
APPENDIX A3.2.3-6

HEATER CONTROL PCBA SCHEMATICS AND LAYOUT (ASM.000123.RD R5)

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Table of Contents

ASM.000123.RD R5 – SCHEMATICS3

ASM.000123.RD R5 – BILL OF MATERIAL4

PCB.000031.RD R4 – COMPONENTS PLACEMENT (TOP SIDE).....5

PCB.000031.RD R4 – COMPONENTS PLACEMENT (BOTTOM SIDE)6

PCB.000031.RD R4 – COMPONENTS PLACEMENT (BOTTOM SIDE MIRROR)7

PCB.000031.RD R4 – PCB SPECIFICATION8

PCB.000031.RD R4 – PCB LAYOUT9

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Title FPD 4.3 Heater PCB			
Size A3	Number ASM.000123.RD	Revision	5
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ASM.000123 Rev 5

Assembly F43H1 Heater control PCB

Level	Product Code	Product Type	Description	Rev	Designator	Qty
0	ASM.000123.RD	Assembly	Assembly F43H1 Heater control PCB	5		1
. 1	CAP.000004.RD	Capacitor	Capacitor 100nF 10V 10% X7R 0201	1	C103,C106,C107,C108,C110,C111,C112	7
. 1	CAP.000005.RD	Capacitor	Capacitor 1uF 10V 10% X5R 0402	1	C101,C109	2
. 1	CAP.000006.RD	Capacitor	Capacitor 4.7uF 6.3V 10% X5R 0603	1	C102	1
. 1	DIO.000001.RD	Diode	Diode PESD3V3 ESD Protection 3.3V 15A Vd=1 SOD-882	1	D105	1
. 1	DIO.000002.RD	Diode	Diode RB751S40 Rectifier 40V 0.03A Vd=0.37 SC-79, SOD-523	1	D103,D106	2
. 1	DIO.000003.RD	Diode	Diode PMEG2015 Rectifier 20V 1.5A Vd=0.56 SC-90, SOD-323F	1	D104	1
. 1	IC.000002.RD	Integrated Circuit	IC OPA330IYFF 5DSBGA	2	U104	1
. 1	IC.000003.RD	Integrated Circuit	IC LM4040x20 0.5% or better SC-70-5, 6-TSSOP (5 Lead), SC-88A, SOT-353	2	U103	1
. 1	IC.000004.RD	Integrated Circuit	IC TPS797285 SC-70-5, 6-TSSOP (5 Lead), SC-88A, SOT-353	1	U101	1
. 1	IC.000006.RD	Integrated Circuit	IC 74LVC1G14 4DSBGA	1	U107	1
. 1	IC.000007.RD	Integrated Circuit	IC 74LVC1G17 4DSBGA	1	U105,U106	2
. 1	IC.000051.RD	Integrated Circuit	IC MSP430F227xIYFF with MT+BL 80BGA 49DSBGA	3	U102	1
. 1	LED.000006	LED	LED Red 0603	1	D101	1
. 1	LED.000007	LED	LED Green 0603	1	D102	1
. 1	MSC.000008.RD	Misc Parts	Switch tactile surface mount KMT071	1	S101	1
. 1	PCB.000031.RD	PCB	PCB Blank 235x96mm 10x F43H1	4		1
. 1	RES.000003.RD	Resistor	Resistor 10kΩ 5% 0.05W 200ppm/K 0201	1	R104,R105,R107,R108,R126,R130	6
. 1	RES.000005.RD	Resistor	Resistor 2.2kΩ 5% 0.05W 200ppm/K 0201	1	R103,R129,R139	3
. 1	RES.000006.RD	Resistor	Resistor 10Ω 5% 0.05W 200ppm/K 0201	1	R111	1
. 1	RES.000008.RD	Resistor	Resistor 47Ω 5% 0.05W 200ppm/K 0201	1	R106	1
. 1	RES.000010.RD	Resistor	Resistor 100kΩ 5% 0.05W 200ppm/K 0201	1	R101,R102,R113,R127,R128,R133,R137	7
. 1	RES.000011.RD	Resistor	Resistor 10mΩ 0.5% 0.5W 50ppm/K 1206	1	R118	1
. 1	RES.000012.RD	Resistor	Resistor 200mΩ 5% 0.1W 300ppm/K 0402	1	R135	1
. 1	RES.000013.RD	Resistor	Resistor 68Ω 1% 0.05W 200ppm/K 0201	1	R109,R136	2
. 1	RES.000014.RD	Resistor	Resistor 220Ω 5% 0.063W 100ppm/K 0402	1	R112,R131,R132,R138	4
. 1	RES.000015.RD	Resistor	Resistor 1kΩ 0.1% 0.063W 25ppm/K 0402	1	R119,R121	2
. 1	RES.000016.RD	Resistor	Resistor 47kΩ 0.1% 0.063W 25ppm/K 0402	1	R110,R120,R122	3
. 1	RES.000017.RD	Resistor	Resistor 100kΩ 1% 0.1W 4250ppm/K 0402	1	R134	1
. 1	RES.000020.RD	Resistor	Resistor 22kΩ 0.1% 0.063W 25ppm/K 0402	1	R114,R115,R116,R117	4
. 1	TR.000002.RD	Transistor	Transistor MBT3904 Array of 2 NPN 40V 0.2A SOT-666	1	Q103	1
. 1	TR.000003.RD	Transistor	Transistor IRLHS6342 MOS - N 30V 8.7A 2 x 2	1	Q101	1
. 1	TR.000006.RD	Transistor	Transistor DMP1022UFDE MOS - P 12V 10A 2 x 2	1	Q102	1

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PCB.000031.RD_R4
TOP ASSY

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PCB.000031.RD_R4
BOT ASSY

(b) (4)



PCB.000031.RD_R4
BOT ASSY
Y22A T08

PCB specification - PCB.000031.RD_R4

General

Material	FR 4 / UL94-0
Thickness	1.6 mm (b) (4)

Layer count	6
IPC class	Class 2

Layer stacking

Position	Specification	Data file
TOP		
(b) (4)		PCB.000031.RD_R4_single_130115.GM6
		PCB.000031.RD_R4_single_130115.GTS
		-
		PCB.000031.RD_R4_single_130115.GTL
		-
		PCB.000031.RD_R4_single_130115.G1
		-
		PCB.000031.RD_R4_single_130115.G2
		-
		PCB.000031.RD_R4_single_130115.G3
		-
		PCB.000031.RD_R4_single_130115.G4
		-
		PCB.000031.RD_R4_single_130115.GBL
		-
		PCB.000031.RD_R4_single_130115.GBS
		PCB.000031.RD_R4_single_130115.GM7

Special instructions

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Position:

PCB.000031.RD_R4
TOP OVERLAY

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PCB.000031.RD_R4
TOP SOLDER MASK

(b) (4)



PCB.000031.RD_R4
TOP LAYER

PCB.000031.RD_R4
MID LAYER 1

(b) (4)



PCB.000031.RD_R4
MID LAYER 2

(b) (4)



PCB.000031.RD_R4
MID LAYER 3

(b) (4)



PCB.000031.RD_R4
MID LAYER 4

PCB.000031.RD_R4
BOT LAYER

PCB.000031.RD_R4
BOT SOLDER MASK

PCB.000031.RD_R4
BOT OVERLAY

PCB.000031.RD_R4
DRILL DRAWING

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(b) (4)



PCB.000031.RD_R4
DRILL DRAWING

Symbol	Hit Count	Finished Hole Size	Physical Length	Rout Path Length	Plated	Hole Type
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PCB.000031.RD_R4
DRILL DRAWING

Symbol	Hit Count	Finished Hole Size	Physical Length	Rout Path Length	Plated	Hole Type
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