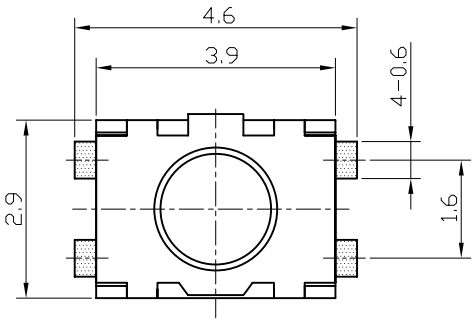
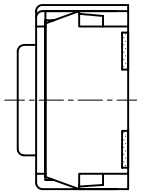
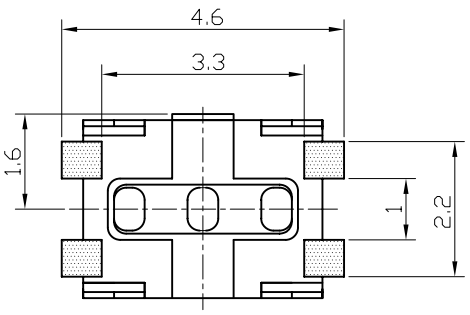
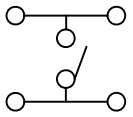
DWG. NO. SW-2265-F REV. "I"

PART NO. RTS-1185XGE

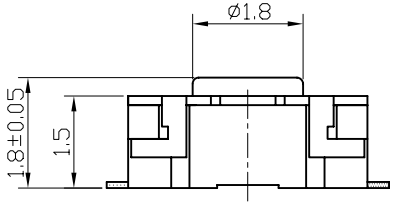


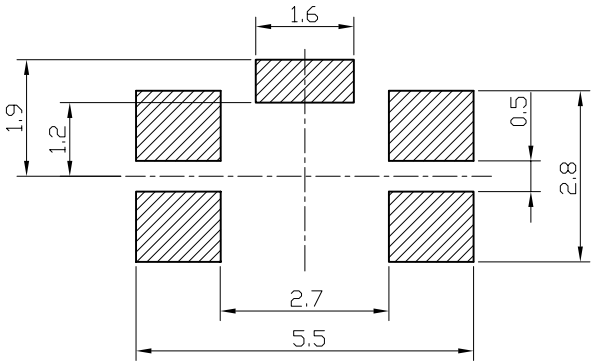






CIRCUIT DIAGRAM





SMD REFLOW PATTERN

(ALL TOLERANCE: ± 0.05)

RTS - 1185 X G E

- EARTH TERMINAL
- GULL WING TERMINALS
- ACTUATING FORCE

A= 100±30gf
B= 160±30gf
C= 250±50gf
D= 400±100gf
E= 300±50gf

△1

SPECIFICATION:

1. RATING: 50mA, DC12V MAX.
2. CIRCUIT: 1C-1P.
3. CONTACT RESISTANCE: 100 mOHM MAX.
4. TRAVEL: $0.2^{+0.1}_{-0.1}$mm.
5. △1 LIFE: A,B,C&E=100,000 CYCLES MIN.; D=50,000 CYCLES MIN.
6. ALL DIMS ARE IN mm.

NO.	PARTS NAME	MATERIAL	SPECIFICATION	REMARK
1	TERMINAL	BRASS	C2680R-H(t0.1)	Ag PLATING (Ag 0.5u)
2	CASE	L.C.P		
3	COVER	STAINLESS	SUS301	
4	STEM	POLYAMIDE	ARLEN C230N G30	
5	C/PLATE	STAINLESS	SUS301	Ag CLAD (Ag 0.1u)
6	DUST COVER	PI FILM	SILICONE ADHESIVE TAPE	0.025t

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09-293	11/26/09	H	CHANGED ITEM#6 OF THE MATERIAL LIST	RL	JY
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07-338	07/03/07	F	ADDED THE ACTUATING FORCE: 300±50gf	BM	JY
05-470	10/12/05	E	ADDED SPECIFICATIONS PAGE 2&3 & REVISED MATERIAL AND SPEC FOR ITEM 2 IN LIST	BM	JY
05-190	04/14/05	D	ADDED MORE VERSION	BM	LL

PROJECTION

SCALE 8:1

TOLERANCE EXCEPT AS NOTED

DEC. INCHES N/A

DEC. MILLIMETERS ±0.2

ANG. N/A

RDI Research Develop Innovate

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

TITLE: MICRO MINIATURE TACT SWITCH-SMT TYPE WITH EARTH TERMINAL ROHS COMPLIANT

DR.	DATE	REF.	SHEET
LUCIA	12/21/04	P/N: RTS-1185XGE	1 OF 3

CK.	PRE-	DRAWING NO.	SIZE	REV.
JY	SW	2265	F	I

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DWG. NO. SW-2265-F REV. "I"

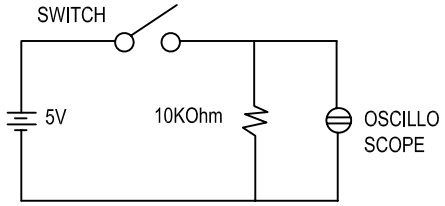
PART NO. RTS-1185XGE

1. GENERAL

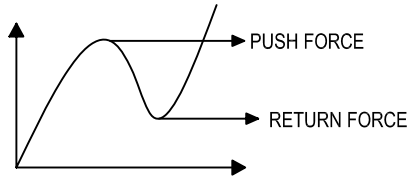
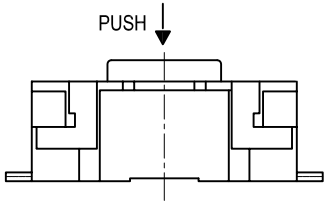
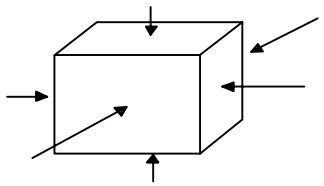
1.1 RATINGS: DC 12V,20mA MAX.
1.2 OPERATION TEMPERATURE RANGE: -20°C~70°C
1.3 PRESERVATIVE TEMPERATURE RANGE: -30°C~80°C
1.4 APPEARANCE AND DIMENSIONS: SEE ASSEMBLY DRAWING PAGE
1.5 STANDARD CONDITIONS: UNLESS OTHERWISE SPECIFIED,THE TEST AND MEASUREMENTS SHALL BE CARRIED OUT AS FOLLOWS:
1-5-1 ABMIENT TEMPERATURE: 5~35°C
1-5-2 RELATIVE HUMIDITY: 45~85% RH
1-5-3 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.
1-5-4 AMBIENT TEMPERATURE: 20± 2°C
1-5-5 RELATIVE HUMIDITY: 65± 5% RH
1-5-6 AIR PRESSURE: 86~106KPa(860~1060mbar)

2. PERFORMANCE

2-1 ELECTRICAL CHARACTERISTICS

No	ITEM	TEST CONDITIONS	PERFORMANCE
1	CONTACT RESISTANCE	APPLYING A STATIC LOAD TWICH THE ACTUATING FORCE TO THE CENTER OF THE STEM,MEASUREMENTS SHALL BE MADE WITH A 1KHz SMALL CURRENT CONTACT RESISTANCE METER.	100mOhm MAX
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
3	DIELECTRIC WITHSTAND VOLTAGE	AC 250V(50Hz OR 60Hz) SHALL BE APPLIED ACROSS TERMINALS AND FRAME FOR ONE MINUTE.	THERE SHALL BE NO BREAKDOWN
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' 	20m SEC MAX

2-2 MECHANICAL CHARACTERISTICS

No	ITEM	TEST CONDITIONS	PERFORMANCE
1	OPERATING FORCE	PUSH BY RECOMMENDED OPERATING CONDITION. 	AS PER ASSEMBLY DRAWING
2	TRAVEL	PUSH BY RECOMMENDED OPERATING CONDITION. 	PUSH: 0.2± 0.1mm
3	STOP STRENGTH	A STATIC LOAD OF 1 Kgf SHALL BE APPLIED IN THE MAXIMUM FORCE TO WITHSTAND A PULL APPLIED MEASURED	NO DAMAGE
4	STEM STRENGTH	THE MAXIMUM FORCE TO WITHSTAND A PULL APPLIED OPPOSITE TO THE DIRECTION OF STEM OPERATION SHALL BE MEASURED.	0.5 Kgf MIN
5	IMPACT SHOCK TEST	1) ACCELERATION: 80g 2) CYCLE OF TEST: 3 CYCLES EACH IN 6 DIRECTIONS,FOR TOTAL 18 CYCLES 	No.1 AND 2 SHALL BE SATISFIED.

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05-190	04/14/05	D		BM	LL

PROJECTION

SCALE N/A

TOLERANCE EXCEPT AS NOTED

DEC. INCHES N/A

DEC. MILLIMETERS N/A

ANG. N/A

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LUCIA	12/21/04	P/N: RTS-1185XGE	2 OF 3

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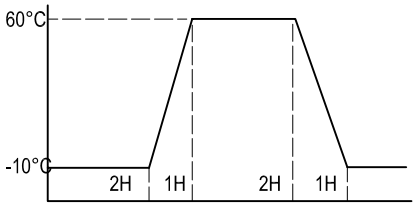
DWG. NO. SW-2265-F REV. "I"

PART NO. RTS-1185XGE

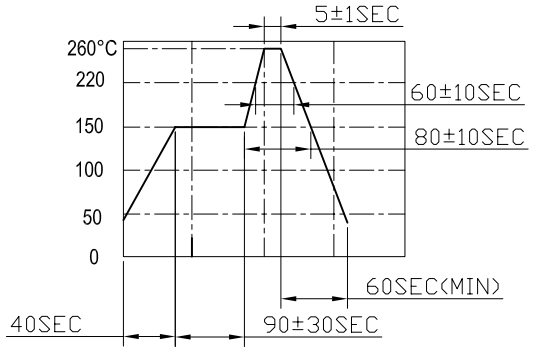
No	ITEM	TEST CONDITIONS	PERFORMANCE
6	SOLDERING HEAT TEST	1) SOLDERING AREA: t/2 OF PWB THICKNESS(PWB t=1.6) 2) SOLDERING TEMPERATURE: 260± 5°C 3) SOLDERING TIME: 5± 1 SEC	NO DAMAGE

2-3 MECHANICAL CHARACTERISTICS

No	ITEM	TEST CONDITIONS	PERFORMANCE
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. 2-1-1,2-1-4 SHALL BE SATISFIED.
2	HEAT TEST	1) TEMPERATURE: 80± 2°C 2) DURATION OF TEST: 96 HOURS 3) STANDARD CONDITION AFTER TEST: 1 HOUR	
3	TEMPERATURE CYCLE	1) TEST CYCLES: 5 CYCLES 2) STANDARD CONDITION AFTER TEST: 1 HOUR 3) 1 CYCLES IS 	
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	
5	OPERATING LIFE TEST	1) DC 12V,50mA RESISTANCE LOAD 2) OPERATING SPEED: 2-3 CYCLES/SEC 3) PUSH FORCE: MAX. VALUE OF OPERATION FORCE 4) CYCLE OF OPERATION: 100000 CYCLES	CONTACT RESISTANCE: 100mOhm MAX. BOUNCE: 10mSEC MAX. ACTUATING FORCE: ± 30% INITIAL FORCE

SOLDER CONDITIONS

1. RECOMMENDED TEMPERATURE CURVE FOR REFLOW PROCESS.(2 CYCLES)



(NOTE: WHEN APPLY 2ND CYCLES OF IR REFLOW PROCESS,THE TRANSDUCER SHOULD BE EXPOSED IN THE ROOM TEMPERATURE AFTER 1ST CYCLE OF IR REFLOW PROCESS.)
THE TRANSDUCER WILL SATISFY.THE ADDITIONAL WARRANTY CONDITIONS AS ABOVE, EVEN AFTER 2 CYCLES OF REFLOW PROCESS.

2. HAND SOLDER
2-1 IRON TIP TEMP: 360°C
2-2 DURATION: 3 SEC MAX.

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