturation voltage (at Low)	Vsat : Maximum 0.4 V	
Output (rotate)	4 pulses / rotation	
Output (lock)	High or High/Low intermittent motion 茶	
Time a High Signal (lock)	0.5 s minimum	

 2 conditions are possible according to the stop position of the impeller.
"High" (Fixed) : Constantly "High"
"High/Low" intermittent motion : "High" and "Low" switch at regular time intervals. It is guaranteed that "high" continues over 0.5 seconds.

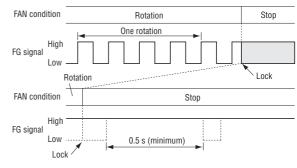
### **OUTLINE DIMENSIONS**



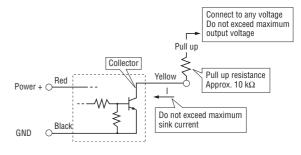
#### AIR FLOW PERFORMANCE CURVES



#### FAN condition and FG sighal



#### Output circuitry



(Unit: mm)

#### Dimension of mounting hole for recommendation

