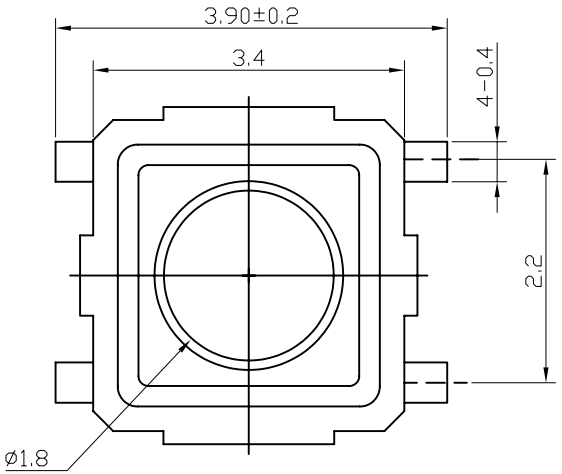
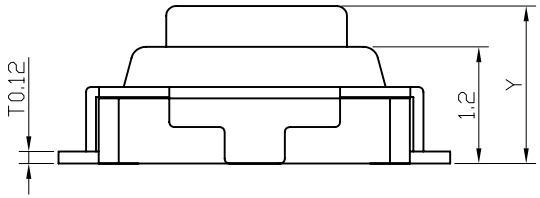
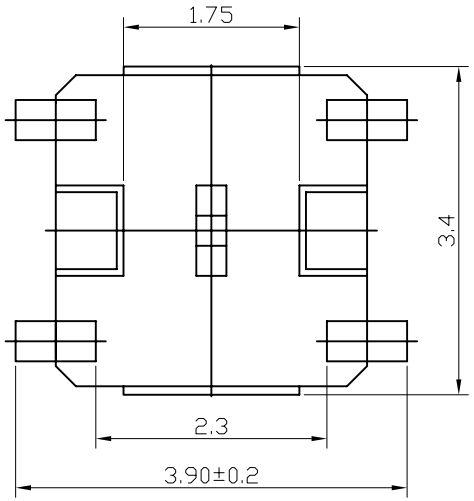
DWG. NO. SW-3209-F REV. "-"

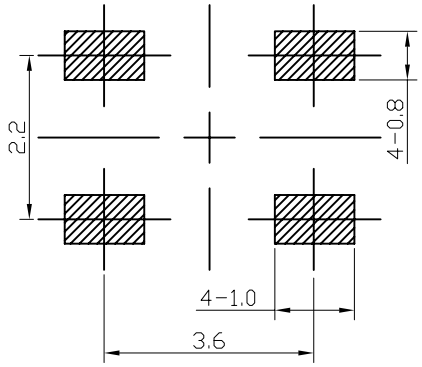
PART No. RTS-1177Y-160-NL



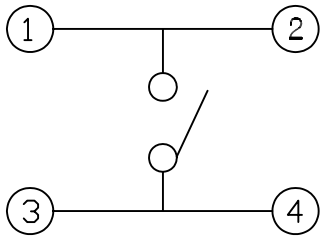




P.C.B LAND PATTERN



CIRCUIT DIAGRAM



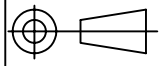
SPECIFICATION

1. RATING: DC12V 50mA MAX.
2. CIRCUIT: 1C-1P.
3. OPERATING FORCE: 160±50gf
4. CONTACT RESISTANCE: 100mOhm MAX.
5. TRAVEL: 0.2±0.1mm
6. LIFE TIME: 100,000 CYCLES MAX.
7. RDI P/N: RTS-1177Y-160-NL [Y=HEIGHT OF ACTUATOR,A=1.5mm,B=2.0mm]

NOTE: ALL DIMS ARE GIVEN IN mm

No.	PARTS NAME	MATERIAL	SPECIFICATION	REMARK
1	TERMINAL	POLYAMIDE-6T	C5210	
2	CASE	L.C.P(LIQUID CRYSTAL POLYMER)		Ag PLATE
3	COVER	STAINLESS	SUS	
4	STEM	L.C.P(LIQUID CRYSTAL POLYMER)		
5	CONTACT	STAINLESS	SUS	Ag CLAD
6	D/COVER	SILICONE TAPE	PI FILM	

PROJECTION



RDI Research Develop Innovate

RDI, Inc. 400 Columbus Avenue Valhalla, NY 10595

SCALE N/A

TITLE TACT SWITCH,ULTRA SMALL SMT TYPE-RoHS COMPLIANT

TOLERANCE EXCEPT AS NOTED

DR. JIN | DATE 05/18/07 | REF. P/N: RTS-1177Y-160-NL | SHEET 1 OF 4

DEC. INCHES N/A

CK. BM | PRE- SW | DRAWING NO. 3209 | SIZE F | REV. -

DEC. MILLIMETERS ±0.2

ANG. N/A

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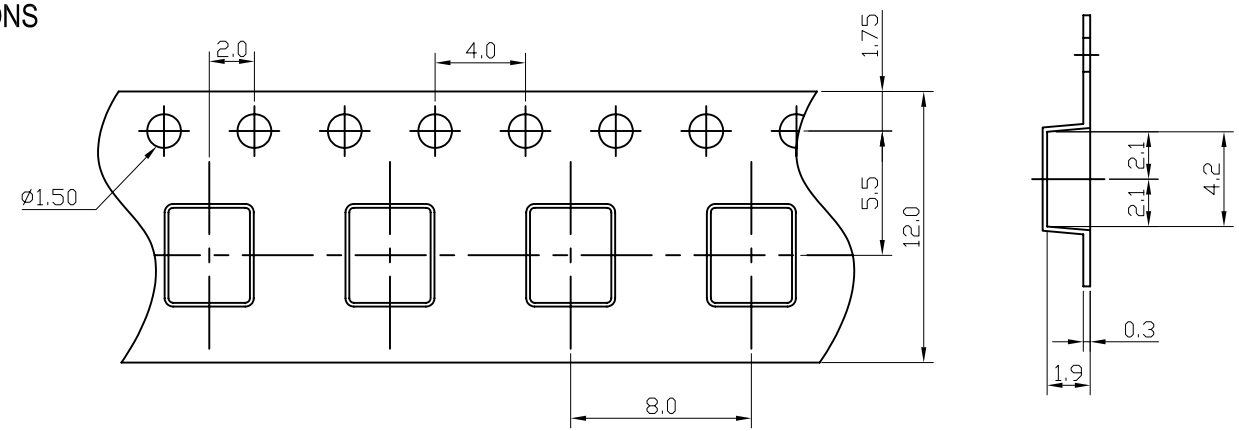
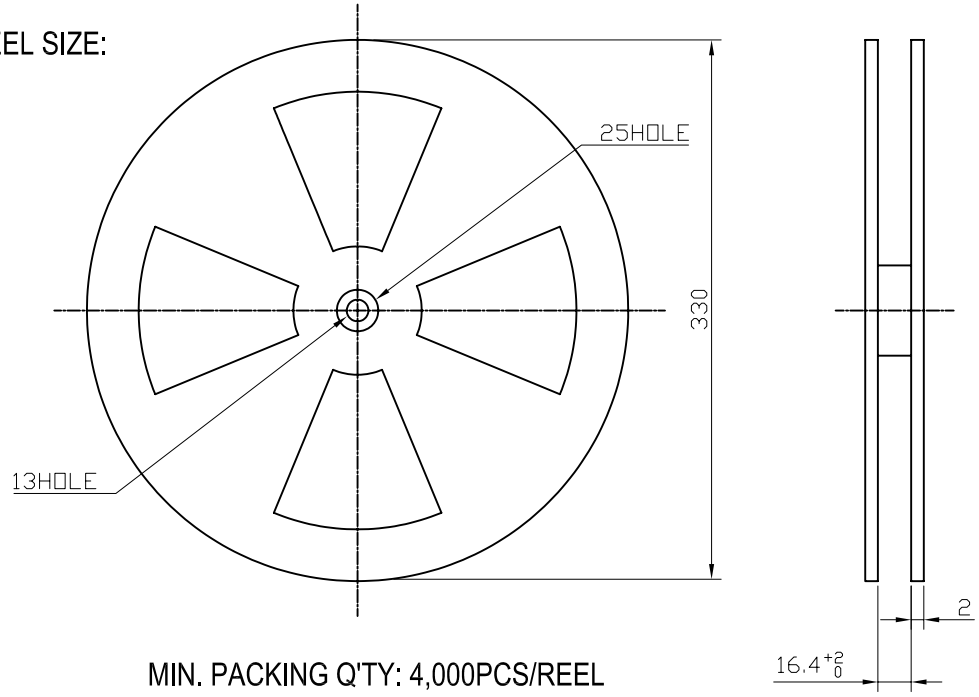
DWG. NO. SW-3209-F REV. "-"

PART No. RTS-1177Y-160-NL

TAPE DIMENSIONS



REEL SIZE:



MIN. PACKING Q'TY: 4,000PCS/REEL

NOTE: ALL DIMS ARE GIVEN IN mm

PROJECTION	RDI Research Develop Innovate RDI, Inc. 400 Columbus Avenue Valhalla, NY 10595				
SCALE N/A	TITLE: TACT SWITCH,ULTRA SMALL SMT TYPE-RoHS COMPLIANT				
TOLERANCE EXCEPT AS NOTED	DR. JIN	DATE 05/18/07	REF. P/N: RTS-1177Y-160-NL		SHEET 2 OF 4
DEC. INCHES N/A	CK. BM	PRE- SW	DRAWING NO. 3209	SIZE F	REV. -
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ANG. N/A					

ECN#	DATE	SYM	REVISION RECORD	AUTH	BY

DWG. NO. SW-3209-F REV. "-"

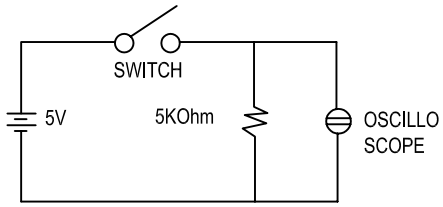
PART No. RTS-1177Y-160-NL

1. GENERAL

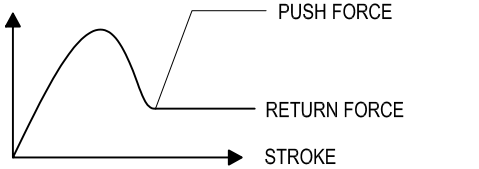
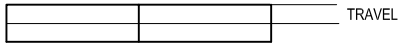
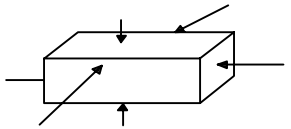
1.1 SWITCH ACTION: PUSH-ON TYPE S.P.S.T
1.2 SWITCH RATING: DC 12V,50mA MAX.
1.3 OPERATION TEMPERATURE RANGE: -30℃~85℃
1.4 PRESERVATIVE TEMPERATURE RANGE: -30℃~85℃
1.5 APPEARANCE AND DIMENSIONS: SEE OUTSIDE DRAWING PAGE
1.6 STANDARD CONDITIONS: UNLESS OTHERWISE SPECIFIED,THE TEST AND MEASUREMENTS SHALL BE CARRIED OUT AS FOLLOWS:
1-6-1 ABMIENT TEMPERATURE: 5~35℃
1-6-2 RELATIVE HUMIDITY: 45~85% RH
1-6-3 AIR PRESSURE: 86~106KPa(860~1060mbar)
HOWEVER,IF DOUBT ARISES ON THE DECISION BASED ON THE MEASURED VALUES UNDER THE ABOVE MENTIONED CONDITIONS,THE FOLLOWING CONDITIONS SHALL BE EMPLOYED.
1-6-4 AMBIENT TEMPERATURE: 20±2℃
1-6-5 RELATIVE HUMIDITY: 65±5% RH
1-6-6 AIR PRESSURE: 86~106KPa(860~1060mbar)

2. PERFORMANCE

2-1 ELECTRICAL CHARACTERISTICS

No	ITEM	TEST CONDITIONS	PERFORMANCE
2.1.1	CONTACT RESISTANCE	APPLYING A STATIC LOAD TWICE THE ACTUATING FORCE TO THE CENTER OF THE STEM,MEASUREMENTS SHALL BE MADE WITH A 1KHz SMALL-CURRENT CONTACT RESISTANCE METER.	100MOhm MAX
2.1.2	INSULATION RESISTANCE	MEASUREMENTS SHALL BE MADE FOLLOWING APPLICATION OF DC 100V POTENTIAL ACROSS TERMINALS AND ACROSS TERMINALS AND FRAME FOR ONE MINUTE.	100MOhm MIN
2.1.3	DIELECTRIC WITHSTAND VOLTAGE	AC 250V(50Hz OR 60Hz) SHALL BE APPLIED ACROSS TERMINALS AND AND ACROSS AND FRAME FOR ONE MINUTE.	THERE SHALL BE NO BREAKDOWN
2.1.4	BOUNCE	LIGHTLY STRIKING THE CENTER OF THE STEM AT A RATE ENCOUNTERED IN NORMAL USE(3 TO 4 OPERATIONS PER SEC.) BOUNCE SHALL BE TESTED AT ON' AND OFF' 	5m SEC MAX

2-2 MECHANICAL CHARACTERISTICS

No	ITEM	TEST CONDITIONS	PERFORMANCE
2.2.1	OPERATING FORCE	PUSH BY RECOMMENDED OPERATING CONDITION. 	PLEASE REFER TO THE DRAWING
2.2.2	TRAVEL	PUSH BY RECOMMENDED OPERATING CONDITION. F=(OPERATION FORCE)X2 	0.25±0.1mm
2.2.3	STOP STRENGTH	A STATIC LOAD OF 3Kgf SHALL BE APPLIED IN THE DIRECTION OF STEM OPERATION FOR A PERIOD OF 60 SECONDS.	NO DAMAGE (ELECTRICAL AND MECHANICAL)
2.2.4	IMPACT SHOCK TEST	1) ACCELERATION: 80g 2) CYCLE OF TEST: 3 CYCLES EACH IN 6 DIRECTIONS,FOR TOTAL 18 CYCLES 	No 2.1 AND 2.2.1 TO 2.2.2 SHALL BE SATISFIED.
2.2.5	SOLDERING HEAT TEST	1) SOLDERING AREA: t/2 OF P.W.B THICKNESS(P.W.B: t=1.6) 2) SOLDERING TEMPERATURE: 260±5℃ 3) SOLDERING TIME: 5±1 SEC	No 2.1 AND 2.2.1 TO 2.2.2 SHALL BE SATISFIED.

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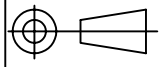
PROJECTION 

RDI Research Develop Innovate
RDI, Inc. 400 Columbus Avenue Valhalla, NY 10595

SCALE N/A

TITLE TACT SWITCH,ULTRA SMALL SMT TYPE-RoHS COMPLIANT

TOLERANCE EXCEPT AS NOTED

DR. JIN | DATE 05/18/07 | REF. P/N: RTS-1177Y-160-NL | SHEET 3 OF 4

DEC. INCHES N/A

CK. BM | PRE- SW | DRAWING NO. 3209 | SIZE F | REV. -

DEC. MILLIMETERS N/A

ANG. N/A

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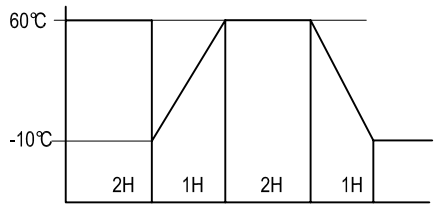
2-3 CLIMATIC CHARACTERISTICS

No	ITEM	TEST CONDITIONS	PERFORMANCE
2.3.1	COLD TEST	1) TEMPERATURE: -30±2℃ 2) DURATION OF TEST: 96 HOURS 3) TAKE OFF A DROP WATER 4) STANDARD CONDITION AFTER TEST: 1 HOUR	CONTACT RESISTANCE: 200mOhm MAX. 2.1.2 TO 2.1.4 AND 2.2.1 TO 2.2.2 SHALL BE SATISFIED.
2.3.2	HEAT TEST	1) TEMPERATURE: 80±2℃ 2) DURATION OF TEST: 96 HOURS 3) STANDARD CONDITION AFTER TEST: 1 HOUR	
2.3.3	TEMPERATURE CYCLE	1) TEST CYCLES: 5 CYCLES 2) STANDARD CONDITION AFTER TEST: 1 HOUR 3) 1 CYCLES 	
2.3.4	HUMIDITY TEST	1) TEMPERATURE: 40±2℃ 2) RELATIVE HUMIDITY: 90-95% Rh 3) DURATION OF TEST: 96 HOURS 4) TAKE OFF A DROP WATER. 5) STANDARD CONDITION AFTER TEST: 1 HOUR	
2.3.5	OPERATING LIFE TEST	1) DC 5V,5mA RESISTANCE LOAD 2) OPERATING SPEED: 15-20 CYCLES/MIN. 3) PUSH FORCE: MAX. VALUE OF OPERATION FORCE 4) CYCLE OF OPERATION: 100,000 CYCLES	CONTACT RESISTANCE: 200mOhm MAX. BOUNCE: 10mSEC MAX. ACTUATING FORCE: ±30% INITIAL FORCE No 2.1.2 TO 2.1.3 AND 2.2.2 SHALL BE SATISFIED

3. SOLDEERING

3.1 AVAILABLE FOR MANNUAL TYPE

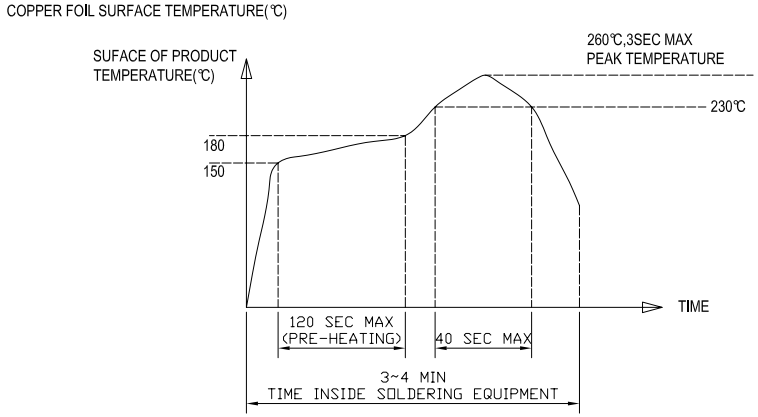
ITEM	CONDITION
SOLDERING TEMP	350℃
CONTINUOUS SOLDERING TIME	3 SEC MAX

4. SOLDERING

REFLOW SOLDERING CONDITIONS

PREHEAT: TEMPERATURE ON THE COPPER FOIL SURFACE SHOULD REACH 180℃,2±0.3 MINUTES AFTER THE P.W.B ENTERED INTO THE SOLDERING EQUIPMENT.

SOLDERING HEAT: TEMPERATURE ON THE COPPER FOIL SURFACE SHOULD REACH THE PEAK TEMPERATURE OF 260℃ WITHIN 40 SECONDS AFTER THE P.W.B ENTERED INTO SOLDERING HEAT ZONE.



TEMPERATURE PROFILE

NOTE: ALL DIMS ARE GIVEN IN mm

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PROJECTION

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TOLERANCE EXCEPT AS NOTED

DEC. INCHES N/A

DEC. MILLIMETERS N/A

ANG. N/A

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TITLE: TACT SWITCH,ULTRA SMALL SMT TYPE-RoHS COMPLIANT

DR.	DATE	REF.	SHEET
JIN	05/18/07	P/N: RTS-1177Y-160-NL	4 OF 4

CK.	PRE-	DRAWING NO.	SIZE	REV.
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