Approval Specification for Cofan Part # 30-1134 Rev A

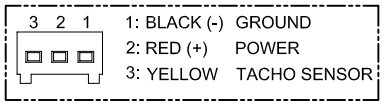
Cofan Alternate Part # 100-562 Rev A

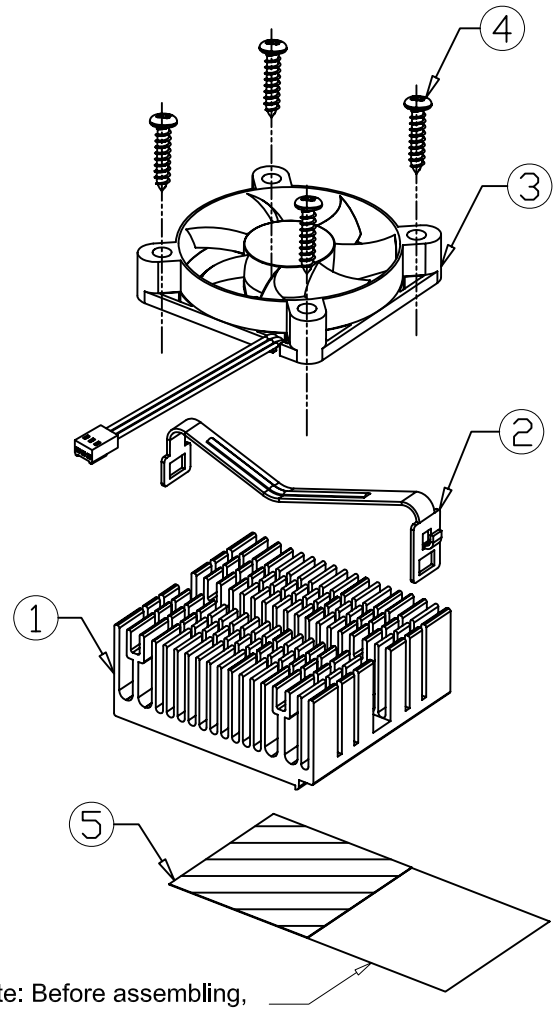
P3 CPU Cooler Heatsink Fan Combination, RoHS Compliant

Revision Date: May-5-06

Cofan USA, 1400 Fulton Place, Unit A Fremont, CA 94539 www.cofan-usa.com (800) 766-6097

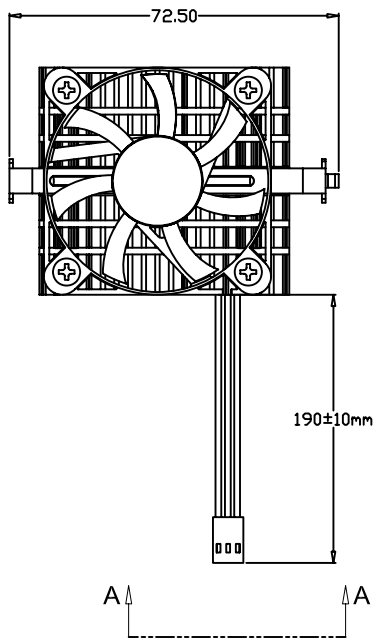
REV	DESCRIPTION	DRWN	CHK'D	APPV'D	DATE
B	CHANGED FAN PART # ON ASSY DWG TO F-6010HH12BII Rev B	BEN	---	---	Jan-11-2006
B	CHANGED WIRE LENGTH ON ASSY DWG TO 160mm	BEN	---	---	Jan-11-2006

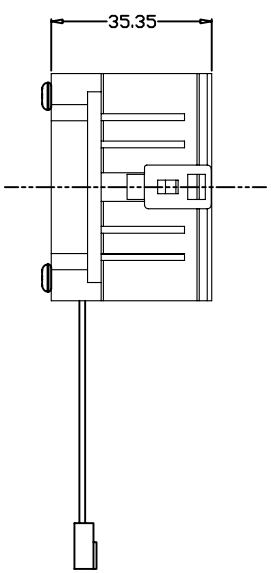


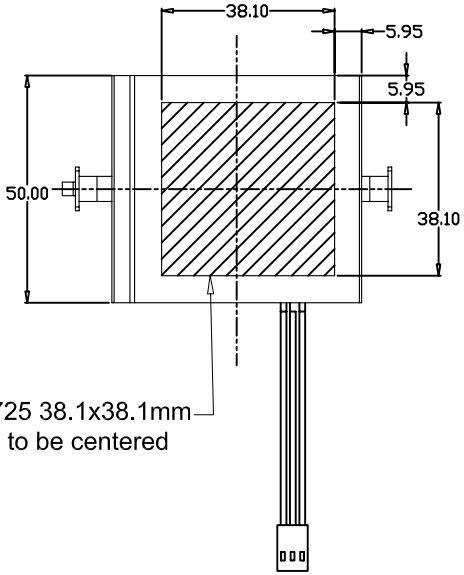


Note: Before assembling, remove interface tab, Thermal Interface Tape T-725, to be centered.

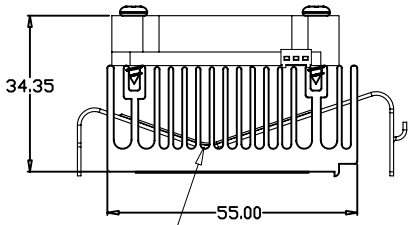
A - A



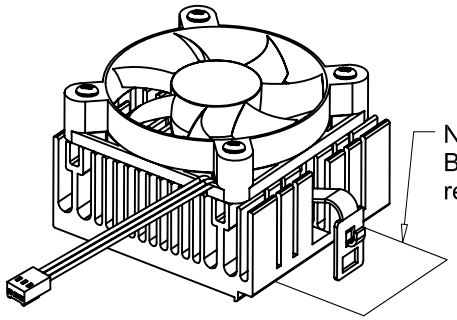




T-725 38.1x38.1mm
to be centered



Note Bent portion of clip to be located here.



Note:
Before assembling, remove interface tab

Note:
Need to mark the outside of the box with "P/N: #100-562 Rev A"

RoHS
Compliant
2002/95/EC

Item	Part Description	Part Number	REV	Q'ty
⑤	THERMAL PAD	70-1019	01	1
④	TAPPING SCREW, M3x15	60-1073	01	4
③	50x50x11mm FAN	F-5010H12B-01	B	1
②	CLIP	50-1020	01	1
①	HEAT SINK	20-2025	01	1

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETRE TOLERANCES ARE:
1 PLACE .X ± 0.4
2 PLACE .XX ± 0.25
3 PLACE .XXX ± 0.13
ANGLES EXCEPT 90° ± 0.5°
MAXIMUM SURFACE ROUGHNESS 3.1

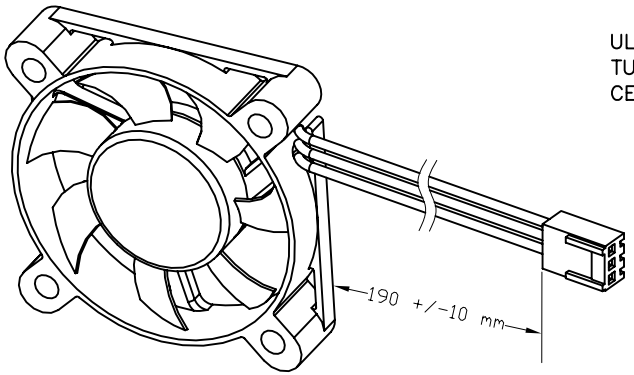
MATERIAL: –	CUSTOMER DRAWING NUMBER: –	COFAN USA 1400 FULTON PL. UNIT A FREMONT CA 94539	
FINISH: –	CUSTOMER PART NUMBER: –	NAME: P3 CPU,COOLER	
DRAWN BY: Long	COFAN DRAWING NUMBER: 30-1134(100-562)	SCALE: 1:1	CUS REV: – / COF REV: A
APPR BY:	COFAN PART NUMBER: 30-1134(100-562)	SHEET: 1 OF 1	DATE DRAWN: May-05-2006

Approval Specification for Cofan Part # F-5010H12B-01 Rev 01

2 Ball Bearing, 50x11mm, 12VDC, Fan w/Tach, Connector, 190mm Wire Length, RoHS Compliant

Revision Date: Oct-7-2005

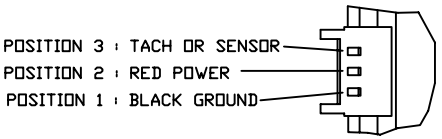
Cofan USA, 1400 Fulton Place, Unit A Fremont, CA 94539 www.cofan-usa.com (800) 766-6097

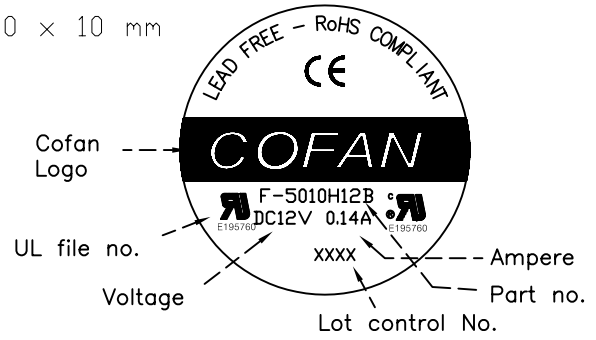


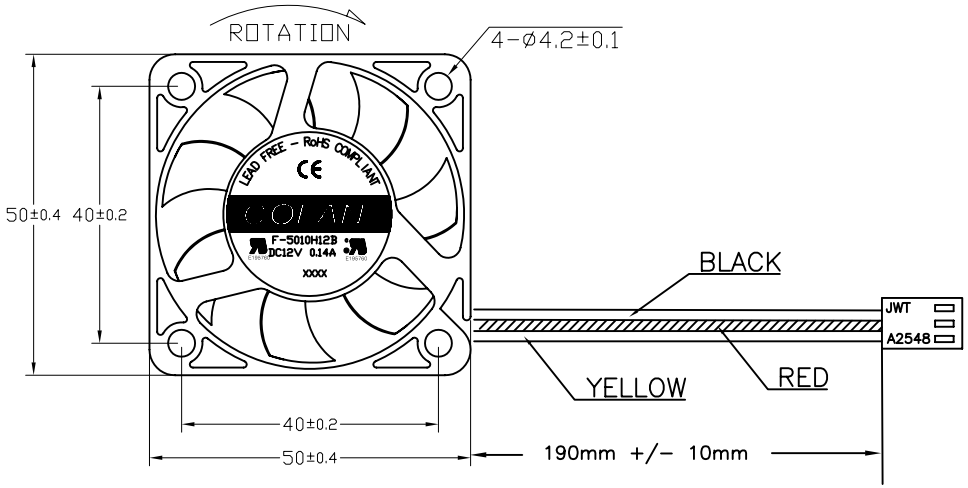
UL# E195760
TUV# B 04 03 52557 03
CE# EN50081-1

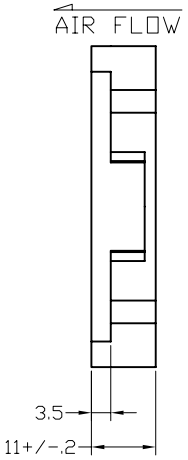
DC BRUSHLESS FAN

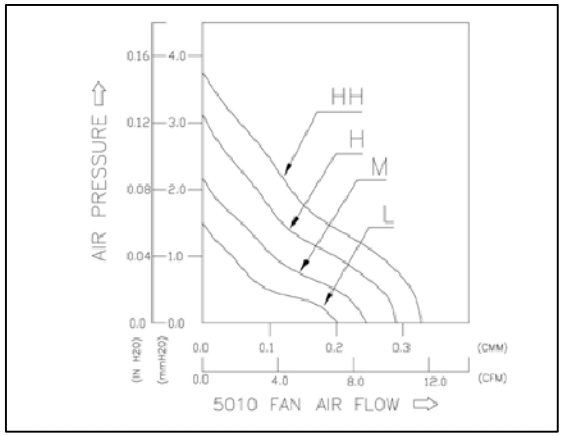
50 x 50 x 10 mm











RoHS
Complaint
2002/95/EC

COFAN ORDERING PART # F-5010H12B-01

Bearing Type: 2 Ball Bearing, 124,217 Hous MTBF @ 25 C

Lead time - 2.5 to 3 weeks
To place order, call Ben at (800) 766-6097 or email to ben@cofan-usa.com

PARTS LIST

1. 1X FAN, Cofan Model F-5010H12B
2. 1X MOLEX HOUSING 22-01-3037, JWT A2548H00-3P, JWT A2543H00-3P or EQUIV.
   3X MOLEX TERMINAL 08-50-0113, JWT A2543T0B-2 OR EQUIV.

MODEL NO	RATED VOLTAGE V	OPERATING VOLTAGE V	RATED CURRENT A	RATED POWER W	RATED SPEED RPM	MAX AIR FLOW		MAX.STATIC AIR PRESSURE		NOISE LEVEL dBA
						CMM	CFM	mmH_2O	InH_2O	
F-5010H12B	12	9.5~13.8	0.14	1.68	5000	0.297	10.48	2.50	0.098	30.7

DO NOT SCALE DRAWING	DRAWING NUMBER: F-5010H12B-01	COFAN USA 1400 Fulton Place Fremont CA 94589	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETRE TOLERANCES ARE:	MATERIAL:	DC Fan, F-5010H12B, 5K RPM, 12V, 3 Wire, Tach Output, 2 Ball Bearing, 124K Hrs MTBF, RoHS	
1 PLACE .X ± 0.4	FINISH:		
2 PLACE .XX ± 0.25	DRAWN BY: DAN	FAN PART NUMBER: F-5010H12B-01	REV: 01
3 PLACE .XXX ± 0.13	ENGINEER:	SHEET:	DATE DRAWN: Oct-07-05
ANGLES EXCEPT 90° ± 1°			SCALE: 1:1
MAXIMUM SURFACE ROUGHNESS 125			

Cofan USA
1400 Fulton Place
Fremont, CA 94539
USA

TEL: (510) 490-7533
FAX: (510) 490-7931
www.cofan-usa.com

SPECIFICATION FOR APPROVAL

Rev 0.1

1. SCOPE:

This specification defines the electrical and mechanical characteristics of the following DC brushless axial flow fan:

Item		Description	
1-1	Part Number	F-5010H12B	
1-2	Outline Dimensions	50 x 50 x 10 mm (see dimensions drawing #7)	
1-3	Bearing System	2 Ball Bearing	
1-4	Rated Voltage	12 VDC	
1-5	Operating Voltage	9.5 – 13.8 VDC	
1-6	Rated Current	0.14 A	
1-7	Input Power	1.68 W	
1-8	Speed	5000 R.P.M.	a. 25°C, 65% RH, b. Free Air c. Rated Voltage
1-9	Max. Air Flow (At zero static pressure)	10.48 CFM	a. Rated Voltage b. AMCA Standard c. Rated Current
1-10	Max. Air Pressure (At zero airflow)	0.098 InH_2O	
1-11	Acoustical Noise (Avg)	30.7 dBA	a. Rated Voltage b. Measured in a Non-Echo Chamber c. CNS 8753 Standard d. ISO 3744 Test Condition
1-12	Life Expectance	124,217 hours	a. Continuous operation
1-13	Insulation Type	UL: Class A	
1-14	Weight	20 Grams	
1-15	Rotation	Clockwise from label side	

2. Major Material

Materials / Parts	Specification	Remarks
Plastic Material	Frame: PBT70%: + FIBER30% Impeller: PBT85% + FIBER15%	UL: 94V-0 UL: 94V-0
Lead Wire	(+) Red; (-) Black; (Signal) Yellow; AWG#24(2 Pin), #28(3Pin) Standard wire length is 12", custom lengths are available at no extra charge.	UL: 1007-F
Connector	Standard 3 Pin Connector – See Drawing	UL-94V-0

3. Electrical Characteristics & Test Environmental:

Item		Specification / Condition
3-1	Operation Temperature	-10°C ~ +70°C
3-2	Storage Temperature	-40°C ~ +75°C
3-3	Operating Humidity	5 to 90% RH
3-4	Storage Humidity	5 to 95% RH
3-5	Locked Rotor Protection	a. The current will shut down when rotation is locked b. Automatic restart after a continuous 72 hours rotation lock at rated voltage. c. Impedance of motor winding protects motor from fire after 72 hours of locked rotor condition at the rated voltage. d. Signal Alarm- Optional
3-6	Insulation Strength	10Meg Ohm min at 500VDC Between Frame and (+) terminal
3-7	Dielectric Strength	Withstand 5 mA Max 500 VAC 60 Hz for one minute, (between frame and (+) terminal)
3-8	Vibration Test	Vibration test in rest status, scan frequency : 5~55Hz 1OCT/Min. in the 3 directions(X.Y.Z), take 16 rotating scan for each axis.
3-9	Shock Test	Test of acceleration 30G is applied in the 3 directions (X.Y.Z) and 6 faces, take 11± 1ms(Half Chord Wave), 3 times for each face.
3-10	Noise Level	Measured in a semi-anechoic chamber. The fan is running in free air with Microphone at a distance of one meter from the fan intake.
3-11	Tolerance	±10% on rated power and current.
3-12	Polarity Protection	Capable of withstanding reverse polarity connection

4. Safety Approvals

Safety Approvals	File No.
UL	E195760
CUL	E195760
TUV	B 04 03 52557 002
CE	EN50081-1

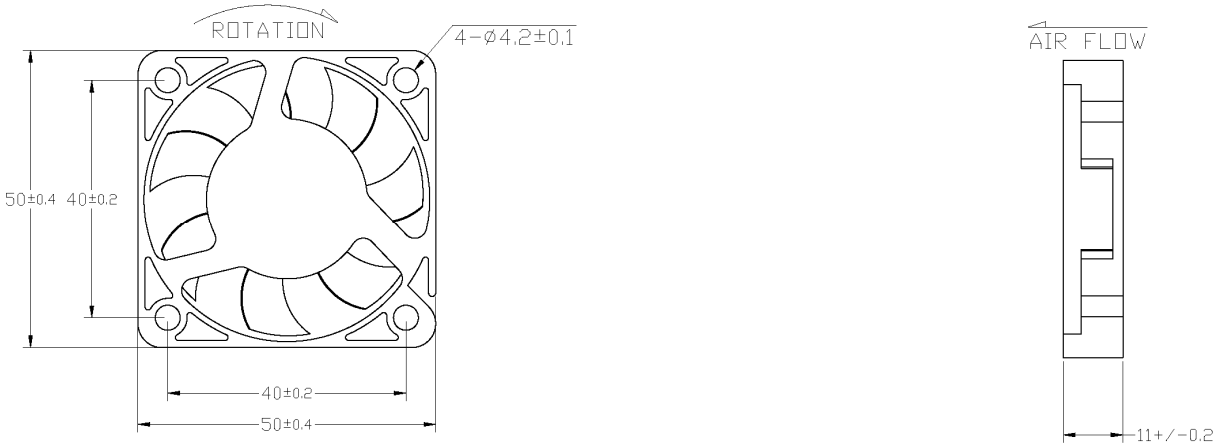
5. Ozone Depleting Substances

5-1. None of our products or manufacturing processes contain or require the use of ozone-depleting chemicals such as PBB's, PBBO's, CFC's, PBBE's, PBDPE's or HCFC's. Furthermore, this fan and all parts associated with this fan (including packaging, housings, and pins) either does not contain any hazardous substances such as lead or mercury or is below the acceptable levels, and is compliant with 2002/95/EC of the European Parliament and of the Council of 27th January, 2003 on the restriction on the use of certain hazardous substances in electrical and electronic equipment.

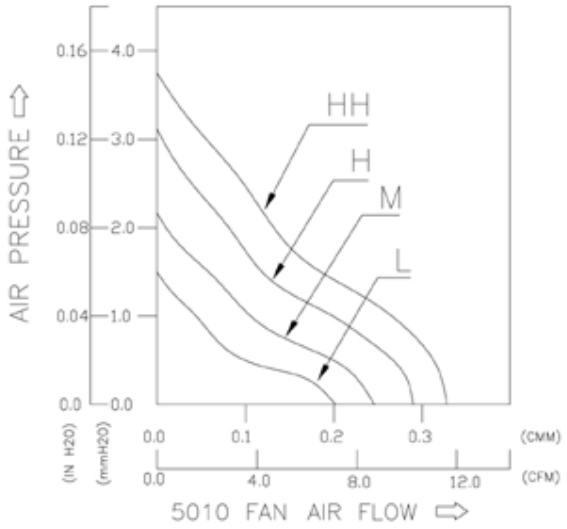
6. Production Location

6-1. Products will be produced in China and Taiwan

7. Dimensional Drawing - For Additional Information See Drawing

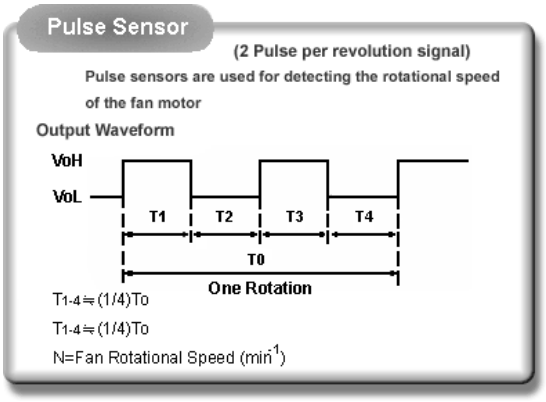


8. Performance Curve

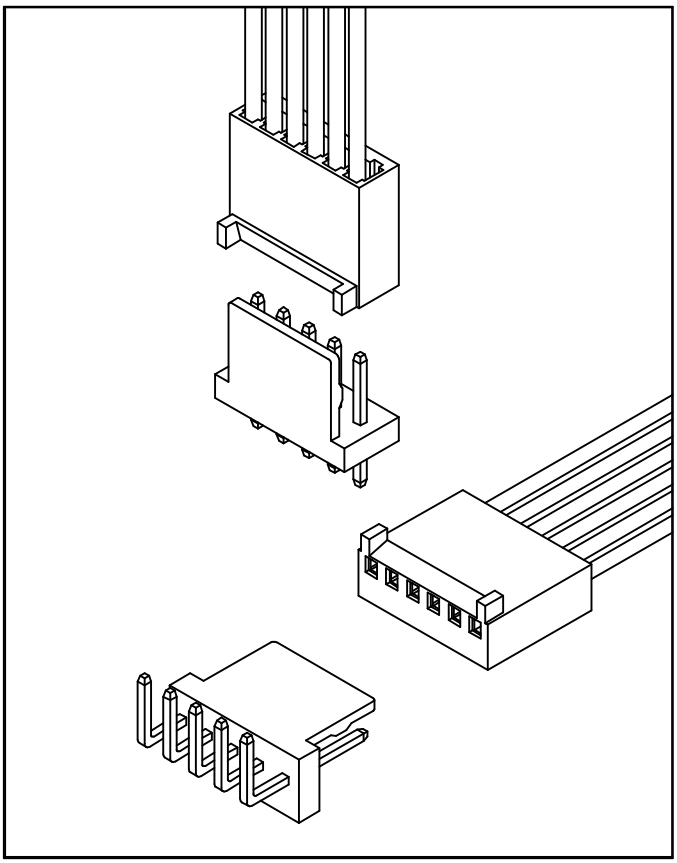


9. Sensor Description

A. Pulse Sensor

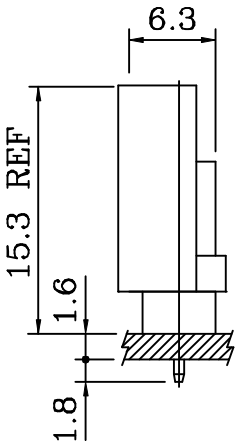


A2548 Series 2.54mm pitch wire to board connector

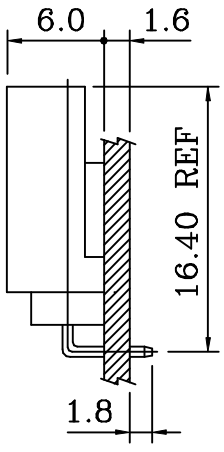


Assembly Layout

Straight Angle (V-Type)



Right Angle (R-Type)



Specifications:

Poles	2~20 Poles
Pitch between poles	2.54mm
Rated Voltage	250V AC,DC
Rated Current	3A
Withstand Voltage	1000V AC/minute
Contact Resistance	20mΩ (MAX.)
Insulation Resistance	1,000MΩ (MIN.)
Temperature Range	−25°~+85°C
Applicable P.C.B. Thickness	1.6mm
Applicable P.C.B. Hole dia.	ø1.00±0.05
Applicable Wire Range	AWG #22~#28

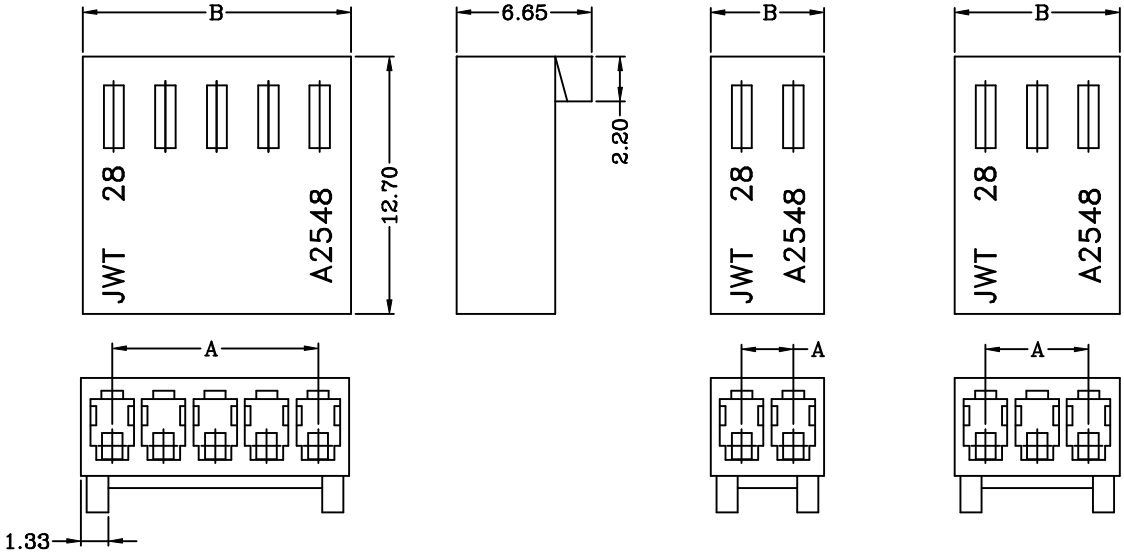
UL:Recognized No. E144544

CSA: Certified No. LR78619

A2548 Series 2.54mm pitch crimp terminal socket

Features:

* Available in 2 through 20 circuits
* Material: Nylon 66 UL 94V-0. Dark Brown Color
* Suitable for JWT A2543 series terminal
* Mates with JWT A2543 series wafer

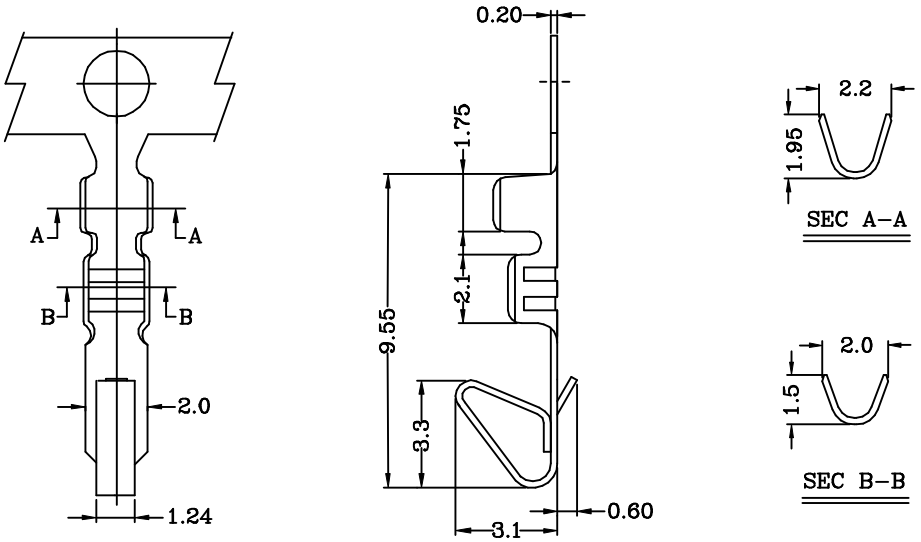


Dimensional & Ordering Information:

Circuits	Part No	Dimensions		PCS/BAG
		A	B	
2	A2548H00-2P	2.54	5.60	1000
3	A2548H00-3P	5.08	8.14	1000
4	A2548H00-4P	7.62	10.68	1000
5	A2548H00-5P	10.16	13.22	1000
6	A2548H00-6P	12.70	15.76	1000
7	A2548H00-7P	15.24	18.30	1000
8	A2548H00-8P	17.78	20.84	1000
9	A2548H00-9P	20.32	23.38	1000
10	A2548H00-10P	22.86	25.72	1000
11	A2548H00-11P	25.40	28.46	1000
12	A2548H00-12P	27.59	31.00	1000
13	A2548H00-13P	30.48	33.54	1000
14	A2548H00-14P	33.02	36.08	1000
15	A2548H00-15P	35.56	38.62	1000
16	A2548H00-16P	38.10	41.16	1000
17	A2548H00-17P	40.64	43.70	1000
18	A2548H00-18P	43.18	46.24	1000
19	A2548H00-19P	45.72	48.78	1000
20	A2548H00-20P	48.26	51.32	1000

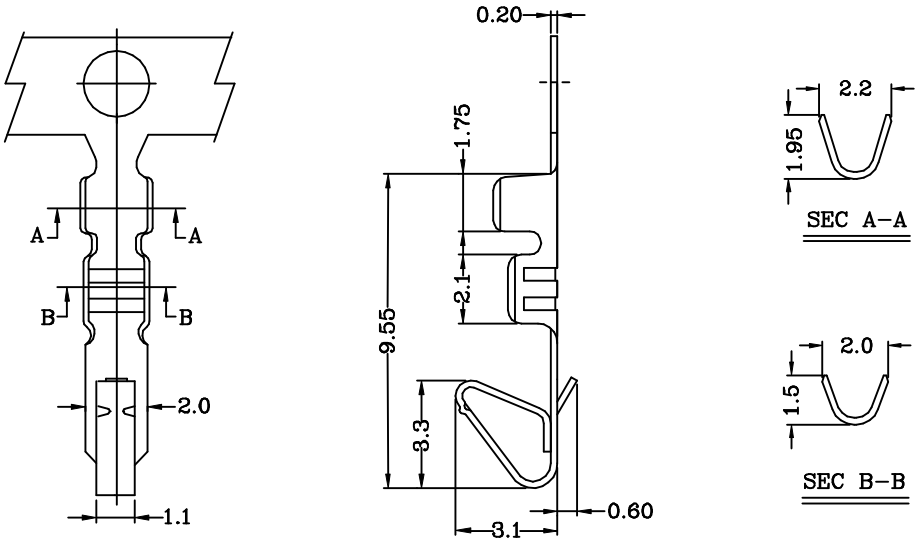
A2543 Series 2.54mm pitch crimp terminal

Features:
* Single contact point
* Used in JWT A2543 series socket



Specification & Ordering Information:

Part No	Wire Range	Insulation O.D.	Material	Finish	Qty/reel	Note
A2543T0P–2	AWG #22~#28	1.50mm(max)	Phosphor bronze	Tin–plated	10,000 PCS	00 –– Au Flash 0A –– 3μ"Au plated 0B –– 4μ"Au plated 0C –– 5μ"Au plated 0D –– 15μ"Au plated 0E –– 30μ"Au plated 0F –– 50μ"Au plated 0G –– 10μ"Au plated
A2543T0B–2	AWG #22~#28	1.50mm(max)	Brass	Tin–plated	10,000 PCS	
A2543T0B–0*	AWG #22~#28	1.50mm(max)	Brass	Gold–plated	10,000 PCS	



Specification & Ordering Information:

Part No	Wire Range	Insulation O.D.	Material	Finish	Qty/reel	Note
A2543T0P–A2	AWG #22~#28	1.50mm(max)	Phosphor bronze	Tin–plated	10,000 PCS	00 –– Au Flash 0A –– 3μ"Au plated 0B –– 4μ"Au plated 0C –– 5μ"Au plated 0D –– 15μ"Au plated 0E –– 30μ"Au plated 0F –– 50μ"Au plated 0G –– 10μ"Au plated
A2543T0B–A2	AWG #22~#28	1.50mm(max)	Brass	Tin–plated	10,000 PCS	
A2543T0B–A0*	AWG #22~#28	1.50mm(max)	Brass	Gold–plated	10,000 PCS	

Underwriters Laboratories Inc.

GPWV2.E195760
Fans, Electric - Component

Page Bottom Print-friendly version Questions? Previous Page

Fans, Electric - Component

See General Information for Fans, Electric - Component

COFAN USA E195760
UNIT A
1400 FULTON PL
FREMONT, CA 94538 USA

DC fans, Models F-410(A)05(E) (F), -410(A)12(E), -620(D)(B)(C), -825(D)(B)(C), -925M(B)(C), FP-825H12(C), -825M(B)(C), -925M(B)(C). (A)May be H, L or M, (B)May be 12 or 24, (C)May be B or S, (D)May be H, HH, M or TH, (E)May be B, C or S, (F)May be 1 or 2.

Models F-310X05Y, -310X12Y, -410X24Y, -510X12Y, -610X12Y, -925X12Y, -2510X05Y, -2510X12Y, -5210X12Y, where X may be B, C or S, where X may be H, L or M, Y may be B, C or S; Model F-825HH12X, where X may be B, C or S.

Model F-410HH12X, where X may be B, C or S; Models F-410, F-2510, F-310 Series followed by H, M or L, followed by 03, followed by B or C; Models F-510, -520, -610, -5210 Series; Models F-625(A)12(B), F-820(A)12(B), F-825(A)12(B)II Series, where (A) may be H, L or M, (B) may be B, C, F or S.

Models F-407X1X2X3X4, F-408X1X2Y12, where X1 may be H, L or M denoting fan speed, X2 may be 05 or 12 denoting input voltage, X3 may be B, C or S, denoting bearing type, X4 may be blank, 1 or 2 denoting frame type, Y1 may be C or S denoting bearing type; Model F-408VXYZ, where V may be H, M or L, X may be 05 or 12, Y may be B, C or S, Z may be 1 or 2; Model F-410X12YZ, where X may by H, M or L, Y may be S, B or C, Z may be 1, 2 or 3; Model F-520H12XY, where X may be S, B or C, Y may be 1 or 2; Model F-620ABC, where A may be H, M, L or LL, B may be 05 or 12, C may be B or S.

Models FP625TH12B, FP625TH12S, FP625HH12B, FP625HH12S, FP820TH12B, FP820TH12S, FP820HH12B, FP820HH12S, FP825TH12BII, FP825TH12SII, FP825HH12BII, FP825HH12SII.

Models FP420(X1)(X3)(X4), F-420(X2)(X3)(X4), FP625FH12(X5), where (X1) may be HH, TH or FH, (X2) may be L, M or H, (X3) may be 05, 12 or 24, (X4) may be B, C or S, (X5) may be B or C; Models F-515(X1)(X2)(X4), F-615(X1)(X3)(X4), where (X1) may be L, M or H, (X2) may be 05, 12 or 24, (X3) may be 05 or 12, (X4) may be B, C or S; Models FP-1238(X1)(X2)(X3), FP-1225(X4)(X2)

(X5), F-1225L(X2)(X3), where (X1) may be L, M, H or HH, (X2) may be 12 or 24, (X3) may be B or S, (X4) may be L, M or H, (X5) may be B, S or F; Models FP515HH(X1)(X2), FP615HH(X1)(X2), F-615(X3)24(X2), where (X1)=12 or 24, (X2)=B, C or S, (X3)=L, M or H; Models FP1238(X1)48(X2), FP1225(X3)48(X2), F-1225L48(X2), where (X1)=12 or 24, (X2)=B, C or S, (X3)=L, M or H.

Models FP925HH12(Y), FP925HH24(Y), FP925TH24, FP925H12(Y), FP925H24(Y), FP925M12(Y), FP925M24(Y), FP925L12(Y), FP925L24(Y); Models F-610(O)05(Y)II, F-610(Z)12(Y)II, F-610(Z)24(Y)II, F-710(O)12(Y), F-710(O)24(Y), where (O) may be L, M or H, (Z) may be L, M, H or HH, (Y) may be B, C, F or S; Models F-4510H05xy, F-4510M05xy, F-4510L05xy, F-4510H12xy, F-4510M12xy, F-4510L12xy, F-4510H24xy, F-4510M24xy, F-4510L24xy, where the x may be B, C, S or F, y may be 1 or 2.

Models FP710HH12x, FP710TH12x, FP710HH24x, FP710TH24x, FP710FH24x, where the x may be B, C, S or F; Models FP725HH12x, FP725TH12x, FP725FH12x, FP725HH24x, FP725TH24x, FP725FH24x, F-715L12x, F-715M12x, F-715H12x, F-715HH12x, F-715L24x, F-715M24x, F-715H24x, F-715HH24x, where the x may be B, C, S or F.

Models F-410H05(E), F-410H05B1, F-410H05B2, F-410H05C1, F-410H05C2, F-410H12(E), F-410L05(E), F-410L12(E), F-410M05(E), F-410M12(E), F-620H12(C), F-620H24(C), F-620M12(C), F-620M24(C), F-620T12(C), F-620T24(C), F-825H12(C), F-825H24(C), F-825HH12(C), F-825L12(C), F-825L24(C), F-825M12(C), F-825M24(C), F-825T12(C), F-825T24(C), F-925M12(C), F-925M24(C), FP-620H12(C), FP-620H24(C), FP-825H12(C), FP-825M12(C) , FP-825M24(C), FP-925M12(C), FP-925M24(C), where (C) may be B or S and (E) may be B, C or S.

Models F-310H05Y, F-310L05Y, F-310M05Y, F-2510H05Y, F-2510L05Y, F-2510M05Y, where Y may be B, C or S.

Models F-310H12Y, F-310L12Y, F-310M12Y, F-2510H12Y, F-2510L12Y, F-2510M12Y, where Y may be B, C or S.

Models F-410H24Y, F-410L24Y, F-410M24Y, where Y may be B, C or S.

Models F-510H12Y, F-510L12Y, F-510M12Y, F-610H126, F-610L126, F-610M126, F-5210H12Y, F-5210L12Y, F-5210M12Y, where Y may be B, C or S.

Models F-925H12Y, F-925L12Y, F-925M12Y, where Y may be B, C or S.

Model F-410HH12X, where X may be B, C or S.

Model F-825HH12X, where X may be B, C or S.

Models F-310H03B, F-310H03C, F-310L03B, F-310L03C, F-310M03B, F-310M03C, F-410H03B, F-410H03C, F-410L03B, F-410L03C, F-410M03B, F-410M03C, F-2510H03B, F-2510H03C, F-2510L03B, F-2510L03C, F-2510M03B, F-2510M03C.

Models F-625H12B, F-625H12S, F-625L12B, F-625L12S, F-625M12B, F-625M12S, F-820H12B, F-820H12S, F-820L12B, F-820L12S, F-820M12B, F-820M12S, F-825H12BII, F-825H12SII, F-825L12BII, F-825L12SII, F-825M12BII, F-825M12SII.

Models F-407H05(X3)(X4), F-407H12(X3)(X4), F-407L05(X3)(X4), F-407L12(X3)(X4), F-407M05

(X3)(X4), F-407M12(X3)(X4), F-408H05(Y1)2, F-408H12(Y1)2, F-408L05(Y1)2, F-408L12(Y1)2, F-408M05(Y1)2, F-408M12(Y1)2, where X3 may be B, C or S denoting bearing type, X4 may be blank, 1 or 2 denoting frame type and Y1 may be C or S denoting bearing type.

Models F-725L12x, F-725M12x, F-725H12x, F-725L24x, F-725M24x, F-725H24x. Where the x may be B, C, S or F.

Models F-8025HH12(D)-YYYY, F-8025(B)12(D)-YYYY, F-8025T12(D)-YYYY, F-8025(B)24(D)-YYYY, F-8025T24(D)-YYYY, F-8020(B)12(D)-YYYY, F-8025(A)12(D)-YYYY, F-8025H12(D)-YYYY, F-8025M12(D)-YYYY, F-8025(B)24(D)-YYYY, F-8025(A)24(D)-YYYY, F-8025FH24(D)-YYYY, F-8020(A)12(D)-YYYY, F-8020H48(c)-YYYY, F-8020HH48(c)-YYYY, F-8020TH48(c)-YYYY, F-8015HH12(D)-YYYY, F-8015TH12(D)-YYYY, F-8015FH12(D)-YYYY, F-8015L12(D)-YYYY, F-8015M12(D)-YYYY, F-8015H12(D)-YYYY, F-8015L12(D)-YYYY, F-8015M12(D)-YYYY, F-8015H12(D)-YYYY, F-8015HH24(D)-YYYY, F-8015TH24(D)-YYYY, F-8015FH24(D)-YYYY, F-8015L24(D)-YYYY, F-8015M24(D)-YYYY, F-8015H24(D)-YYYY, F-8015L24(D)-YYYY, F-8015M24(D)-YYYY, F-8015H24(D)-YYYY, F-8038(B)12B-YYYY, F-8038HH12B-YYYY, F-8038L24B-YYYY, F-8038M24B-YYYY, F-8038H24B-YYYY, F-8038HH24B-YYYY, F-8025HH12(D)II, F-8025HH12(D), F-8025H12(D)II, F-8025H12(D), F-8025T12(D), F-8025M12(D), F-8025M12(D)II, F-8025L12(D)II, F-8025TH12(D)II, F-8025H24(D), F-8025H24(D)II, F-8025T24(D), F-8025M24(D), F-8025M24(D)II, F-8025L24(D), F-8025L24(D)II, F-8025HH24(D)II, F-8025TH24(D)II, F-8025FH24(D)II, F-8020H12(D), F-8020M12(D), F-8020L12(D), F-8020TH12(D), F-8020HH12(D). Where (A) may be HH or TH; (B) may H, M or L; (c) may be S, C or B; (D) may be S,C,F,B; YYYY may be 000 through 999, aaaa through zzzz, AAAA through ZZZZ or blank.

Models F-6025(C)12(D)-YYYY, F-6025(B)12(D)YYYY, F-6010HH12(D)YYYY, F-6010(B)H12(D)YYYY, F-6010(B)05(D)YYYY, F-6010HH24(D)YYYY, F-6010(B)24(D)YYYY, F-6015(B)05(D)YYYY, F-6015(B)12(D)YYYY, F-6015HH12(D)-YYYY, F-6015HH24(D)-YYYY, F-6015(B)24(D)YYYY, F-6020H12(D)-YYYY, F-6020(B)12(D)YYYY, F-6020T12(D)YYYY, F-6020LL12(D)YYYY, F-6020H24(D)-YYYY, F-6020H24(D)YYYY, F-6020T24(D)YYYY, F-6020M24(D)YYYY, F-6020(B)05(D)YYYY, F-6025LL12(D)YYYY, F-6025TL12(D)YYYY, F-6025LL12(D)-YYYY, F-6025TL12(D)-YYYY, F-6038L12B-YYYY, F-6038M12B-YYYY, F-6038H12B-YYYY, F-6038HH12B-YYYY, F-6038L24B-YYYY, F-6038M24B-YYYY, F-6038H24B-YYYY, F-6038HH24B-YYYY. Where (B) may H, M or L; (C) may be TH, FH or HH; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz AAAA thru. ZZZZ or blank.

Models F-7025(B)12(D)-YYYY, F-7025(B)24(D)-YYYY, F-7025(C)HH12(D)-YYYY, F-7025(C)24(D)-YYYY, F-7025(B)12(D)-YYYY, F-7025(B)24(D)-YYYY, F-7015(B)12(D)-YYYY, F-7015HH12(D)-YYYY, F-7015(B)24(D)-YYYY, F-7015HH24(D)-YYYY, F-7010(B)12(D)-YYYY, F-7010(B)24(D)-YYYY, F-7010HH12(D)-YYYY, F-7010(B)24(D)-YYYY, F-7010TH12(D)-YYYY, F-7010(C) 24(D)-YYYY, F-7038(B)12B-YYYY, F-7038(C)12B-YYYY, F-7038(B)24B-YYYY, F-7038(C)24B-YYYY. Where (B) may H, M or L; (C) may be TH, FH or HH; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzz, AAAA through ZZZZ or blank.

Models F-4007(B)05(D)-YYYY, F-4007(B)12(D)-YYYY, F-4008(B)05(D)-YYYY, F-4008(B)12(D)-YYYY, F-4010(B)03(D)-YYYY, F-4010(B)12(D)-YYYY, F-4010HH12(D)-YYYY, F-4010(B)05(D)-YYYY, F-4010(B)24(D)-YYYY, F-4020(B)05(D)-YYYY, F-4020(B)12(D)-YYYY, F-4020(B)24(D)-YYYY, F-4020(C)05(D)-YYYY, F-4020(C)HH12(D)-YYYY, F-4020(C)24(D)-YYYY, F-4028FH12B-YYYY, F-4028TH12B-YYYY, F-4028HH12B-YYYY, F-4028(B)12B-YYYY. Where (B) may H, M or L; (C) may be TH, FH or HH; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA though ZZZZ or blank.

Models F-5010H05(D)-YYYY, F-5010M05(D)-YYYY, F-5010L05(D)-YYYY, F-5010H12(D)-YYYY, F-5010M12(D)-YYYY, F-5010L12(D)-YYYY, F-5010H24(D)-YYYY, F-5010M24(D)-YYYY, F-5010L24(D)-YYYY, F-5015H05(D)-YYYY, F-5015M05(D)-YYYY, F-5015L05(D)-YYYY, F-5015H12(D)-YYYY, F-5015M12(D)-YYYY, F-5015L12(D)-YYYY, F-5015HH12(D)-YYYY, F-5015H24(D)-YYYY, F-5015M24(D)-YYYY, F-5015L24(D)-YYYY, F-5015HH24(D)-YYYY, F-5025(B)12(D)-YYYY, F-5025HH12(D)-YYYY, F-5025LL12(D)-YYYY, F-5025(B)24(D)-YYYY, F-5025HH24(D)-YYYY, F-5025(B)12(D)-YYYY, F-5025LL12(D)-YYYY, F-5025(B)24(D)-YYYY, Where (B) may H, M or L; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA through ZZZZ or blank.

Models F-1238(B)12(D)-YYYY, F-1238HH12(D)-YYYY, F-1238(B)24(D)-YYYY, F-1238HH24(D)-YYYY, F-1238(B)48(D)-YYYY, F-1238HH48(D)-YYYY, F-1225L12(D)-YYYY, F-1225(B)12(D)-YYYY, F-1225(B)24(D)-YYYY, F-1225L24(D)-YYYY, F-1225L48(D)-YYYY, F-1225(B)48(D)-YYYY. Where (B) may H, M or L; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA through ZZZZ or blank.

Models F-3010(B)05(D)-YYYY, F-3010(B)12(D)-YYYY, F-3010(B)03(D)-YYYY. Where (B) may be H, M or L; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA through ZZZZ or blank.

Models F-5210(B)05(D)-YYYY, F-5210(B)24(D)-YYYY, F-5210(B)12(D)-YYYY. Where (B) may be H, M or L; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA through ZZZZ or blank.

Models F-2510(B)03(D)-YYYY, F-2510(B)05(D)-YYYY, F2510(B)12(D)-YYYY. Where (B) may be H, M or L; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA through ZZZZ or blank.

Models F-4510(B)05(D)-YYYY, F-4510(B)12(D)-YYYY, F4510(B)24(D)-YYYY. Where (B) may be H, M or L; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA through ZZZZ or blank.

Models F-9225TH48(D)-YYYY, F-9225HH48(D)-YYYY, F-9225(B)48(D)-YYYY, F-9225FH12(D)-YYYY, F-9225TH12(D)-YYYY, F-9225HH12(D)-YYYY, F-9225(B)12(D)-YYYY, F-9225(B)12(D)-YYYY, F-9225HH24(D)-YYYY, F-9225TH24(D)-YYYY, F-9225(B)24(D)-YYYY, F-9225M24(D)-YYYY, F-9238(B)12B-YYYY, F-9238HH12B-YYYY, F-9238TH12B-YYYY, F-9238(B)24B-YYYY, F-9238HH24B-YYYY, F-9238TH24B-YYYY. Where (B) may be H, M or L; (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA through ZZZZ or blank.

Models F-6025HH05(D)-YYYY, F-6025H05(D)-YYYY, F-6025M05(D)-YYYY, F-6025L05(D)-YYYY, F-6025LL05(D)-YYYY, F-6025TL05(D)-YYYY, F-1225HH12(D)-YYYY, F-1225LL12(D)-YYYY, F-1225TL12(D)-YYYY. Where (D) may be S, B, C or F; YYYY may be 0000 through 9999, aaaa through zzzz, AAAA through ZZZZ or blank.

Marking: Company name or tradename and model designation.

Last Updated on 2004-12-28

UL Listed and Classified Products **UL Recognized Components** **Products Certified for Canada**

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CERTIFICATE

No. B 04 03 52557 002

Holder of Certificate: **Cofan USA**

1400 Fulton Place
Unit A Fremont, CA 94539
USA

Certification Mark:

Product: **Component fan**

The product was tested on a voluntary basis and complies with the essential requirements.
The certification mark shown above can be affixed on the product. See also notes overleaf.

Test report no.: 61210440601

Date, 2004-04-01

TÜV PRODUCT SERVICE GMBH • Zertifizierstelle • Ridlerstrasse 65 • D-80339 München
Gruppe TÜV Süddeutschland

ZERTIFIKAT • CERTIFICATE • 認証書 • СЕРТИФИКАТ • CERTIFICADO • CERTIFICAT

CERTIFICATE
No. B 04 03 52557 002

Model(s):

F-45 Series, F-50 Series, F-52 Series
F-45 10 L 05 S - YYY
A B C D E F G
A - Frame dimension
"45" : 45 x 45 mm, "50" : 50 x 50 mm
"52" : 52 x 52 mm
B – Frame thickness
"10" : 10 mm, "15" : 15 mm
"20" : 20 mm, "25" : 25 mm
C – Fan speed
"LL" : Less Low speed, "L" : Low speed
"M" : Middle speed, "H" : High speed
"HH" : Super high speed
D – Input voltage
"05" : 5 Vdc, "12" : 12 Vdc
"24" : 24 Vdc
E – Bearing type
"B" : Ball bearing, "S" : Sleeve bearing
"C" : Ball bearing / Sleeve bearing
"F" : Long life bearing
F – Protect type
"-" : Normal
Blank : Protect provided
G – Customer ID
"Y" – can be 0-9, A-Z or blank

Parameters:

Rated input voltage:	5, 12 or 24 Vdc
Rated input current:	See attachment
Protection class:	III
Max. ambient temperature:	40°C
Degree of protection against ingress of liquids:	Ordinary

Remark: When installing, all requirements of below mentioned test standards must be fulfilled.
See attachment(s) for model designation and ratings.

Tested according to: EN 60950/A11:1997

Production Facility(ies): 48954

Bill Li

Main-Certificate No: B 03 01 28804 033

TÜV PRODUCT SERVICE GMBH • Zertifizierstelle • Ridlerstrasse 65 • D-80339 München
Gruppe TÜV Süddeutschland

Attachment 1 to the Certificate No. B 04 03 52557 002

The output rating description of the models are as below:

Model-#	DC Ratings
F—4510L05EYYY	5 V/0.18 A
F—4510M05EYYY	5 V/0.28 A
F—4510H05EYYY	5 V/0.38 A
F—4510L12EYYY	12 V/0.10 A
F—4510M12EYYY	12 V/0.15 A
F—4510H12EYYY	12 V/0.23 A
F—4510L24EYYY	24 V/0.08 A
F—4510M24EYYY	24 V/0.11 A
F—4510H24EYYY	24 V/0.14 A
F—5010L05EYYY	5 V/0.18 A
F—5010M05EYYY	5 V/0.24 A
F—5010H05EYYY	5 V/0.30 A
F—5010L12EYYY	12 V/0.08 A
F—5010M12EYYY	12 V/0.11 A
F—5010H12EYYY	12 V/0.14 A
F—5010L24EYYY	24 V/0.08 A
F—5010M24EYYY	24 V/0.10 A
F—5010H24EYYY	24 V/0.12 A
F—5015L05EYYY	5 V/0.35 A
F—5015M05EYYY	5 V/0.50 A
F—5015H05EYYY	5 V/0.65 A
F—5015L12EYYY	12 V/0.15 A
F—5015M12EYYY	12 V/0.20 A
F—5015H12EYYY	12 V/0.25 A
F—5015HH12E—YYY	12 V/0.30 A
F—5015L24EYYY	24 V/0.10 A
F—5015M24EYYY	24 V/0.12 A
F—5015H24EYYY	24 V/0.14 A
F—5015HH24E—YYY	24 V/0.16 A

Difference:

F-45 10 L 05 S - YYY
A B C D E F G

A - Frame dimension
"45" : 45 x 45 mm
"50" : 50 x 50 mm
"52" : 52 x 52 mm

B – Frame thickness
"10" : 10 mm
"15" : 15 mm
"20" : 20 mm
"25" : 25 mm

C – Fan speed
"LL" : Less Low speed
"L" : Low speed
"M" : Middle speed
"H" : High speed
"HH" : Super high speed

D – Input voltage
"05" :5 Vdc
"12" :12 Vdc
"24" : 24 Vdc

E – Bearing type
"B" : Ball bearing
"S" : Sleeve bearing
"C" : Ball bearing / Sleeve bearing
"F" : Long life bearing

F – Protect type
"-" : Normal
Blank : Protect provided

G – Customer ID
"Y" – can be 0-9,A-Z or blank

TÜV PRODUCT SERVICE * TAIWAN *

Attachment 2 to the Certificate No. B 04 03 52557 002

The output rating description of the models are as below:

Model-#	DC Ratings
F-5020L12EYYY	12 V/0.16 A
F-5020M12EYYY	12 V/0.20 A
F-5020H12EYYY	12 V/0.24 A
F-5025LL12EYYY	12 V/0.07 A
F-5025L12EYYY	12 V/0.10 A
F-5025M12EYYY	12 V/0.15 A
F-5025H12EYYY	12 V/0.25 A
F-5025LL12E-YYY	12 V/0.07 A
F-5025L12E-YYY	12 V/0.10 A
F-5025M12E-YYY	12 V/0.15 A
F-5025H12E-YYY	12 V/0.25 A
F-5025L24EYYY	24 V/0.07 A
F-5025M24EYYY	24 V/0.10 A
F-5025H24EYYY	24 V/0.15 A
F-5025L24E-YYY	24 V/0.07 A
F-5025M24E-YYY	24 V/0.10 A
F-5025H24E-YYY	24 V/0.15 A
F-5210L05EYYY	5 V/0.18 A
F-5210M05EYYY	5 V/0.24 A
F-5210H05EYYY	5 V/0.30 A
F-5210L12EYYY	12 V/0.08 A
F-5210M12EYYY	12 V/0.11 A
F-5210H12EYYY	12 V/0.14 A
F-5210L24EYYY	24 V/0.08 A
F-5210M24EYYY	24 V/0.10 A
F-5210H24EYYY	24 V/0.12 A

Difference:

F-45 10 L 05 S - YYY
A B C D E F G

A - Frame dimension
"45" : 45 x 45 mm
"50" : 50 x 50 mm
"52" : 52 x 52 mm

B – Frame thickness
"10" : 10 mm
"15" : 15 mm
"20" : 20 mm
"25" : 25 mm

C – Fan speed
"LL" : Less Low speed
"L" : Low speed
"M" : Middle speed
"H" : High speed
"HH" : Super high speed

D – Input voltage
"05" :5 Vdc
"12" :12 Vdc
"24" : 24 Vdc

E – Bearing type
"B" : Ball bearing
"S" : Sleeve bearing
"C" : Ball bearing / Sleeve bearing
"I" : Long life bearing

F – Protect type
"-" : Normal
Blank : Protect provided

G – Customer ID
"Y" – can be 0-9,A-Z or blank

Date: 2004-04-01

TÜV PRODUCT SERVICE * TAIWAN *

Testing Laboratory

Bill Lin

Cofan USA

1400 Fulton Place
Unit A Fremont, CA 94539
USA

TPEITE/Blj1 2004-04-01

Certificate

Mr.Sam Kim,

We are pleased to attach your certificate no.:
B 04 03 52557 002 which entitles you to label your certified product(s) with the respective certification mark. Let us give you some additional information which we consider to be important for you:

- The product has to be accompanied by a user manual in the language of the country where it supposed to be sold.
- To ensure that the validity of the certificate is not put at risk please inform us about any change in your production or of the product itself.
- The certification will allow you to sell your products easier and without less risks. The annual licence fee will be **4.0** units for maintaining these advantages.

Further information for the use of our marks is contained in our testing and certification regulations. We look forward to our co-operation and will assist you at any time.

Yours sincerely

TÜV Product Service Taiwan Ltd.