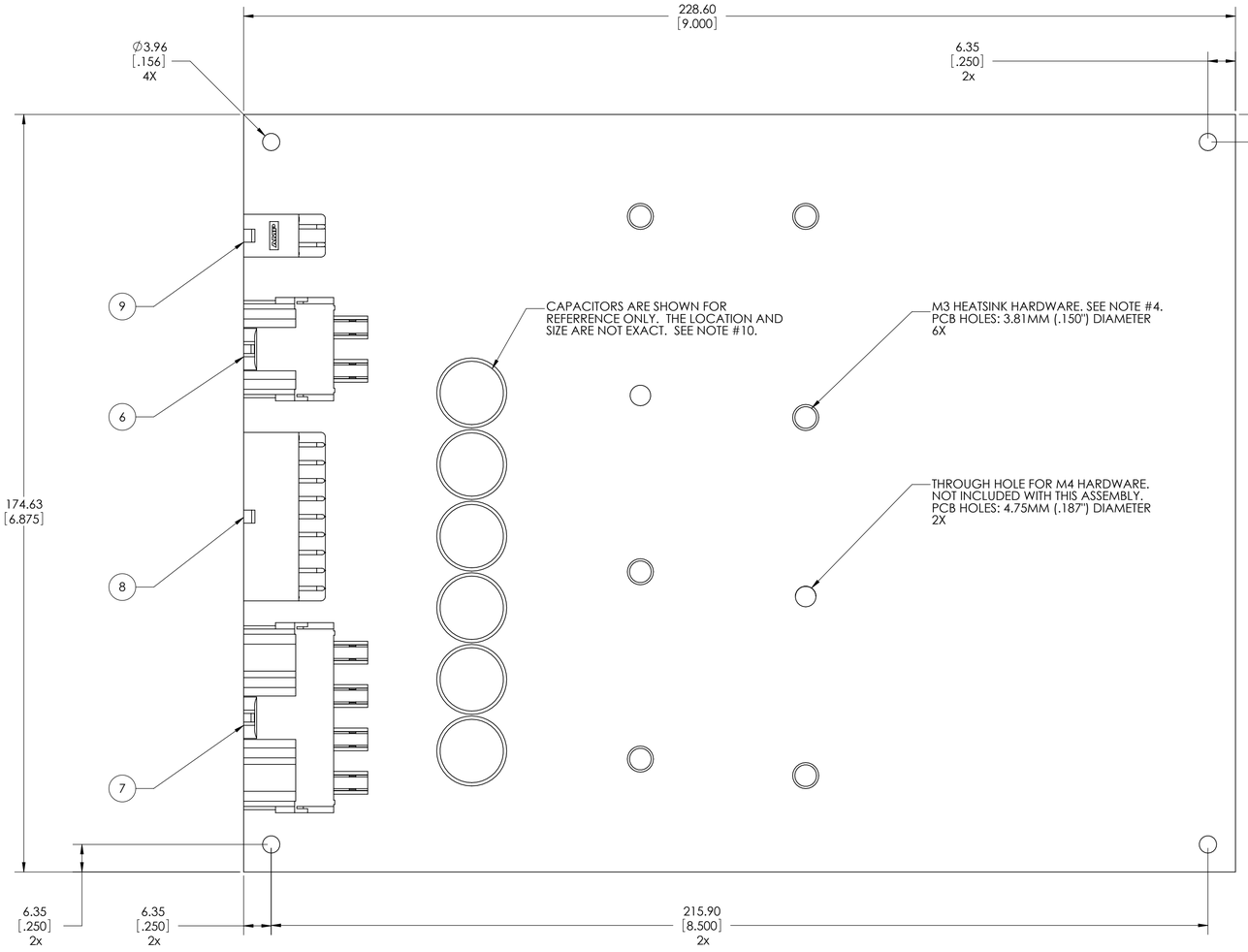
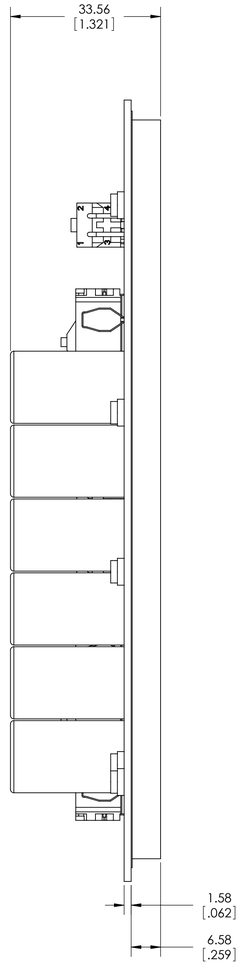
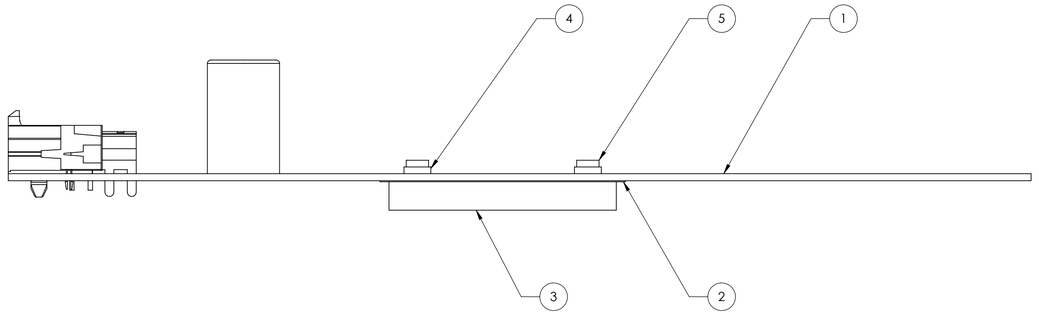
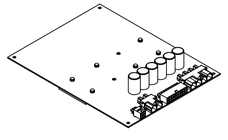








ITEM #	QTY.	PART #	DESCRIPTION
1	1	SEE NOTE #1	PCB ASSEMBLY
2	1	1208225-00	SIL PAD
3	1	1208224-00	HEAT SINK
4	2	SEE NOTE #4	WASHER, NYLON, M3
5	2	SEE NOTE #4	SCREW, PAN HEAD, M3
6	1	MOLEX #42820-2213	MINI FIT SR. SERIES, 2 PIN HEADER, 1x2
7	1	MOLEX #42820-4213	MINI FIT SR. SERIES, 4 PIN HEADER, 1x4
8	1	AMP #1-794105-0	MINI UNIVERSAL SERIES, 18 PIN HEADER, 2x9
9	1	AMP #1-770968-0	MINI UNIVERSAL SERIES, 4 PIN HEADER, 2x2

NOTES:
1) PCB ASSEMBLY TO BE BUILT USING QPL BILL OF MATERIAL: **BOM1206968revJ**.
2) WORKMANSHIP STANDARD PER: IPC-J-STD-001E, IPC-A-610E.
SOLDERING AND ELECTRICAL CONNECTIONS : IPC-S-815B.
OR MORE CURRENT VERSIONS OF THESE STANDARDS.
3) APPLY LABEL OR LABELS WITH THE FOLLOWING INFORMATION:
- TENNANT PART NUMBER AND REVISION. EXAMPLE: **1206968-04**.
NOTE: THIS NUMBER AND REVISION SHOULD MATCH THE RELEASED TENNANT DRAWING.
- MANUFACTURER'S LABEL WITH SERIAL NUMBER.
NOTE: PLACE LABEL(S) SO THEY DO NOT GET COVERED UP BY THE HEATSINK.
4) SCREWS AND WASHERS HOLDING THE HEATSINK (ITEM #8) AND SIL-PAD (ITEM #7):
- (QTY. 2) SCREW, PAN HEAD, PHILLIPS, M3 X O.5, 8.0MM LONG, DIN 7985. McMASTER CARR #92005A118
OR EQUIVALENT. (ITEM #4)
- (QTY. 2) WASHER, NYLON, FLAT, #6, 0.14B 0.31D .03. KEYSTONE #3349 OR EQUIVALENT, (ITEM #5).
- TO BE APPLIED IN (6) LOCATIONS AS SHOWN.
- SCREW HEAD TO BE ON THE TOP SIDE OF THE PCB AS SHOWN.
- NYLON WASHERS (ITEM #5) TO BE LOCATED BETWEEN THE SCREW HEAD AND THE PCB(ITEM #6).
- SCREWS (ITEM #4) TO BE TORQUED TO 0.50 Nm.
5) EACH ASSEMBLY TO HAVE CONTINUITY TEST BETWEEN THE "P1" STUD(= B+) AND THE METAL
HEATSINK. NO CONTINUITY = PASS. CONTINUITY = IMPROPERLY INSTALLED SIL-PAD.
6) CONFORMAL COATING APPLIED AS PER NOTES ON SHEET 2 OF 2.
7) EACH ASSEMBLY TO BE ICT TESTED AND FUNCTIONALLY TESTED. FUNCTIONAL TEST TBD.
8) ASSEMBLY TO BE MANUFACTURED PER RoHS/LEAD FREE STANDARDS.
9) AREA BENEATH THE HEATSHINK (BACK SIDE) TO BE FREE OF SOLDER BUMPS. MASK OFF OR PROGRAM WAVE SOLDER SYSTEM TO PREVENT SOLDER BUILD UP IN THIS AREA.
10) APPLY NON-CORROSIVE RTV AS PER THE NOTES ON SHEET 2 OF 2.

REV-03 CHANGES:
1) QPL BILL OF MATERIAL IS CHANGING TO BOM1206968revH. THE SOFTWARE IS CHANGING.
2) NEW SOFTWARE = Q30053-005: LIGHTNING_PICKUP_PRODUCTION_UPDATE_1_16.BIN. FIXES CAN MANAGEMENT FOR TENNANT CAPTURE. CHANGES CAN HEARTBEAT FROM 1 TO 3 SECONDS.

REV-04 CHANGES:
1) QPL BILL OF MATERIAL IS CHANGING TO BOM1206968revJ, CHANGED TO NON-USB MICRO.

ECO CONSULTATION

REV	ECO	CHANGED BY:	DATE:
04		JOHN HAEG	09/08/2022

MATERIAL SPECIFICATIONS:	OTHER TREATMENTS AND FINISHES	PAINT - COLOR			MDR:	
						01/31/2014
PART NAME:		GLOSS	PERFORMANCE	ACCEPTANCE	DES:	
CIRCUITBOARD ASSY, COMBO MODULE [T17]					JOHN HAEG	02/12/2013

WELDING NOTATION IN ACCORDANCE WITH AWS A2.4-98

UNLESS OTHERWISE SPECIFIED DIMENSION TOLERANCING IN ACCORDANCE WITH ASME Y14.5M-2009 ALL UNTOLERANCED DIMENSIONS ARE BASIC AND CONTROLLED BY:

X.X	±0.8	±[.03]
X.XX	±0.25	±[.010]
X.XXX	±0.125	±[.0049]
ANGLES	±0.5°	

GENERAL NOTES
PRIMARY DIMENSIONS ARE METRIC, REFERENCE DIMENSIONS WITH BRACKETS ARE INCH. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE AFTER TREATMENTS AND FINISHES.

SHEET 1 OF 2

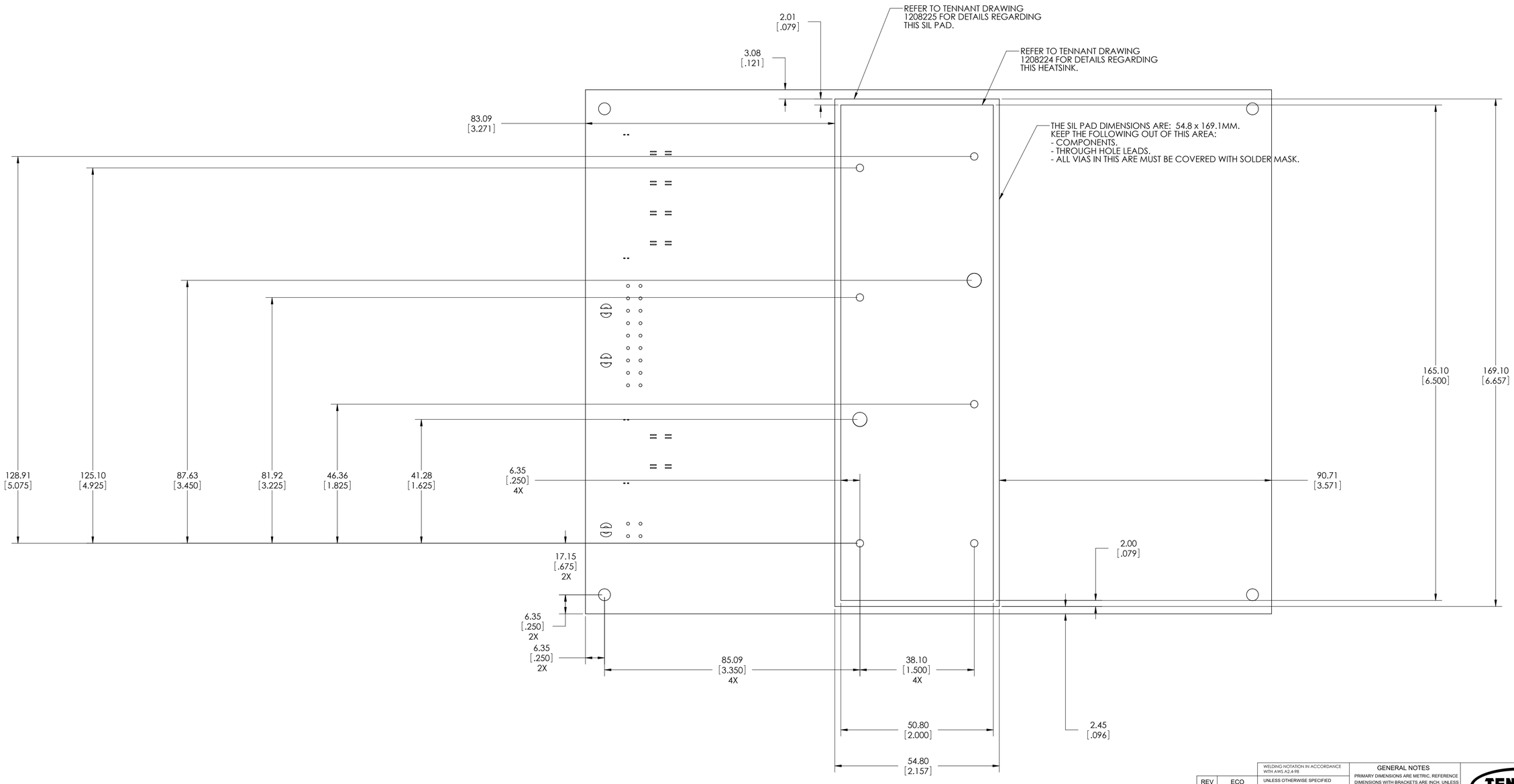
TENNANT

DWG D SIZE

PART NUMBER 1206968

PCB MANUFACTURING NOTES:
- REFER TO THE PCB MANUFACTURING NOTES IN THE GERBER FILES.

CONFORMAL COATING AND RTV NOTES:
1) CONFORMAL COATING MATERIAL:
DYMAX CORP. #9-20557.
APPLIED COATING TO BE 91-112(MIC) THICK.
2) MASK OFF THE FOLLOWING AREAS ON THE TOP SIDE OF THE ASSEMBLY:
- CONNECTORS J2, J3, J4, J5, J6, J7.
- THE 4 PCB ASSEMBLY MOUNTING HOLES IN THE CORNERS.
3) MASK OFF THE FOLLOWING AREAS ON THE BOTTOM SIDE OF THE ASSEMBLY:
- THE COMPLETE AREA BELOW THE HEATSINK AND SIL-PAD.
- THE 4 PCB ASSEMBLY MOUNTING HOLES IN THE CORNERS.
4) APPLY NON-CORROSIVE PCB SAFE RTV (LOCTITE 5145 OR EQUIVALENT) AROUND THE FOLLOWING COMPONENTS FOR VIBRATION PROTECTION: C10, C11, C12, C13, C96, C97, C98, C147.
ALSO APPLY RTV BEADS BETWEEN THE 6 LARGE CAPACITORS TO SECURE THEM TOGETHER.
5) MINIMUM RTV BEAD DIAMETER TO BE 3MM.



ECO CONSULTATION

REV	ECO
04	

MATERIAL SPECIFICATIONS:	OTHER TREATMENTS AND FINISHES	PAINT - COLOR		CHANGED BY: JOHN HAEG	DATE: 09/08/2022
PART NAME: CIRCUITBOARD ASSY, COMBO MODULE [T17]		GLOSS	PERFORMANCE / ACCEPTANCE	MDR:	01/31/2014
				DES: JOHN HAEG	02/12/2013

WELDING NOTATION IN ACCORDANCE WITH AWS A2.4-98

UNLESS OTHERWISE SPECIFIED DIMENSION TOLERANCING IN ACCORDANCE WITH ASME Y14.5M-2009 ALL UNTOLERANCED DIMENSIONS ARE BASIC AND CONTROLLED BY:

X.X	±0.8	±[.03]
X.XX	±0.25	±[.010]
X.XXX	±0.125	±[.0049]
ANGLES	±0.5°	

GENERAL NOTES
PRIMARY DIMENSIONS ARE METRIC. REFERENCE DIMENSIONS WITH BRACKETS ARE INCH. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE AFTER TREATMENTS AND FINISHES.

SHEET 2 OF 2

TENNANT

DWG D SIZE

PART NUMBER 1206968