

P.C.B LAND PATTERN

A: Actuator Height	O: Operating Force	C: Cover Material	IP: Package Type
A-4: 3mm B-5: 0mm C-7: 0mm D-9: 5mm E-8: 0mm	L= 100 +/- 30GF F= 130 +/- 30GF S= 160 +/- 30GF H= 250 +/- 50GF	M= Metal	B= Bag, Bulk (500 pcs/bag) TR= Tape & Reel 4.3mm and 5.0mm (1k pcs/Reel) 7.0mm and 8.0mm (700 pcs/Reel) 9.5mm (500 pcs/Reel)

- NOTE:
1. RATING: DC 12V, 50mA MAX
  2. CIRCUIT: 1C-1P
  3. CONTACT RESISTANCE: 100mOHM MAX.
  4. TRAVEK: 0.25± 0.1mm
  5. LIFE: 100,000 CYCLES MIN
  6. ALL DIMS ARE IN mm.

10-021	01/29/10	D	REVISED PACKAGE TYPE&REVISED P/N TO RTS1216-XXX-X-NL	MD	JY		
09-339	11/26/09	C	REVISED P/N TO RTS1216CSM-TR-NL&REMOVED PLASTIC DP/TION FRDM COVER MATERIAL	CP	JY		
08-185	05/15/08	B	REVISION AS ABOVE	BM	JY		
ECN#	DATE	SYM	REVISION RECD	AUTH	BY		

No.	PART NAME	METERIAL	SPECIFICATION	REMARKS
1	TERMINAL	BASS	C2680R-EH(10.3)	Ag PLATE
2	CASE	POLYAMIDE	ARLEN C230N G30	
3	COVER	SPT#50	ELECTROLYTIC TINPLATE	
4	STEM	BASS	ARLEN C230N G30	
5	C/PLATE	PBSR	C5210R-EH(10.06)	Ag CLAD

PROJECTIION

SCALE: N/A

TOLERANCE: EXCEPT AS NOTED

DEC. MILLIMETERS: ±0.3

DEC. INCHES: N/A

ANG. N/A

**RDI** Research Develop Innovate

RDI Inc. 333 North Bedford Road, Suite 135, Mount Kisco, NY 10549

SMT Tact Switch Rohs Compliant

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DR: Jln DATE: 11/03/06 REF: P/N: RTS1216-XXX-X-NL SHEET 1 OF 4

PRE-SW DRAWING NO. 3000 SIZE 1 REV. D

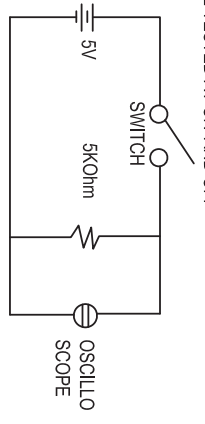
1. GENERAL

- 1.1 SWITCH ACTION: PUSH-ON TYPE S.P.S.T
- 1.2 SWITCH RATINGS: DC 12V, 50mA MAX
- 1.3 OPERATION TEMPERATURE RANGE: -20°C-70°C
- 1.4 PRESERVATIVE TEMPERATURE RANGE: -30°C-80°C
- 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 AMBIENT TEMPERATURE: 5-35°C
  - 1-6-2 RELATIVE HUMIDITY: 45-85% RH
  - 1-6-3 AIR PRESSURE: 86-106kPa(860-1060mbar)
- HOWEVER IF DOUBT ARISED 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°C
  - 1-6-5 RELATIVE HUMIDITY: 65± 5% RH
  - 1-6-6 AIR PRESSURE: 86-106kPa(860-1060mbar)

2. PERFORMANCE

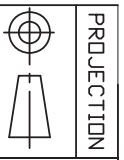
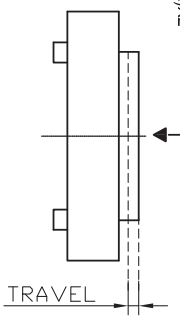
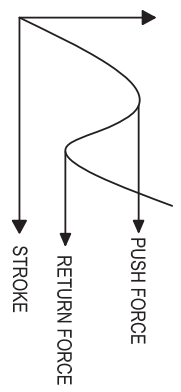
2.1 ELECTRICAL CHARACTERISTICS

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 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.	5mSEC MAX



2.2 MECHANICAL CHARACTERISTICS

No	ITEM	TEST CONDITIONS	PERFORMANCE
2.2.1	OPERATING FORCE	PUSH BY RECOMMENDED OPERATING CONDITION.	
2.2.2	TRAVEL	PUSH BY RECOMMENDED OPERATING CONDITION. F=(OPERATION FORCE)X2	0.25± 0.1mm
2.2.3	STOP STRENGTH	ASTATIC 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	STEM STRENGTH	THE MAXIMUM FORCE TO WITHSTAND A PULL APPLIED OPPOSITE TO THE DIRECTION OF STEM OPERATION SHALL BE MEASURED.	3 kgf MIN
2.2.5	VIBRATION TEST	1) AMPLITUDE: 1.5mm 2) SWEEP RATE: 10-55-10Hz FOR 1 MINUTE. 3) SWEEP METHOD: LOGARITHMIC FREQUENCY SWEEP RATE. 4) VIBRATION DIRECTION: X,Y,Z(3 DIRECTIONS) 5) TIME: EACH DIRECTION 2 HOURS(TOTAL 6 HOURS)	No.2.1 AND 2.2.1 TO 2.2.2 SHALL BE SATISFIED.




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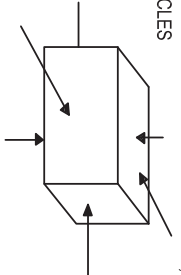
PROJECTION	TITLE	SMT Tact Switch Rohs Compliant	
SCALE	N/A	DATE	11/03/06
TOLERANCE	EXCEPT AS NOTED	PRE-DR	SW
DEC. MILLIMETERS	N/A	F/N	RTS1216-XXX-X-NL
DEC. INCHES	N/A	DRAWING NO.	3000
ANG.	N/A	SIZE	2 DF 4

DR	Jln	REV.	2
CK	JY	REV.	1

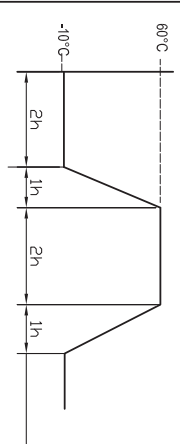
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09-339	11/26/09	C	REVISED P/N TO RTS1216CSM-TR-NL&REMOVED PLASTIC PARTION FRDM COVER MATERIAL
08-185	05/15/08	B	REVISION AS ABOVE
ECN#	DATE	SYM	REVISION RECORD

MD	JY	AUTH	BY
CP	JY		
BM	JY		

No	ITEM	TEST CONDITIONS	PERFORMANCE
2.2.6	IMPACT SHOCK TEST	1) ACCELERATION: 80g 2) CYCLE OF TEST: 3 CYCLES EACH IN 6 DIRECTIONS, FOR A TOTAL 18 CYCLES	No. 2.1 AND 2.2.1 TO 2.2.2 SHALL BE SATISFIED.
			
2.2.7	SOLDERING HEAT TEST	1) SOLDERING AREA: 1/2 OF P.W.B THICKNESS(P.W.B=(1.6) 2) SOLDERING TEMPERATURE: 280± 5°C 3) SOLDERING TIME: 5± 1 SEC	NO DAMAGE (ELECTRICAL AND MECHANICAL)

2-3 CLIMATIC CHARACTERISTICS

No	ITEM	TEST CONDITIONS	PERFORMANCE
2.3.1	COLD TEST	1) TEMPERATURE: -30± 2°C 2) DURATION OF TEST: 96 HOURS 3) TAKE OFF A DROP WATER 4) STANDARD CONDITION AFTER TEST: 1 HOUR	CONTACT RESISTANCE: 200mOhm MAX No 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°C 2) DURATION OF TEST: 96 HOURS 3) STANDARD CONDITION AFTER TEST: 1 HOUR	CONTACT RESISTANCE: 200mOhm MAX No 2.1.2 TO 2.1.4 AND 2.2.1 TO 2.2.2 SHALL BE SATISFIED.
2.3.3	TEMPERATURE CYCLE	1) TEST CYCLES: 5 CYCLES 2) STANDARD CONDITION AFTER TEST: 1 HOUR 3) 1 CYCLES	CONTACT RESISTANCE: 200mOhm MAX. BOUNCE: 10m SEC MAX ACTUATING FORCE: ± 30% INITIAL FORCE No 2.1.2 TO 2.1.3 AND 2.2.2 SHALL BE SATISFIED.
			
2.3.4	HUMIDITY TEST	1) TEMPERATURE: 60± 2°C 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	CONTACT RESISTANCE: 200mOhm MAX. BOUNCE: 10m SEC MAX ACTUATING FORCE: ± 30% INITIAL FORCE No 2.1.2 TO 2.1.3 AND 2.2.2 SHALL BE SATISFIED.
2.3.5	OPERATING LIFE TEST	1) DC 5V, 5mA RESISTANCE LOAD 2) OPERATION SPEED: 2-3 CYCLES/SEC 3) PUSH FORCE: MAXIMUM VALUE OF OPERATION FORCE 4) CYCLE OF OPERATION: 500,000 CYCLES	CONTACT RESISTANCE: 200mOhm MAX. BOUNCE: 10m SEC MAX ACTUATING FORCE: ± 30% INITIAL FORCE No 2.1.2 TO 2.1.3 AND 2.2.2 SHALL BE SATISFIED.

No	ITEM	TEST CONDITIONS	PERFORMANCE
2.3.6	WITHSTAND H2S	1) DENSITY: 3± 1 ppm 2) TEMPERATURE: 40± 2°C 3) RELATIVE HUMIDITY: 90-95% 4) DURATION OF TEST: 24 HOURS 5) STANDARD CONDITIONS AFTER TEST: 1 HOUR	CONTACT RESISTANCE: 200mOhm MAX. No 2.1.2 TO 2.1.4 AND 2.2.1 TO 2.2.2 SHALL BE SATISFIED.
2.3.7	WITHSTAND SO2	1) DENSITY: 10± 2 ppm 2) TEMPERATURE: 40± 2°C 3) RELATIVE HUMIDITY: 90-95% 4) DURATION OF TEST: 24 HOURS 5) STANDARD CONDITIONS AFTER TEST: 1 HOUR	CONTACT RESISTANCE: 200mOhm MAX. No 2.1.2 TO 2.1.4 AND 2.2.1 TO 2.2.2 SHALL BE SATISFIED.

3. SOLDERING

3.1 AUTO SOLDERING CONDITIONS

ITEM	CONDITION
PREHEAT TEMPERATURE	110°C MAX(ENVIRONMENTAL TEMPERATURE OF SOLDERING SURFACE OF P.W.B)
PREHEAT TIME	60 SEC MAX
AREA OF FLUX	1/2 MAX OF P.W.B THICKNESS
TEMPERATURE OF SOLDER	255°C MAX
TIME OF IMMERSION	WITHIN 5 SEC
SOLDERING NUMBER	WITHIN 2 TIMES(BUT SHOULD BRING DOWN HEAT OF THE FIRST SOLDERING)
PRINTED WIRING BOARD	SINGLE SIDED COPPER-CLAD LAMINATES

- 1) AFTER SWITCHES ARE SOLDERED PLEASE BE CAREFUL NOT TO CLEAN SWITCHES WITH SOLVENT.
- 2) IN THE CASE OF USING SOLDERING IRON SOLDERING CONDITIONS SHALL BE 280°C MAX AND 3 SEC MAX.
- 3) AFTER SWITCHES ARE SOLDERED, PLEASE BE CAREFUL NOT TO LOAD THE KNOBS OF SWITCHES.

ECN#	DATE	SYM	REVISION RECD
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10-021	01/29/10	D	REVISED PACKAGE TYPE&REVISED P/N TO RTS1216-XXX-X-NL

MD	JY	CP	JY	BM	JY	ANG.	N/A

PROJECT ION



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RD1 Inc. 333 North Bedford Road, Suite 135, Mount Kisco, NY 10549

SMT Tact Switch Rohs Compliant

SCALE: N/A

TITLE: SMT Tact Switch Rohs Compliant

DR: Jln DATE: 11/03/06 REF: P/N: RTS1216-XXX-X-NL

EXCEPT AS NOTED DEC. MILLIMETERS CK: JY PRE-SW SIZE: 3000

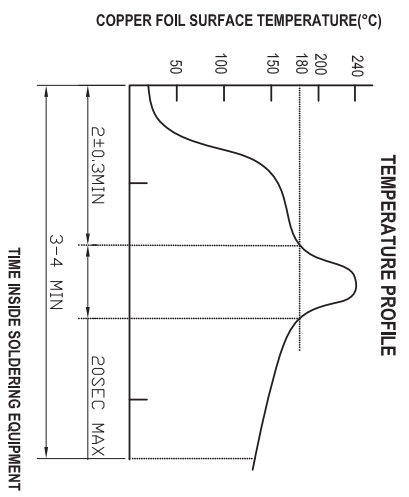
SHEET 3 OF 4

REV. D

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3.2 MANUAL SOLDERING CONDITIONS  
 TEMPERATURE: 260± 5°C  
 TIME: 3 SEC MAX

3.3 REFLOW SOLDERING CONDITIONS  
 PREHEAT: TEMPERATURE ON THE COPPER FOIL SURFACE SHOULD REACH 180°C± 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 240°C WITHIN 20 SECONDS AFTER THE P.W.B ENTERED INTO SOLDERING HEAT ZONE.



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08-185	05/15/08	B	REVISION AS ABOVE	BM	JY
ECN#	DATE	SYM	REVISION RECORD	AUTH	BY

PROJECTION		TITLE	SMT Tact Switch Rohs Compliant								
SCALE	N/A	DR	Jln	DATE	11/03/06	REF	P/N: RTS1216-XXX-X-NL	SIZE	4	SHEET	4
TOLERANCE	EXCEPT AS NOTED	CK	JY	PRE-	SW	DRAWING NO.	3000	REV.	D	THIS DOCUMENT IS OWNED BY, AND THE INFORMATION CONTAINED IN IT IS PROPRIETARY TO, RDI. BY RECEIPT HEREOF THE HOLDER AGREES NOT TO USE THE INFORMATION AND NOT TO DISCLOSE IT TO ANY THIRD PARTY, NOR REPRODUCE THIS DOCUMENT WITHOUT THE WRITTEN CONSENT OF RDI, AND AGREES TO RETURN THIS DOCUMENT FORTHWITH UPON REQUEST.	



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