

REG. DATE : 2015.03.20

S P E C I F I C A T I O N

REV.NO : 1.0

REV. DATE : 2015.03.20

MODEL NAME : TSGD-DN01B

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SPECIFICATIONS FOR APPROVAL

PRODUCT NAME : Touch Sensor Module with Control Board (23.8")

LGIT MODEL NAME : TSGD-DN01B

Customer P/N :

APPROVAL

LG Innotek Co., Ltd.

Drafter	Quality Team Agreement	Final Approver

Appendix

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Change History of Revision

Revision	Date	Contents of Revision Change	Remark
1.0	15.03.20	First Draft	

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1. General Description

1-1. General Feature

	Item	Spec	Remark
Window Glass	Viewing Area	528.5mm x 298mm	
	Out Dimension Size	558.66mm x 321.76mm	
	Thickness	3.0mm	
	Material	Sodalime	chemical Strengthened
	Deco Printing	Black	
	Printing Hole	-	
	AG coating	Yes	110±20 unit
	Chamfer	C0.6±0.2	
	Protection Film	-	
	Logo	-	
	Silk	-	
Touch Sensor	Type	GFF, 2 mesh sensor(PET)	
	Sensor Size	554.66mm X 317.76mm	
	Thickness	0.365mm	without Protect Film
	Sensing Type	Mutual Capacitance 2 layer	
	Channel No.	Rx(Top) : 78 Tx(Bottom) : 44	Trace single routing
	Protection Film	Yes (0.050t or 0.075t)	
Control Board	Response Time	Average < 25ms	
	Accuracy	2.5mm	
	Touch Point	Max 10 points	Multi Touch
FPCB	Type	COB Type	
	Connector	ZIF Type	CN Series
	Size	Rx : 129.37mm x 79mm Tx : 129.37 mm x 40.5mm	
	Layer	Single Layer	

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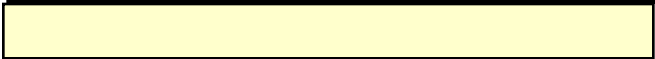
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1. General Description

1-2. Stack up

No	Structure	Thickness (mm)	Feature
1		3.0	Window Glass
2		0.100	Top OCA
3		0.120	Top Sensor
4		0.025	Bottom OCA
5		0.120	Bottom Sensor

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2. Specification

2-1. Electrical Specification(TBD)

Feature	Judgment
Function Check	OK

2-2. Optical Specification(TBD)

Feature	Specification
Transmittance (%)	Typ. 84% (Min 80%)
Haze	Typ. 5% (Max 7%)

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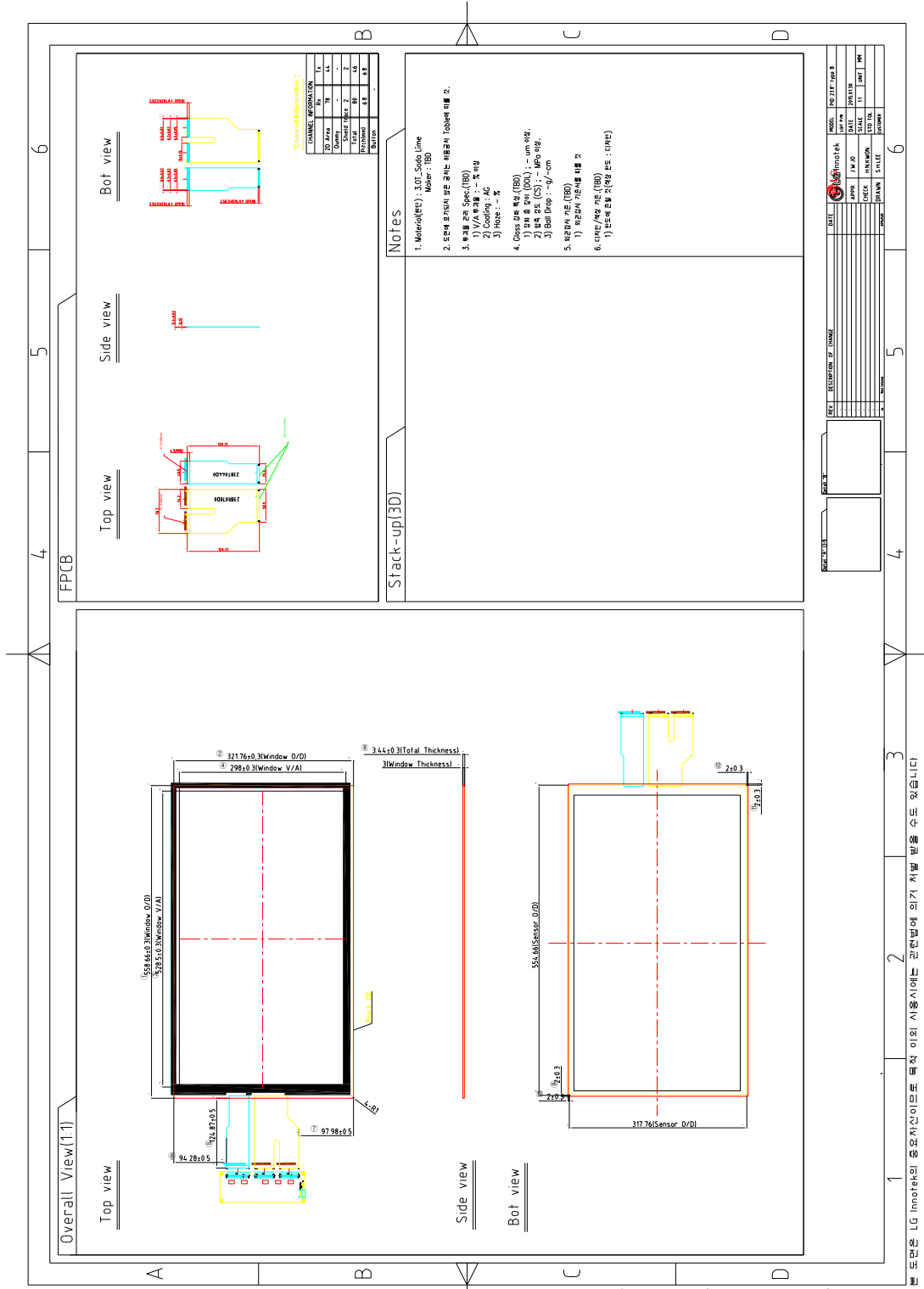
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3. Outline Dimension

3-1. Touch Panel



이 도면은 LG Innotek의 중요자산이며, 무단 복제, 배포, 또는 사용은 금지되어 있습니다. 이 도면의 무단 사용은 법적 책임을 지게 합니다. 이 도면의 무단 사용은 법적 책임을 지게 합니다. 이 도면의 무단 사용은 법적 책임을 지게 합니다.

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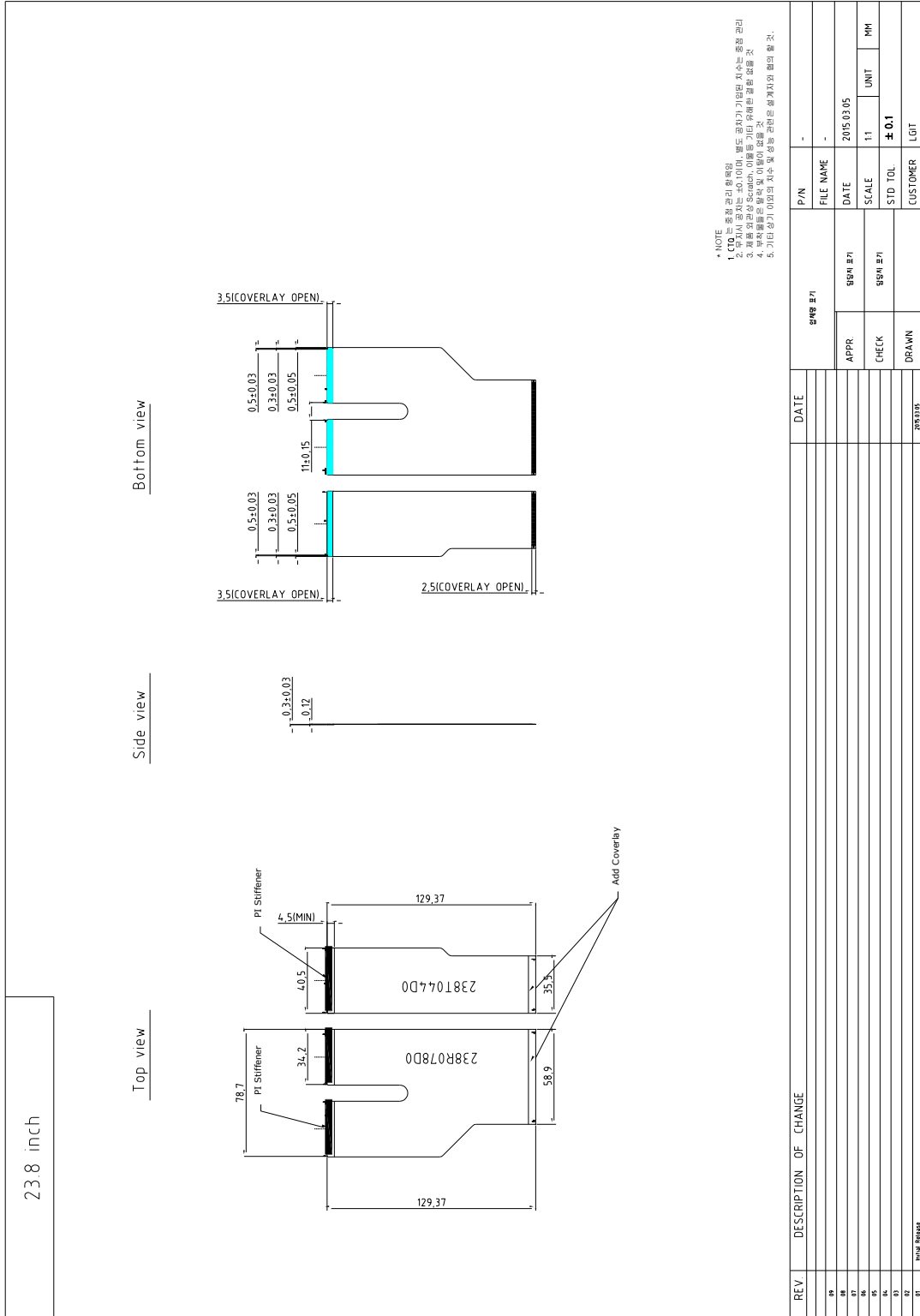
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3. Outline Dimension

3-2. FPCB



* NOTE
 1. CTO는 중장 관리종류임. 모든 단차기 기입의 기수는 중장 관리
 2. 단차기 기입은 2015.03.20 이후에 단차기 기입을 위한 단차기만 표시할 것.
 3. 단차기 기입은 단차기 기입을 위한 단차기만 표시할 것.
 4. 부적용될은 용역 및 이항이 없음 것.
 5. 기타 상기 이외의 치수 및 성능 규정은 설계자의 협의 할 것.

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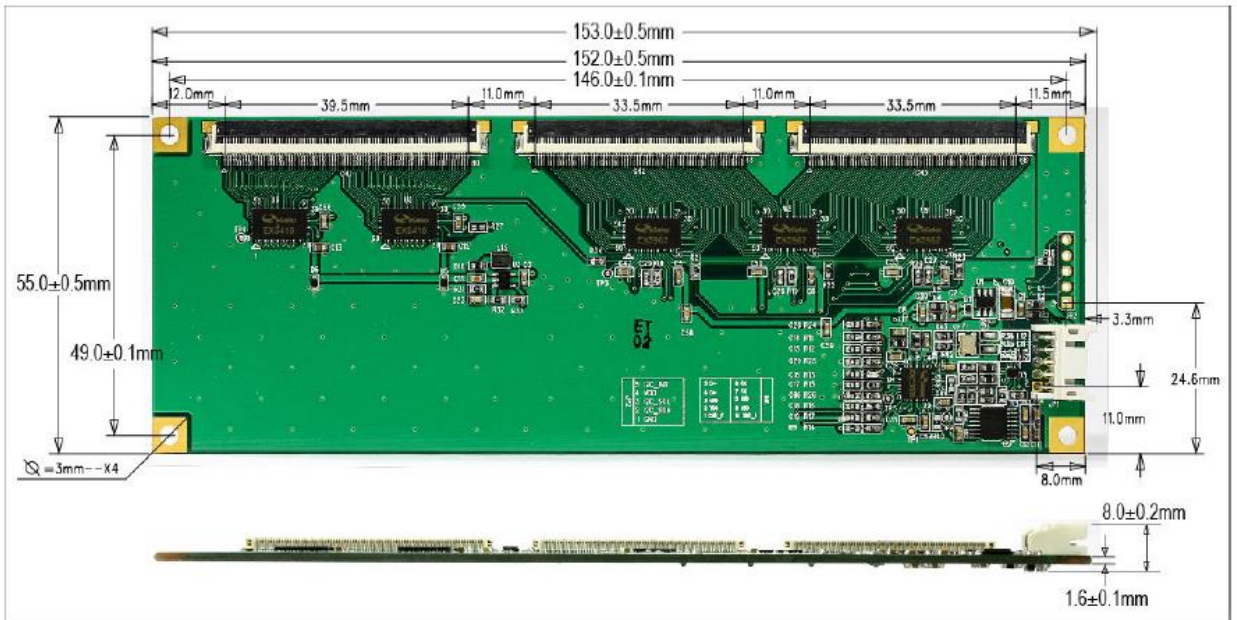
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4. Control Board

4-1. Outline Dimension



Thickness:

Total thickness: 8.3mm ± 0.1mm
 (Including PCB: 1.6mm.± 0.1mm USB/RS232 connector: 5.1mm. Soldering pin: 1.3 mm)

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4. Control Board

4-2. Support OS

OS	Version	Interfaces
Windows	Windows 7	USB/RS232
	Windows Vista, XP/2000	
	Windows CE.net/5.0/6.0/7.0	
	Windows Embedded	
	Windows XP Tablet PC edition	
Linux	Distribution based on Kernel 2.6.24 and later. (Ubuntu/Linux Nint)	USB/RS232
	Debian	
	Fedora	
	Red Hat/CentOS	
	Magaie/Mandriva/Mandrake	
	SUSE/openSUSE	
Mac	Android 2.3 ~ 4.4	USB
	Mac OS, Mac OS X (PowerPC, Intel CPU)	
QNX	QNX RTOS v6.3	USB/RS232

4-2. Specifications

Circuit Board Dimension	55mm X 152 mm
Channels of Panel	Max. Tx : 72 Rx : 126 channels (exclude shielding pin)
Input Voltage	3.5V~5.5V. Typical 5V.
Operating Temperature	-40 to 85 °C
Storage Temperature	-40 to 90 °C
Relative Humidity	95% at 60 °C, RH Non-condensing
Linearity(Note 1)	Line drawing accuracy : 1pt ±1mm offset /10mm Touch (point) accuracy : 1pt ±1mm
Interface	USB : 1.1 Full Speed RS232 : NoParity, 8 data bits, 1 stop, baud rate 19200bps
Resolution	4096 X 4096 resolution
Power consumption(mA)	Active Mode : < 125mA Idle Mode : < 60mA Sleep Mode : < 5mA (Operation Mode : Active Mode only)
Reprt rate(points/sec).Note2	>100 Hz
Response time	Average < 25ms

Note 1: Channel pitch should be design 4.8mm(Win8) or <6mm (Non-Win8)

Note 2 : Report rate will vary by channel number, cover thickness and other parameters.

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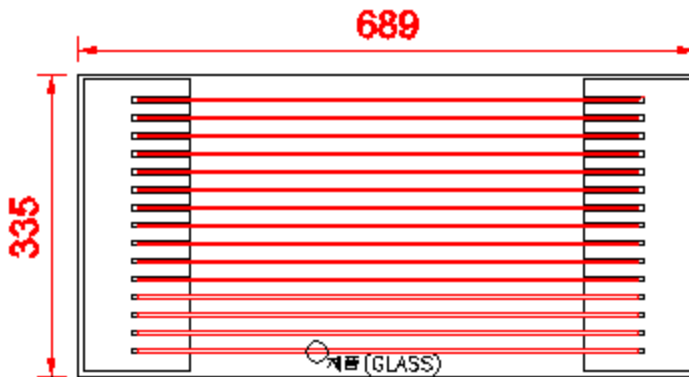
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5. Packing

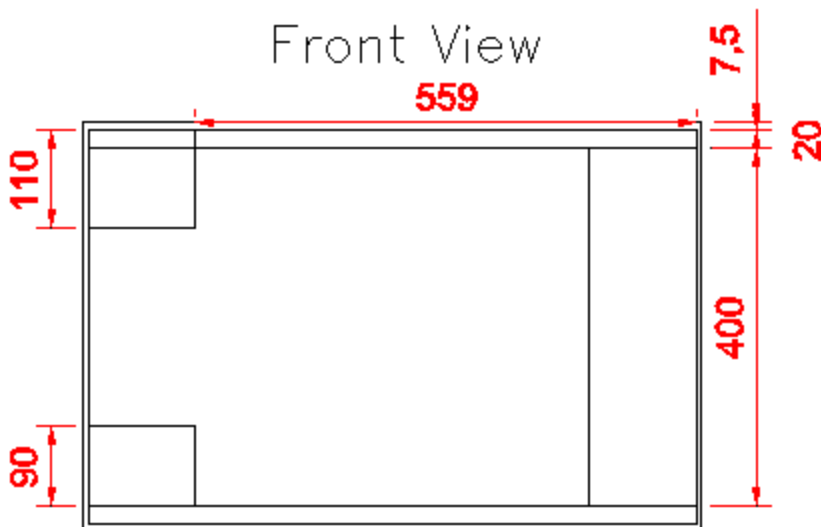
Packing Information

- Out Box Size : 689 x 335 x 400mm
- PE Form : 5pcs / 1-Box
- Sample : 15pcs / 1 Box

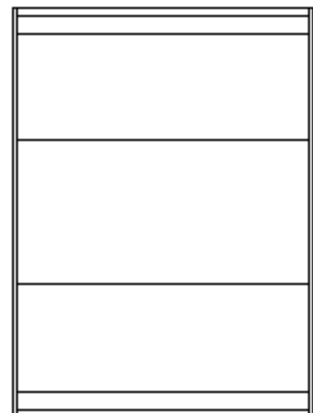
TOP View



Front View



Side View



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Cautions & Warranty

⚠ Please pay attention to the following when you use this Touch Sensor Panel.

1) Storage

When storing the TSP(Touch Sensor Panel)s as spares for a long time, the following precautions are necessary.

- Store the TSPs in a dark place. Do not expose the TSPs to sunlight. Keep the temperature between 5℃ and 30℃ at normal humidity.

2) Protection Film

- When the protection film is peeled off, static electricity is generated between the protection film and the TSP's transparent electrical film(Ag Mesh PET film). This should be peeled off slowly and carefully by people who are electrically grounded and the well ion-blower equipment or in such a condition, etc.
- When the TSP with protection film attached is stored for a long time, sometimes there remains a small amount of glue still on the TSP's transparent electrical film(Ag Mesh PET film) after the protection film is peeled off.
- You can remove the glue easily. When the glue remains on the TSP's transparent electrical film(Ag Mesh PET film) surface or its vestige is recognized, please wipe them off with absorbent cotton waste or other soft material like chamois soaked with ethyl-acetate.

3) Electrostatic Discharge Control

- Since the TSP is composed of electronic circuits, it is not strong to electrostatic discharge. Make certain that treatment persons are connected to ground through wrist band etc.

4) Installing and Assembling

- Do not touch, push or rub the exposed TSP's film with glass, tweezers or anything harder than 3H pencil lead. And please do not rub with dust clothes with chemical treatment. Do not touch the surface of film for bare hand or greasy cloth. (Some cosmetics deteriorate the film.)
- When the surface becomes dusty, please wipe gently with absorbent cotton or other soft material like chamois soaked with ethyl-acetate. Do not use acetone and toluene.
- Do not put a heavy, hard or sharp objects on the TSP.
- Do not apply excessive forces to the FPCB.

⚠ Warranty

Touch Sensor Panel products shall be warranted for one year after shipping from LG Innotek Co. Ltd. (Storage condition : Between 5℃ and 30℃ at normal humidity)

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