ART FILM - FAB

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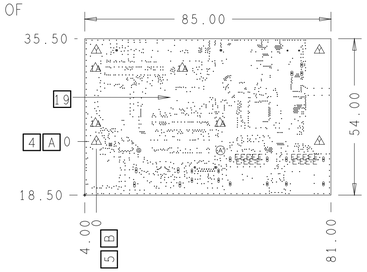
REVISIONS							
REV	DESCRIPTION	DFT	DATE	CHK	DATE	APVD	DATE
01	INITIAL RELEASE		10/18/2016				
02	SML0402 adjustment and etch at L27		03/13/2017				

NOTES: UNLESS OTHERWISE SPECIFIED:

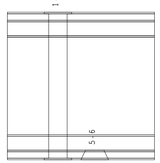
1. PART NUMBER IS PARENT ITEM IDENTIFICATION NUMBER ON ENGINEERING BILL OF MATERIAL.
2. THIS DRAWING ALSO EXISTS ON ELECTRONIC MEDIA.
3. FABRICATE PER INTEL SPECIFICATION A84501 LATEST REVISION.
4. THE CENTER OF THESE TWO HOLES ESTABLISH DATUM -B-.
5. DATUM -A- IS ESTABLISHED PERPENDICULAR TO DATUM -B- THROUGH THE CENTER OF THIS HOLE.
6. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M.
7. 10% IMPEDANCE TOLERANCE IS REQUIRED FOR ALL CONFIGURATIONS UNLESS OTHERWISE SPECIFIED. MAINTAIN TRACE WIDTH BY COMPENSATING SPACE ACCORDINGLY UP TO 5 MILS(SPEFIALLY INTO GROUND/SIGNAL PLANES)
8. SURFACE FINISH:
   PRIMARY SURFACE FINISH: ENIG PER INTEL PCB SPECIFICATION A84501.
   SECONDARY SURFACE FINISH: ENIG PER INTEL PCB SPECIFICATION A84501.
10. ROUTED PCB EDGE TO SMT PAD EDGE 7 MILS +0MIL / -12MILS
11. PCB MATERIAL HALOGEN FREE (BR<900PPM,CL<900PPM) FR4 UL 94V-0, Tg 150C,FLAME RETARDANT GLASS. (ANY MATERIAL DEVIATION MUST BE APPROVED)
    A. NANYA NPG150 CORES AND PREPREG
    B. HITACHI MCL-BE-67G(H) CORES AND PREPREG
    C. ITEQ IT-140 GTC/BS CORES AND PREPREG
    D. MATSUSHITA R1551V CORES AND PREPREG
    E. PANASONIC R1566W (CORE) AND R1551W (PREPREG)
12. ALL SOLDERMASK TO BE HALOGEN FREE (BR<900 PPM, CL<900PPM)
    SOLDERMASK CLEARENCE FOR ALL 0.4mm PITCH BGA PAD IS 37.5um
    SOLDERMASK CLEARENCE FOR ALL OTHER PADS IS 50um
    MINIMUM SOLDERMASK WEB IS 71um.
    USE ORIGINAL SHAPE FOR SOLDERMASK OPENINGS
    DO NOT USE IRREGULAR COMPENSATION FOR BGA PADS
13. FINISHED BOARD MUST BE COMPLIANT WITH THE RESTRICTION ON USE OF HAZARDOUS SUBSTANCES(ROHS)DIRECTIVE. TEST DATA MUST BE AVALIABLE TO DEMONSTRATE THAT IT WILL BE ABLE TO RELIABLY HANDLE REPEATED EXPOSURE TO ELEVATED TEMPERATURES REQUIRED ON LEAD FREE SOLDER PROCESS.
    A. RoHS COMPLIANCE CERTIFICATE SHALL BE AVAILABLE UPON REQUEST
    B. THE BOARD PACKAGE MUST BE IDENTIFIED AS RoHS COMPLIANT. PACKAGE OF FINISHED PANELS MUST BE IDENTIFIED AS RoHS COMPLIANT.
14. VENDOR SHALL RECEIVE STACK-UP APPROVAL PRIOR TO FAB START.



DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
·	0.25	+0.0762/-0.0762	PLATED	1553
·	0.4064	+0.0508/-0.0508	PLATED	12
E	0.7112	+0.0762/-0.0762	PLATED	18
1A	2.5908	+0.0508/-0.0508	PLATED	4
•	0.6604	+0.0508/-0.0508	NON-PLATED	1
•	0.762	+0.0508/-0.0508	NON-PLATED	2
A	0.8001	+0.03/-0.03	NON-PLATED	1
⊕	1.2	+0.03/-0.03	NON-PLATED	1
·	1.3	+0.1/-0.0	NON-PLATED	2
1	2.4892	+0.0508/-0.0254	NON-PLATED	4
⁑	1.397x0.508	+0.1016/-0.1016	PLATED	2
⁑	1.4478x0.6096	+0.1016/-0.1016	PLATED	4
⁑	1.6x0.8	+0.1/-0.0	PLATED	3
⁑	1.6002x0.508	+0.1016/-0.1016	PLATED	2
⁑	1.7018x0.6096	+0.1016/-0.1016	PLATED	4
⁑	1.905x0.6096	+0.0508/-0.0	PLATED	4
•	0.9652x0.6604	+0.1016/-0.1016	NON-PLATED	1

DRILL CHART: L5 to BOTTOM				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
·	0.1	+0.05/-0.05	PLATED	23

LAYER STACKUP



DESIGN CROSS SECTION CHART
TOTAL THICKNESS 1.505 MM

⁑ SURFACE - AIR 0 MM
L1: TOP CONDUCTOR - COPPER 0.03 MM
⁑ DIELECTRIC - FR-4 0.062 MM
L2: L2 PLANE - COPPER 0.03 MM
⁑ DIELECTRIC - FR-4 0.133 MM
L3: L3 CONDUCTOR - COPPER 0.03 MM
⁑ DIELECTRIC - FR-4 0.935 MM
L4: L4 PLANE - COPPER 0.03 MM
⁑ DIELECTRIC - FR-4 0.133 MM
L5: L5 CONDUCTOR - COPPER 0.03 MM
⁑ DIELECTRIC - FR-4 0.062 MM
L6: BOTTOM CONDUCTOR - COPPER 0.03 MM
⁑ SURFACE - AIR 0 MM

FINISHED BOARD THICKNESS 1.55mm +/-10%

7 IMPEDANCE:

LAYERS 1 & 6
45 OHM SINGLE ENDED - 0.140mm REF GND L2/L5
50 OHM SINGLE ENDED - 0.430mm REF GND L4
90 OHM DIFF PAIRS - 0.112mm TRACE / 0.163m SPACE REF GND L2/L5

LAYERS 3
45 OHM SINGLE ENDED - 0.208mm
90 OHM DIFF PAIRS - 0.117mm TRACE / 0.133mm SPACE

LAYERS 5
45 OHM SINGLE ENDED - 0.084mm
90 OHM DIFF PAIRS - 0.076 TRACE / 0.133m SPACE REF GND L4/L6
LINE WIDTH AND DIELECTRIC THICKNESS

MAY BE MODIFIED TO MEET TARGET IMPEDANCE.

PROCESS FLOW

UNLESS OTHERWISE SPECIFIED:	SIGNATURE	DATE
1. DIMENSIONS ARE IN MILLIMETERS	DRN BY MIG Design Team	10/18/16
~~2. BREAK ALL SHARP EDGES~~	CHK BY	
3. DO NOT SCALE DRAWING	ENGR	
~~4. TOLERANCES~~	APVD	
~~ANGLES +/-~~	APVD	
~~XX +/-~~	APVD	
~~XXX +/-~~		

INTEL CONFIDENTIAL
3065 BOWERS AVE
SANTA CALRA
CALIF. 95051

TITLE
PB,FAB DRAWING,GT96B, FAB A

SIZE	DCLC	CLASS CODE	DOCUMENT NUMBER	REV
D			XXXXX	02

SCALE 1:1 SHEET 1 OF 1

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