

NOTES: UNLESS OTHERWISE SPECIFIED

- 5

1. THE FINISHED PRINTED WIRING BOARD SHALL MEET THE REQUIREMENTS OF IPC-A-600-X (LATEST REVISION).
2.

THIS DOCUMENT AND RELATED ARTWORK ARE COMPUTER GENERATED. ALL MODIFICATIONS ARE TO BE PERFORMED TO THE ORIGINAL DATABASE ON FILE IN SECTION 383.
3.

THIS IS A REDUCED DIMENSION DRAWING. ADDITIONAL DIMENSIONS NEEDED TO DEFINE THE TRUE PROFILES OF THIS PART SHALL BE OBTAINED FROM THE MASTER CAD MODEL DATABASE NAMED 10398459-A.ZIP. DIMENSIONS AND TOLERANCES SHALL BE INTERPRETED PER ASME Y14.5M.
4.

FABRICATE AND INSPECT PRINTED WIRING BOARD PER IPC-6012D, CLASS 2, TYPE 3.
- 5

MATERIAL: ISOLA 370HR, 1 OZ COPPER CLAD, DOUBLE SIDED, 1.2 mm THICK EPOXY/WOVEN GLASS LAMINATE PER IPC-4101/L 26-1200-C1/C1
- 6

MATERIAL: 0.043 mm THICK EPOXY/WOVEN GLASS PREPEG PER IPC-4101/P 26-E1078 TW RE VC
- 7

MATERIAL: 1 OZ. COPPER FOIL PER IPC 4562/3 CU E3 1 S XS 3
8.

SURFACE FINISH TO BE ELECTROLESS NICKEL / IMMERSION GOLD (ENIG) PLATING PER IPC-6013. ALL PLATED HOLES AND CONDUCTIVE SURFACES SHALL BE PLATED WITH 0.025 mm COPPER MINIMUM. ALL Ni/Au PLATED AREA SHOULD HAVE MINIMUM THICKNESS OF 0.0025 mm FOR Ni AND 51 um FOR Au.
9.

ALL HOLES SPECIFIED IN THE DRILL CHART ARE FINISHED HOLE DIAMETERS. HOLE TOLERANCE +/- 0.051 mm FOR NON-PLATED HOLES AND +/- 0.076 mm FOR PLATED HOLES.
10.

FABRICATION TOLERANCES: END PRODUCT TRACE WIDTHS AND LANDS SHALL NOT VARY MORE THAN THE SMALLER OF 0.051 mm OR 10% OF THE TRACE WIDTH FROM THE GERBER DATA.
- 11

SOLDERMASK: PHOTO-IMAGED LIQUID POLYMER, GREEN COLOR, ITEM 4, ON BOTH SIDES OF BOARD IN ACCORDANCE WITH IPC-SM-840, TYPE B, CLASS 2, OVER BARE COPPER.
- 12

LEGEND OVER SOLDER MASK ON BOTH SIDES OF PWB USING WHITE NON-CONDUCTIVE EPOXY INK, ITEM 4. LEGEND MARKING SHALL NOT BE NEARER THAN 0.127 mm TO ANY PAD. CHARACTER HEIGHT SHALL BE 0.75 mm MINIMUM.
13.

BOW AND TWIST: SHALL NOT EXCEED 0.07 mm / cm.
14.

ELECTRICAL TEST: CONTINUITY SHORT AND OPEN TESTING ON ALL AVAILABLE EXPOSED TERMINAL PADS USING IPC-D-356A NETLIST DATA. CONTINUITY TEST SHALL BE AT 5 OHMS MAX. SHORTS TESTING SHALL BE PERFORMED AT 250V. MINIMUM ISOLATION OF 20M OHMS.
- 15

MARK IN LOCATION SHOWN WITH 1.0 MINIMUM HIGH CHARACTERS THE SERIAL NUMBER "NXXXXX" (WHERE N IS A VENDOR DESIGNATION LETTER ASSIGNED BY TMT AND XXXXX IS A UNIQUE 5 DIGIT SERIAL NUMBER FOR EACH PART. THE VENDOR DESIGNATION AND THE STARTING SERIAL NUMBER SHALL BE IN ACCORDANCE WITH THE VALUES PROVIDED IN THE PURCHASE ORDER).

REVISION HISTORY

REV	DESCRIPTION	CAT	DWN	ENGR	SEE JPL DATA MANAGEMENT SYSTEM FOR APPROVAL SIGNATURES AND DATES
A	----- INITIAL RELEASE -----	II	-	-	

	AR	5			ETHONE 50-100R CATALYST 9	INK, WHITE EPOXY	IPC-4781	<div>12</div> <div>15</div>
	AR	4			PROBIMER 52 OR TAIYO PSR-4000	SOLDERMASK, LPI	IPC-SM-840 CL A	<div>11</div>
	AR	3				COPPER FOIL, 1 OZ.	IPC-4562/3	<div>7</div>
	AR	2			370HR	GLASS BASE EPOXY RESIN PREPREG, B-STAGE	IPC-4104/26	<div>6</div>
	AR	1			370HR	GLASS BASE EPOXY RESIN CU CLAD 1 OZ / 1 OZ	IPC-4104/26	<div>5</div>
	-1	ITEM NO	REFDES	DAI	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL OR NOTE
	QTY REQD							

PARTS LIST

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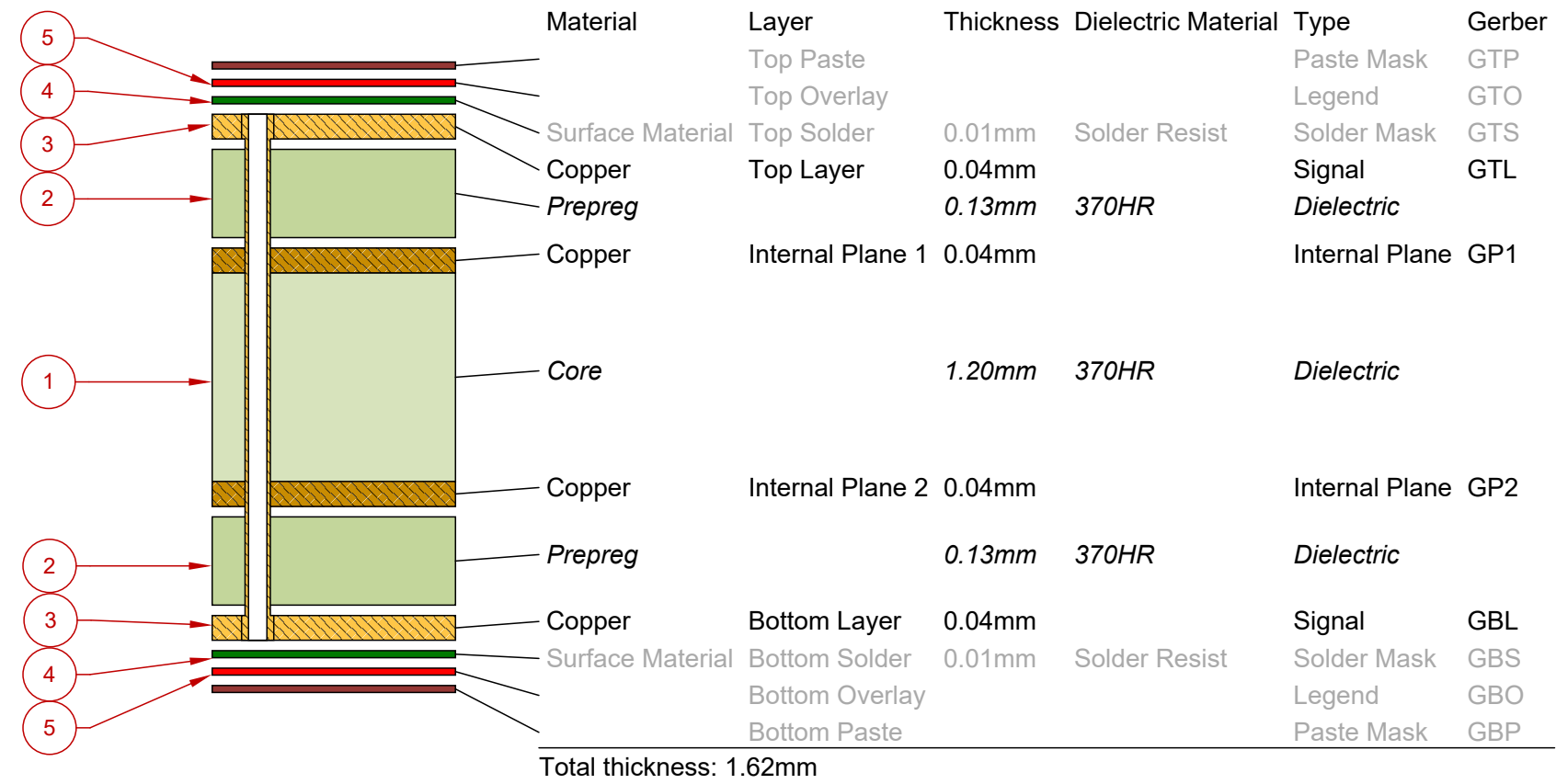
DO NOT SCALE DRAWING  
INTERPRET DEMENSIONING AND  
TOLERANCING PER ASME Y14.5 2009  
INTERPRET DWG PER ASME Y14.100

APPLICATION

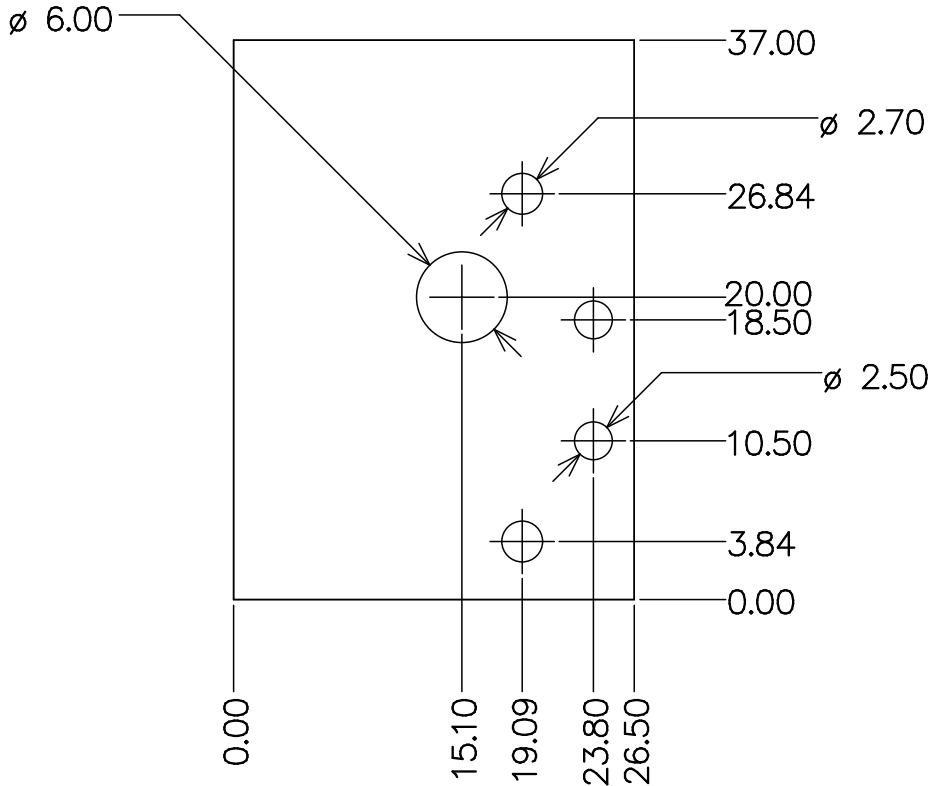
CONTRACT NO	
DWN	D PALMER
ENGR	D PALMER
SEE JPL DATA MANAGEMENT SYSTEM FOR APPROVAL SIGNATURES AND DATES	

JET PROPULSION LABORATORY			
CALIFORNIA INSTITUTE OF TECHNOLOGY PASADENA, CA 91109			
TITLE PRINTED WIRING BOARD, ENCODER/HALL SENSOR BOARD			
SIZE	DAI	DWG NO	REV
B	23835	10398555	A
SCALE:	2/1	UNCLASSIFIED	SHEET 1 OF 4

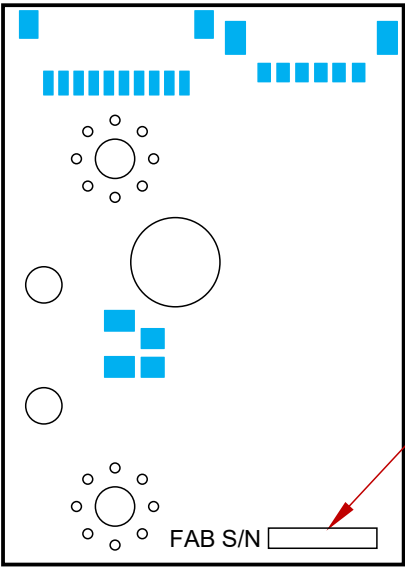
LAYER STACK LEGEND



MECHANICAL DIMENSIONS (SCALE 2:1)



BOTTOM VIEW (Scale 2:1)



15

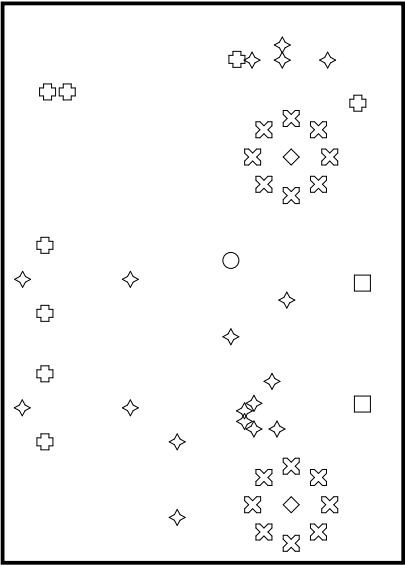
SIZE	DAI	DWG NO	REV
B	23835	10398555	A
SCALE:	1/1	UNCLASSIFIED	SHEET 3 OF 4

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REV 05/2018

JPL\_B\_SH2

Drill Drawing View (Scale 2:1)



Drill Table

Symbol	Count	Hole Size	Plated	Hole Tolerance
◇	18	0.25mm	Plated	None
⊞	8	0.38mm	Plated	None
⊠	16	0.75mm	Plated	None
□	2	2.50mm	Non-Plated	None
◇	2	2.70mm	Non-Plated	None
○	1	6.00mm	Non-Plated	None
	47 Total			