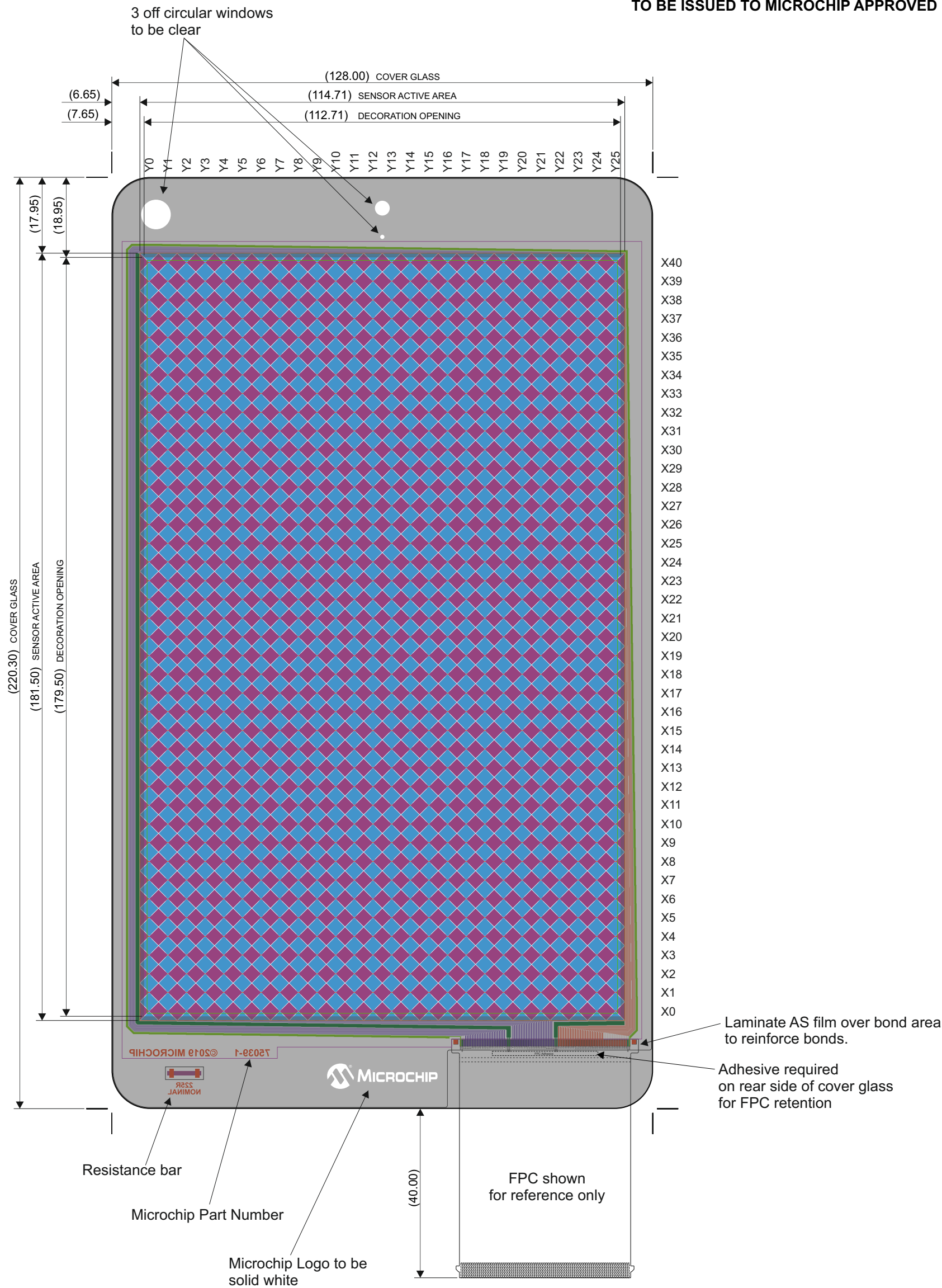
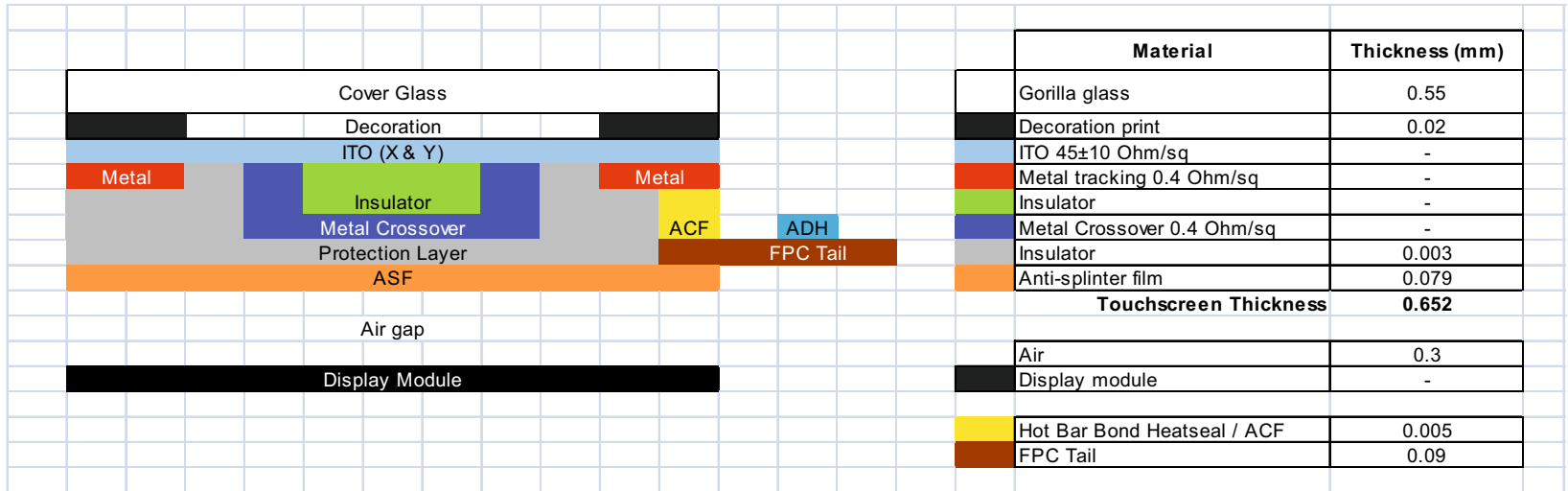


STRICTLY CONFIDENTIAL

SUBJECT TO NON-DISCLOSURE AGREEMENT
THIS DRAWING IS FOR SAMPLES & PROTOTYPES ONLY
TO BE ISSUED TO MICROCHIP APPROVED MANUFACTURERS ONLY



Touchscreen Build Stack



Artwork drawn as viewed from Touch Side

Edges of cover glass to be polished with no sharp corners

All dimensions are in millimeters.
If In Doubt Please Ask.

Material Specifications

	Material	Thickness	Specification	design rules
Main ITO	ITO	-	45 Ohms/sq ± 10 Ohms	Minimum track / gap = 30um ± 10%
Insulator	Insulator	1.25um ± 0.25um	Er = 3.60	
Metal crossovers	Metal	-	0.4 Ohms/sq ± 10%	Minimum track width 12um
Metal tracks	Metal	-	0.4 Ohms/sq ± 10%	Minimum track / gap = 30um ± 10%
Protection Layer	Insulator	3um ± 0.25um	Er = 3.60	
Anti-splinter film	PET/OCA	0.079mm ± 10%	Er = 3.00	
FPC interconnect	ACF / ACP / ACA	<20um	Pad contact resistance <1 Ohm, Peel strength >5N/cm	Pads 0.20 x 1.8mm on 0.4mm pitch
Alignment Tolerances				
Layer to Layer Alignment		± 15um		
Print to Edge of Glass		± 400um		
Metal to ITO		± 15um		
Assumptions				
Cover Glass	Gorilla Glass or similar	0.55mm ± 10%	Er = 7.37	
Decoration	Black Pantone EC non-conductive ink Atmel logo white non-conductive ink	20um ± 5um	Er = 3	
Airgap to display	Air	0.30mm ± 10%	Er = 1.01	
Performance Calculations				
Charge Time		1.06us		
Worst case touch separation in X		9.30mm		
Worst case touch separation in Y		9.27mm		
Touch separation difference		0.03mm		

Layers (top to bottom)

Cover glass
ITO 45 ohm/sq
Insulator
Metal crossovers 0.4 ohm/sq
Metal tracks 0.4 ohm/sq
Protection layer
Anti-splinter film

Crossover Detail

insulator thickness = 1.25um
under track width = 70um
ITO resistance = 45±10 Ohm/sq
crossover track width = 12um
crossover metal track resistance = 0.4 Ohm/sq
crossover track resistive length = 200 um

Title: 8.3" ITO on Glass TS Single Diamond G2 41X 26Y		Project: mXT1066T2	
Number: 75039	CAD Check:	Engr Check:	
Filename: 75039.cdr		Approved:	
Sheet 1 of 1	Drawn: P Cassidy		

©2019 Microchip Technology Inc. - This drawing and its contents are strictly confidential and provided for INFORMATION PURPOSES ONLY. Under NO circumstances should the drawing and its contents be copied, sold, transferred, or reproduced in whole or in part without the prior written consent of Microchip Technology Inc.



1	Updated to MCHP branding	N/A	PFC	17th Jun 2019
A0	First Issue	N/A	PFC	27th Nov 2013
Iss	Notes	ECN	Drm	Date