

3.9", 4 Wire Touch Panel

Product Specification

PRODUCT NUMBER	DTS408-0390-01
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Product Mgr	Quality Mgr	Engineering	Document Control
Date:	Date:	Date:	Date:

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REVISION RECORD

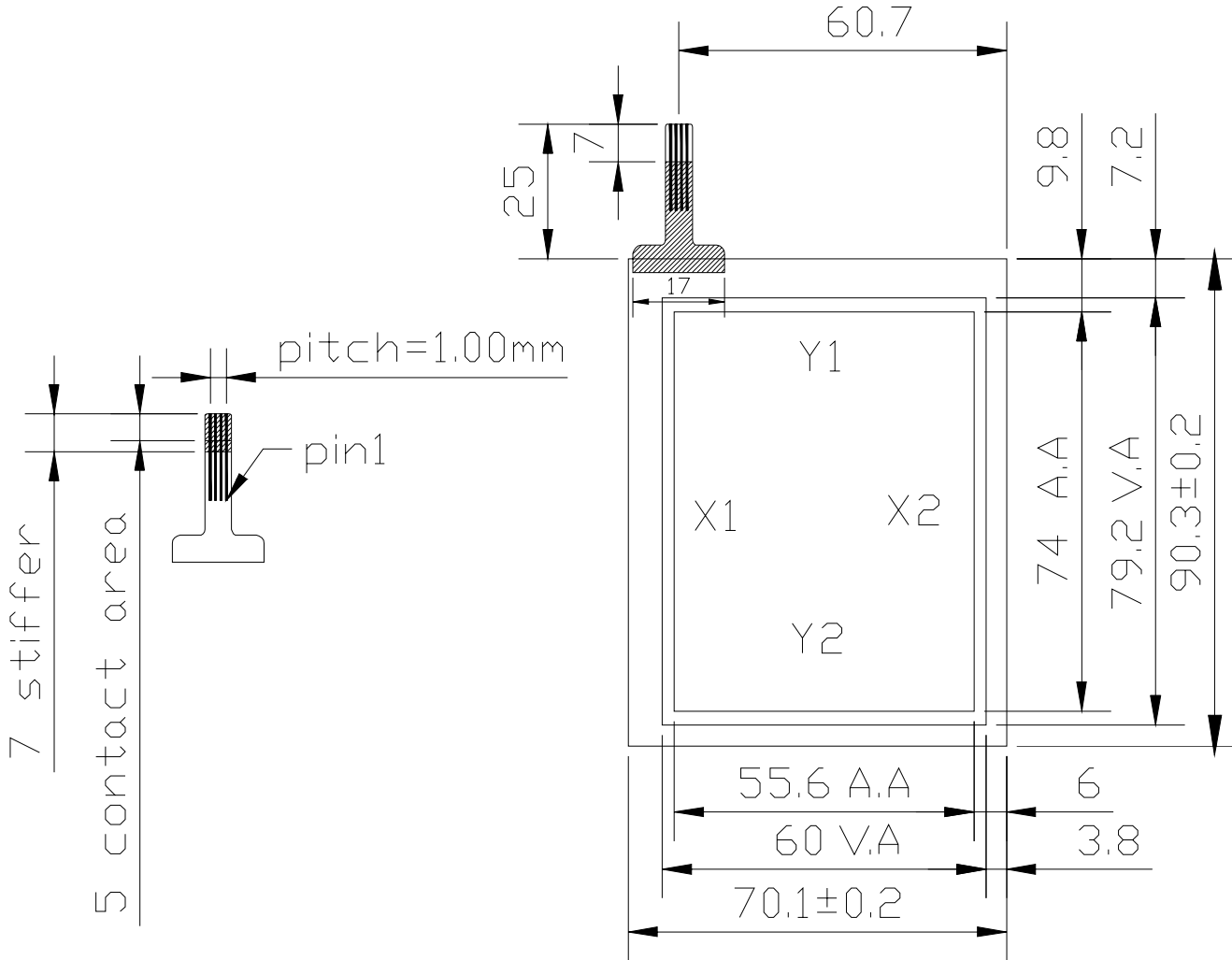
Rev.	Date	Page	Par.	Comment	ECN no.
A	07/31/06	--	--	Initial DCA Release	E3187
B	06/30/08	5	2	Changed Recommended Touch Decoder; Controller and Cable.	E3760

1 Main Features

UNIT=MM

ITEM	CONTENTS
Overall Dimension	90.3 (W) x 70.1 (H) x 0.95 (D)
Viewing Area	79.2 (W) x 60.0 (H)
Active Area	74.0 (W) x 55.6 (H)
ROHS Compliant	Yes
Surface Hardness	3H
Optical Clarity	80%
Operation Temperature	-10°C ~ 60°C
Storage Temperature	-20°C ~ 70°C
Endurance Test Strikes	+ 1 Million
Operating Voltage	5VDC, Nominal
Resistance	200Ω-900Ω
Linearity	<1.5%
Faceplate Surface	<input type="checkbox"/> ITO Film without hard-coating <input type="checkbox"/> ITO Film with hard-coating <input checked="" type="checkbox"/> ITO Film with anti-glare <input type="checkbox"/> ITO Film with anti-Newton ring <input type="checkbox"/> ITO Film with hard-coating and anti-Newton ring <input type="checkbox"/> ITO Film with anti-glare and anti-Newton ring
Operating Pressure	15~70g
Message Noise	5m sec ~ 15m sec
Type	Film to Glass

2 Mechanical Drawing



Note:

Glass Thickness: 0.7 mm.
 Film Type: fog, thickness: 0.188 mm.
 Total Thickness: 0.95 ± 0.05 mm.
 Connector: FPC.
 Unmark Tolerance: ± 0.2 mm.

Recommended Touch Decoder Kit:
 Controller: TSC400-11F-000 (USB)
 TSC600-01A-000 (RS-232)

Cable: TSCP-0F10-000 (PIN to ZIF cable)
 TSCC-1E-000 (USB External cable)
 TSCC-0E-000 (RS-232 External cable)

Pin#	Assignment
1	X2
2	Y1
3	X1
4	Y2

3 Optical Performance

Light transparency should be kept above 80% under the visible wave length when the wave length is 550nm.

4 Electrical Performance

Test Item	Test Condition
Connector Resistance	300Ω<X Axis: 900Ω
	200Ω<Y Axis: 800Ω
Insulation Resistance	20MΩ @25V DC
Electrostatic Endurance	No abnormal appearance after 10kv, 100Ω, 250PF electrostatic used.
Linearity	X Axis: 1.5%
	Y Axis: 1.5%
Operating Voltage	3V ~ 12V DC
Operating Current	5mA ~ 25mA

5 Environmental Test

5.1 High Temperature Test

After running the panels at 70°C for 240 hours, leave it for 24 hours at room temperature.

Test Item	Test Condition
Resistance between leads	300Ω<X Axis: <900Ω
	200Ω<Y Axis: <800Ω
Linearity	X Axis: 1.5%
	Y Axis: 1.5%
Insulation Resistance	20MΩ @25V DC

5.2 Low Temperature Test

After running the panels at -20°C for 240 hours, leave it for 24 hours at room temperature.

Test Item	Test Condition
Resistance between leads	300Ω<X Axis: <900Ω
	200Ω<Y Axis: <800Ω
Linearity	X Axis: 1.5%
	Y Axis: 1.5%
Insulation Resistance	20MΩ @25V DC

5.3 Temperature and Humidity Tests

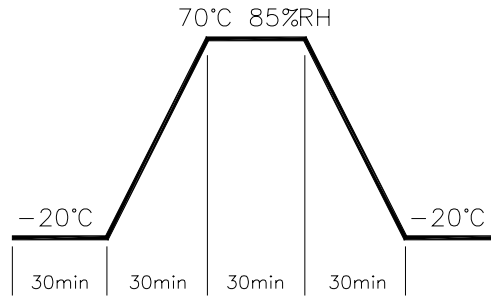
After running the panels at 40°C,90%RH for 240 hours, leave it for 24 hours at room temperature.

Test Item	Test Condition
Resistance between leads	300Ω<X Axis: <900Ω
	250Ω<Y Axis: <800Ω
Linearity	X Axis: 1.5%
	Y Axis: 1.5%
Insulation Resistance	20MΩ @25V DC

5.4 Temperature Cycle Tests

After running the panels at the condition of -20°C for 30 minutes → +70°C @85%RH for 30 minutes, repeated 20 cycles, leave it for 24 hours at room temperature.

Test Item	Test Condition
Resistance between leads	300Ω<X Axis: <900Ω
	200Ω<Y Axis: <800Ω
Linearity	X Axis: 1.5%
	Y Axis: 1.5%
Insulation Resistance	20MΩ @25V DC



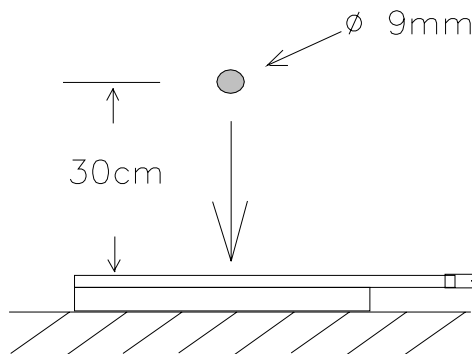
5.5 Punching Life

After punching 1,000,000 times with the R8.0 silicone rubber Force: 60g, Speed: 5/sec.

Test Item	Test Condition
Resistance between leads	300Ω<X Axis: <900Ω
	200Ω<Y Axis: <800Ω
Linearity	X Axis: 1.5%
	Y Axis: 1.5%
Insulation Resistance	20MΩ @25V DC

5.6 Impact Resistance

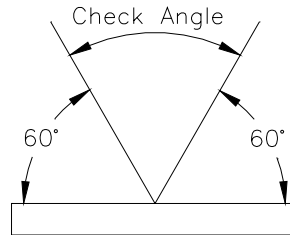
No damage when the Ø9mm steel ball is dropped on the surface from 30cm height for 1 cycle.



6 Appearance and Inspection Standards

6.1 Inspection Condition

- (A).The brightness of the area: 500 LUX
 (B)The distance of eyeshot:30 CM(The panel must be checked under the light transparency condition.)
 (C)The angle of eyeshot: 60°
 (D)The light source of the area: natural sunlight.



6.2 Inspection Standard

Suitable in the visible area, except dot space.

1. Spot, otherness	$\xi \leq 0.5\text{mm}$	Ignored
	$\xi > 0.5\text{mm}$	NG
2. Rub	$\xi \leq 1.0\text{mm}$	Ignored
	$1.0\text{mm} < \xi \leq 1.5\text{mm}$	2 points above & distance >50mm
	$\xi > 1.5\text{mm}$	NG
3. Cicatrices (Line) L: Length W: Width	$L < 10.0\text{mm}$ & $0.15\text{mm} < W \leq 0.2\text{mm}$	1 line is allowable 2 lines are reject 2 points above & distance >50mm
	$W \leq 0.15\text{mm}$	Ignored
	$W > 0.20\text{mm}$	NG
4. Edge Warp	Edge Warp $\leq 0.5\text{mm}$	Ignored
	Edge Warp $> 0.5\text{mm}$	NG