Projective PCAP with EMI Shielding Window and Heater

A 13.3” PCAP touch panel interfaced with DHA is integrated with a micromesh EMI shielding window and an ITO heater.

This EMI shielding and heater integration technology can be applied to PCAP touch panels of various sizes, up to 24”.

Key specifications of the 13.3” PCAP–EMI cover are summarized in the following sections for reference.

1 PROJECTED CAPACITIVE TOUCH SENSOR

1.1 Mechanical

Item	Unit	Min.	Typ.	Max.
Sensor Outer Dimension x	mm	309.0	309.3	309.6
Sensor Outer Dimension y	mm	183.7	184.0	184.3
Sensor Active Area x	mm	296.7	296.8	296.9
Sensor Active Area y	mm	168.1	168.2	168.3
Sensor Thickness	mm	-	0.6	-
Flex Tail length	mm	91.8	92.1	92.4

Item	Value
Flex Tail 1 Position	(see engineering drawing)
Flex Tail 2 Position	(see engineering drawing)
Flex Tail Orientation	(see engineering drawing)

1.2 Optical

Item	Unit	Min.	Typ.	Max.
Transmittance τ (380 - 750nm)	%	-	90	-

2 PROJECTED CAPACTIVE TOUCH CONTROLLER

2.1 Controller Chip

Item	Value
Supplier	EETI
Model	EXC84H4254STAG
Form Factor	Chip on Board

2.2 Interface Protocol

Item	Value
Interface	RS-232
Baud Rate	115200
Data Bits	8
Stop Bit	1
Parity	None
Flow Control	Hardware

2.3 Firmware Tuning

Item	Unit	Min.	Typ.	Max.
Simultaneous Touch Points	N/A	2	2	2

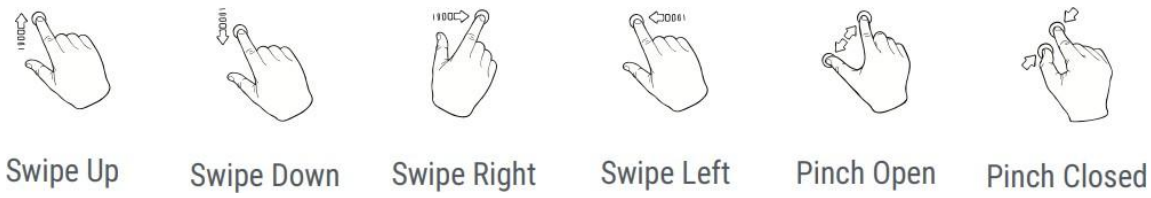

Figure 2 - Examples of Gestures

Item	Value
Single Touch Gestures	Swipe Up, Swipe Down, Swipe Right, Swipe Left
Multi Touch Gestures	Pinch Open, Pinch Closed, Rotate

2.4 Operating System

Item	Value
Driver Operating System 1 Compatibility	Microsoft Windows-10-Enterprise-IOT
Driver Operating System 2 Compatibility	Linux CentOS v8

3 OPTICAL ADHESIVE

The adhesive specified here is applicable to the bond between the following items:

- Cover Glass
- PCAP Sensor
- EMI Shield
- Heater Glass
- LCD Module

3.1 Product

Item	Value
Model	-
Material	Optically Clear Resin
Bonding Type	-
Number of Bonds	4

3.2 Mechanical

Item	Unit	Min.	Typ.	Max.
Thickness	mm	-	0.3	-

3.3 Optical

Item	Unit	Min.	Typ.	Max.
Optical Adhesive Transmittance τ (380 - 750nm) (Qty 4)	%	-	-	-

4 HEATER FRONTSIDE

4.1 Mechanical

Item	Unit	Min.	Typ.	Max.
Heater Outer Dimension x	mm	-	309.7	-
Heater Outer Dimension y	mm	-	184.1	-
Heater Thickness	mm	-	1.1	-

4.2 Electrical

Item	Unit	Min.	Typ.	Max.
Cable Length	mm	-	300	-
Surface Resistance	Ω/□	-	25	-
Total Resistance	Ω	10	15	20

In the event that the Total Resistance/Surface Resistance requirements impacts the optical transmittance of the heater, higher resistance options can be considered. Please advise Laserdyne if this is required.

Item	Value
Cable Position	Left (see engineering drawing)
Connector	Flying Leads

4.3 Optical

Item	Unit	Min.	Typ.	Max.
Heater Transmittance τ (380 - 750nm)	%	-	80	-

5 EMI SHIELD

5.1 Mechanical

Item	Unit	Min.	Typ.	Max.
EMI Shield Outer Dimension x	mm	332.7	333.3	333.6
EMI Shield Outer Dimension y	mm	208.3	208.6	208.9
EMI Shield Thickness	mm	-	0.1	-

5.2 Optical

Item	Unit	Min.	Typ.	Max.
EMI Shield Transmittance τ (380 - 750nm)	%	85	-	-

5.3 EMI / EMC

Item	Value
Attenuated Frequencies	2MHz - 18GHz

5.4 Copper Foil Shielding Tape

Item	Value
Copper Tape Coating	Nickel
Copper Tape Positioning	Wrapped around all sides and extended 2mm onto the front of the cover glass