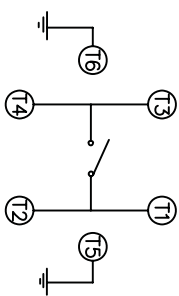
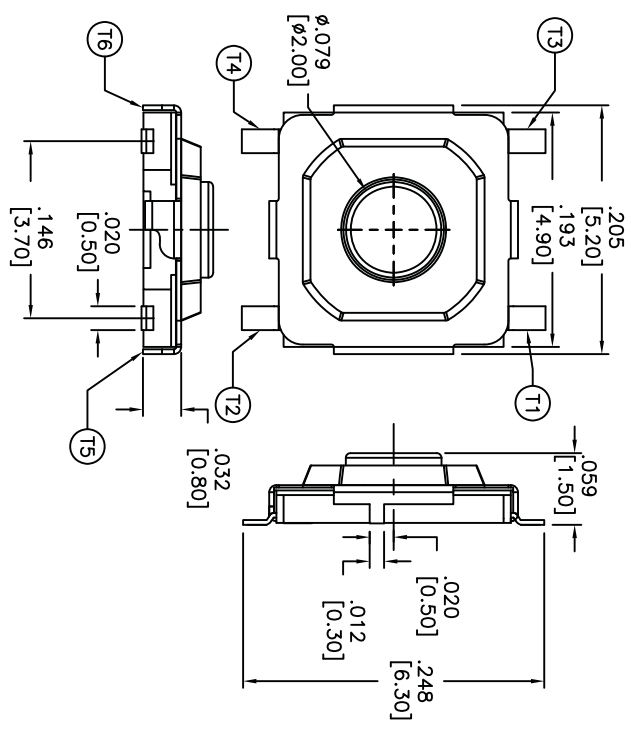
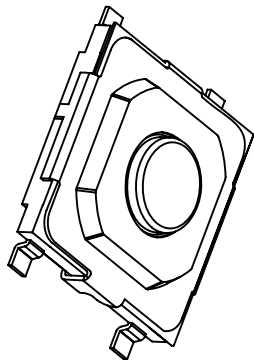
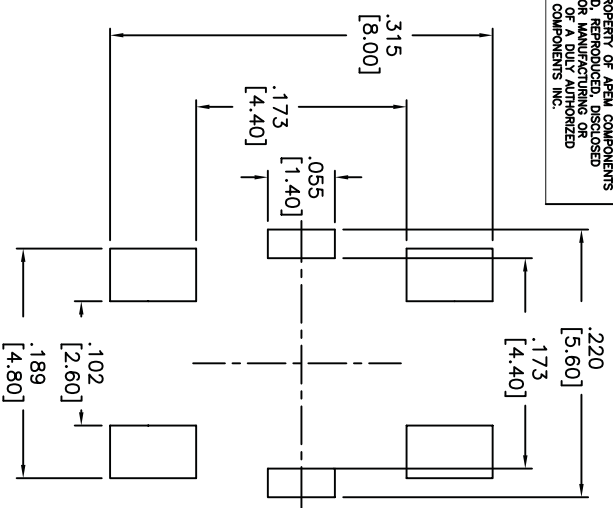


THIS DOCUMENT IS THE PROPERTY OF APDM COMPONENTS AND SHALL NOT BE COPIED, REPRODUCED, DISCLOSED OR USED AS THE BASIS FOR MANUFACTURING OR SALE WITHOUT PERMISSION OF A DULY AUTHORIZED REPRESENTATIVE OF APDM COMPONENTS INC.

ATMG53*V*
 OPERATION FORCE: _____
 3=160gf
 4=260gf
 PACKAGE STYLE:
 T/R=TAPE AND REEL
 LEAD FREE



CIRCUIT DIAGRAM

DATE	SYM	REVISION RECORD	DWN.	CK.
11/05	B	ECO# 495	CD	

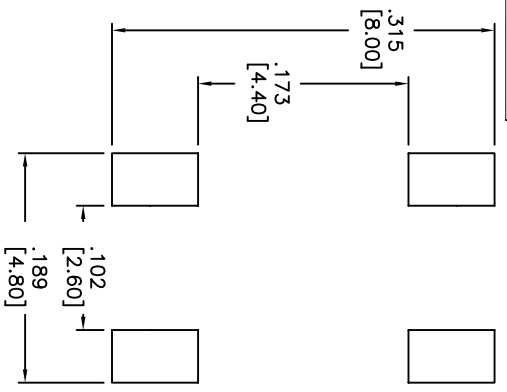
DESCRIPTION: MINIATURE MACHANICAL CONTACT SWITCH WITH SURFACE MOUNT TERMINALS AND GROUNDING TERMINALS.
 SPECIFICATIONS:
 STROKE: .010 ^{+0.004} _{-0.008} [0.25 ^{+0.10} _{-0.20}]
 OPERATION TEMPERATURE RANGE: -25°C TO +70°C
 STORAGE TEMPERATURE RANGE: -30°C TO +80°C
 VIBRATION TEST: PASSES METHOD 201A MIL-STD-202F.
 SHOCK TEST: 50G PER METHOD 213B MIL-STD202F.
 ELECTRICAL LIFE: 1,000,000 CYCLES MIN FOR 160gf.
 200,000 CYCLES MIN FOR 260gf.
 RATING: 50mA, 12VDC.
 CONTACT RESISTANCE: 100mΩ MAX.
 INSULATION RESISTANCE: 100MΩ MIN. AT 500VDC.
 DIELECTRIC STRENGTH: 250VAC/1 MINUTE.
 CONTACT ARRANGEMENT: 1POLE 1 THROW.
 MATERIALS:
 COVER: NICKEL SILVER.
 BASE: HIGH-TEMP. THERMOPLASTIC.
 COLOR: BLACK.
 STEM: BRASS WITH NICKEL PLATING
 CONTACT DISC: STAINLESS STEEL.
 TERMINAL: BRASS WITH SILVER CLADDING.
 TAPE: TEFLON
 SOLDERING:
 HAND SOLDERING: 30 WATT IRON AT 350°C FOR 5 SEC.
 VAPOR & REFLOW: 255°C FOR 5 SEC. MAX.
 NON-WASHABLE
 LEAD FREE PROCESS COMPATIBLE
 ROHS COMPLIANT

9A. INSPECT:		63 Neck Rd. 01835 APDM International, Inc. 1000 Industrial Blvd. Foxboro, MA 01935 Tel: 508-548-3554 Fax: 508-548-3554		DRN. CJD BR: BR: PJD	
DESIGNER'S OPTICAL DIMENSION	TOLERANCES (UNLESS AS NOTED) .XX = ±.02(0.05) .XXX = ±.008(0.20) .XXXX = ±.0008(0.02) ANGLE = 30.5°	SHEET 1 OF 1	SIZE B	SCALE 10:1	THIRD ANGLE PROJECTION
TITLE MECHANICAL CONTACT SWITCH		DATE 08/15/05	DRAWING NO. ATMG53*V*	REV B	

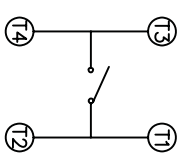
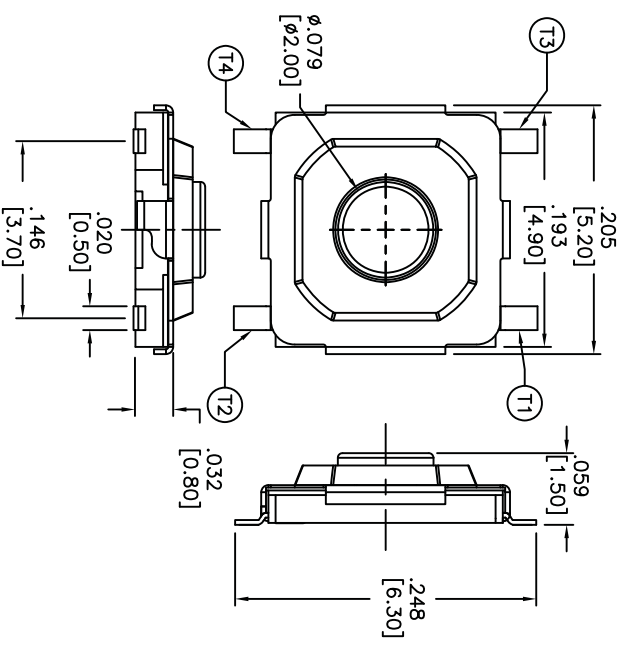
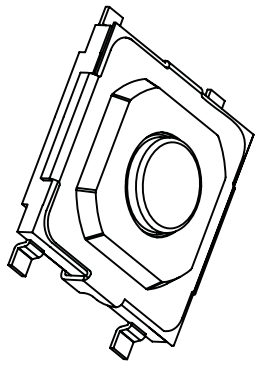
THIS DOCUMENT IS THE PROPERTY OF APEM COMPONENTS AND SHALL NOT BE COPIED, REPRODUCED, DISCLOSED OR USED AS THE BASIS FOR MANUFACTURING OR SALE WITHOUT PERMISSION OF A DULY AUTHORIZED REPRESENTATIVE OF APEM COMPONENTS INC.

OPERATION FORCE: ATM53*V*
 2=100gf
 3=160gf
 4=260gf

PACKAGE STYLE:
 T/R=TAPE AND REEL
 LEAD FREE



P.C.B. LAYOUT



CIRCUIT DIAGRAM

DATE	SYM	REVISION RECORD	DWN.	CK.

DESCRIPTION: MINIATURE MECHANICAL CONTACT SWITCH SURFACE MOUNT TERMINALS.

SPECIFICATIONS:

STROKE: .010 \pm .004 \pm .006 \pm .001

OPERATION TEMPERATURE RANGE: -25°C TO +70°C

STORAGE TEMPERATURE RANGE: -30°C TO +80°C

VIBRATION TEST: PASSES METHOD 201A MIL-STD-202F.

SHOCK TEST: 50G PER METHOD 213B MIL-STD202F.

ELECTRICAL LIFE: 1,000,000 CYCLES MIN FOR 100gf, 16 200,000 CYCLES MIN FOR 260gf.

RATING: 50mA, 12VDC.

CONTACT RESISTANCE: 100mΩ MAX.

INSULATION RESISTANCE: 100MΩ MIN. AT 500VDC.

DIELECTRIC STRENGTH: 250VAC/1 MINUTE.

CONTACT ARRANGEMENT: 1POLE 1 THROW.

MATERIALS:

COVER: NICKEL SILVER.

BASE: HIGH-TEMP. THERMOPLASTIC.

COLOR: BLACK.

STEM: BRASS WITH NICKEL PLATING

CONTACT DISC: STAINLESS STEEL WITH SILVER PLATING.

TERMINAL: BRASS WITH SILVER CLADDING.

TAPE: TEFLON

SOLDERING:

HAND SOLDERING: 30 WATT IRON AT 350°C FOR 5 SEC VAPOR & REFLOW: 255°C FOR 5 SEC. MAX.

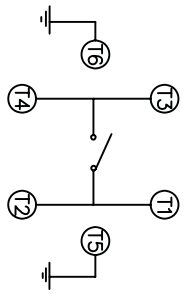
NON-WASHABLE

LEAD FREE PROCESS COMPATIBLE

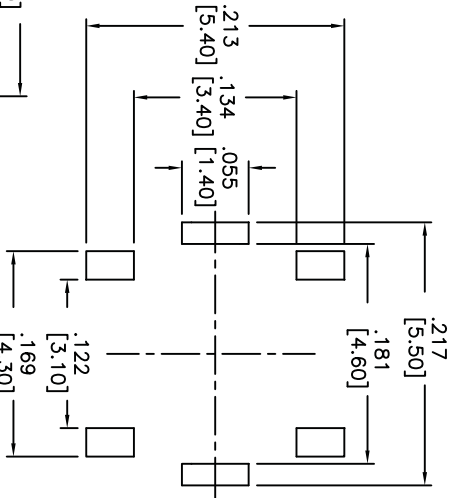
ROHS COMPLIANT

9A. INSPECT: DIMENSIONS: OPTICAL TOLERANCES (UNLESS OTHERWISE SPECIFIED) .XX = ±.02 [0.05] .XXX = ±.008 [0.20] .XXXX = ±.0008 [0.02] ANGLE = 30.5°		63 Nork Rd. Hawthorne, NJ 07035 Phone: 973-772-5554 Fax: 973-772-5554		PPN: CJD BR: PJD
SHEET 1 OF 1 SIZE B SCALE 10:1 THIRD ANGLE PROJECTION	TITLE: MECHANICAL CONTACT SWITCH			
DATE: 4/26/06 DO NOT SCALE DIMENSIONS	DRAWING NO.: ATM53*V*	REV: A	REV: A	

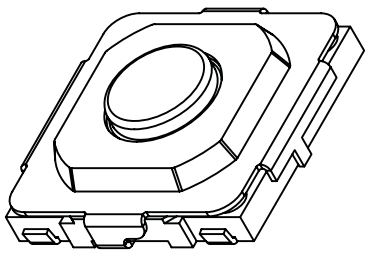
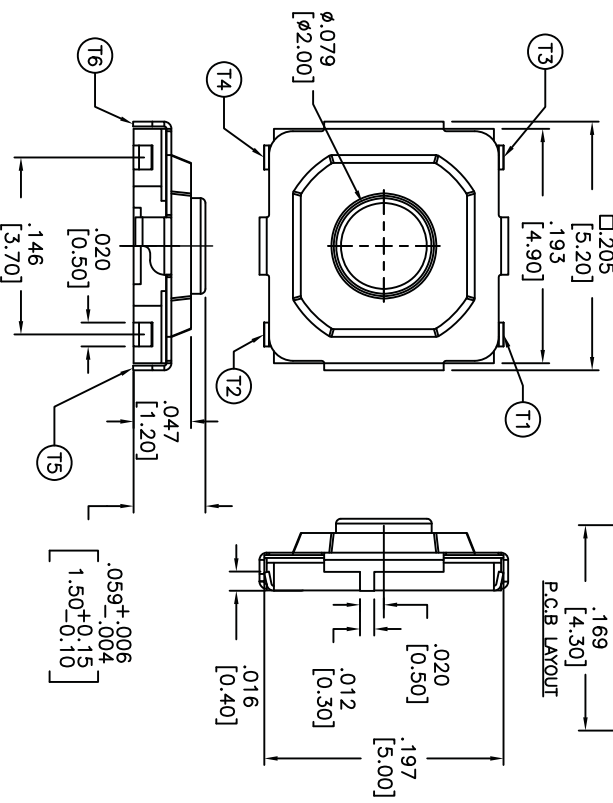
THIS DOCUMENT IS THE PROPERTY OF APEM COMPONENTS AND SHALL NOT BE COPIED, REPRODUCED, DISCLOSED OR USED AS THE BASIS FOR MANUFACTURING OR SALE WITHOUT PERMISSION OF A DULY AUTHORIZED REPRESENTATIVE OF APEM COMPONENTS INC.



CIRCUIT DIAGRAM



PCB LAYOUT



OPERATION FORCE: ATUG53**V* PACKAGE STYLE: T/R=TAPE AND REEL
 3=160gf
 4=260gf
 LEAD FREE

DESCRIPTION: MINIATURE MECHANICAL CONTACT SWITCH WITH "S" TYPE SMT AND GROUNDING TERMINALS.

SPECIFICATIONS:

OPERATION TEMPERATURE RANGE: -25°C TO +70°C
 STORAGE TEMPERATURE RANGE: -30°C TO +80°C
 VIBRATION TEST: PASSES METHOD 201A
 MIL-STD-202F.
 SHOCK TEST: 50G PER METHOD 213B MIL-STD202F.
 ELECTRICAL LIFE: 1,000,000 CYCLES MIN FOR 160gf.
 200,000 CYCLES MIN FOR 260gf.

RATING: 50mA, 12VDC.
 CONTACT RESISTANCE: 100mΩ MAX.
 INSULATION RESISTANCE: 100MΩ MIN. AT 500VDC.
 DIELECTRIC STRENGTH: 250VAC/1 MINUTE.
 STROKE: 0.25 ±0.10mm
 CONTACT ARRANGEMENT: 1POLE 1 THROW.

MATERIALS:

COVER: NICKEL SILVER.
 BASE: HIGH-TEMP. THERMOPLASTIC.
 COLOR: BLACK.
 STEM: BRASS WITH NICKEL PLATING
 CONTACT DISC: STAINLESS STEEL.
 TERMINAL: BRASS WITH SILVER CLADDING.
 TAPE: TEFLON

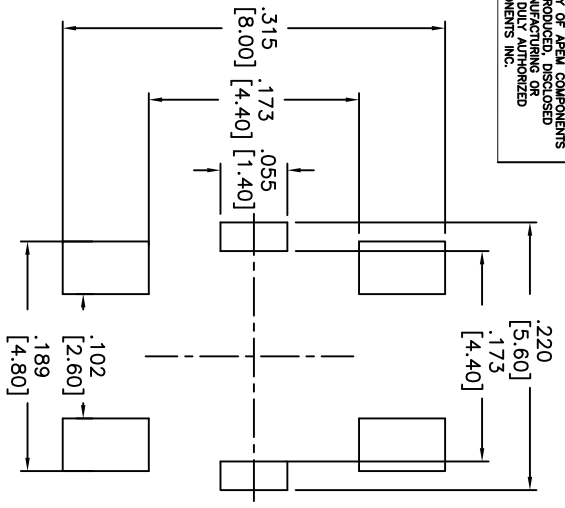
SOLDERING:

HAND SOLDERING: 30 WATT IRON AT 350°C FOR 5 SEC.
 IR REFLOW: 225°C MAX.
 LEAD FREE PROCESS COMPATIBLE
 ROHS COMPLIANT

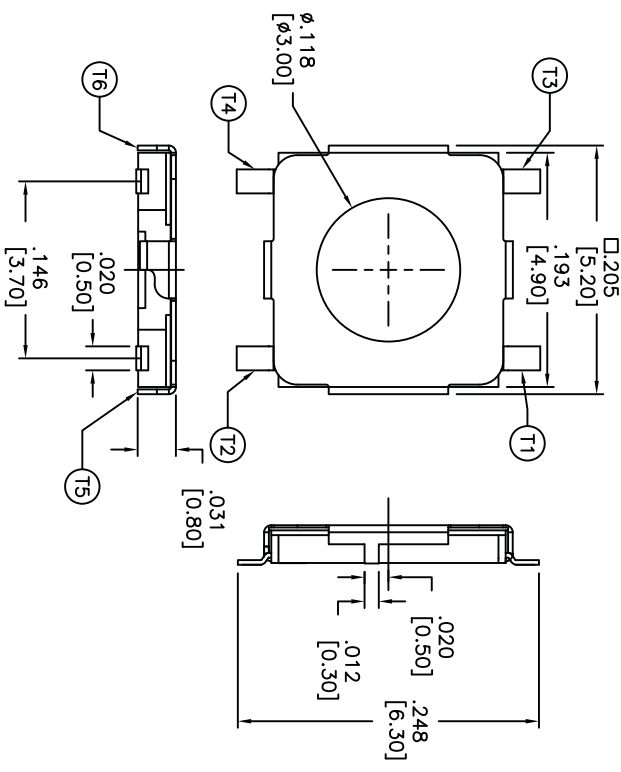
DATE	SYM	REVISION RECORD	DWN.	CK.

<p>9A. INSPECT: DIMENSIONS CRITICAL</p> <p>TOLERANCES (UNLESS OTHERWISE SPECIFIED) .XX = ±0.02 [0.05] .XXX = ±0.008 [0.20] .XXXX = ±0.0008 [0.02] ANGLE = 30.5°</p>	<p>APM APEM COMPONENTS INC. 63 Neck Rd. Haverhill, MA 01830 Tel: 978-372-5554 Fax: 978-372-5554</p>	<p>DRN. CJD BR. BR. PJD</p>
<p>TITLE MECHANICAL CONTACT SWITCH</p>	<p>SHEET 1 OF 1 SIZE B SCALE 10:1</p>	<p>THIRD ANGLE PROJECTION</p>
<p>DATE: 8/11/05</p>	<p>DRAWING NO. ATUG53**V*</p>	<p>REV A</p>

THIS DOCUMENT IS THE PROPERTY OF APEM COMPONENTS AND SHALL NOT BE COPIED, REPRODUCED, DISCLOSED OR SALE WITHOUT PERMISSION OF A DULY AUTHORIZED REPRESENTATIVE OF APEM COMPONENTS INC.

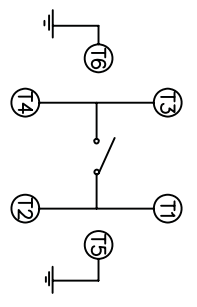
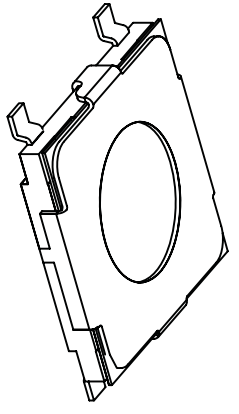


P.C.B. LAYOUT
UNLESS OTHERWISE SPECIFIED
ALL P.C. TOLERANCES ARE ±.002 [0.05]



OPERATION FORCE: ATMG52*V*
2=100gf
3=160gf
4=260gf

PACKAGE STYLE:
T/R=TAPE AND REEL
LEAD FREE



CIRCUIT DIAGRAM

DESCRIPTION: MINIATURE MECHANICAL CONTACT SWITCH WITH SMT, AND GROUNDING TERMINALS.

SPECIFICATIONS:

OPERATION TEMPERATURE RANGE: -25°C TO +70°C
STORAGE TEMPERATURE RANGE: -30°C TO +80°C
VIBRATION TEST: PASSES METHOD 2014 MIL-STD-202F.
SHOCK TEST: 50G PER METHOD 213B MIL-STD-202F.
ELECTRICAL LIFE: 1,000,000 CYCLES MIN FOR 100gf AND 160gf.
200,000 CYCLES MIN FOR 260gf.

RATING: 50mA, 12VDC.
CONTACT RESISTANCE: 100mΩ MAX.
INSULATION RESISTANCE: 100MΩ MIN. AT 500VDC.
DIELECTRIC STRENGTH: 250VAC/1 MINUTE.
CONTACT ARRANGEMENT: 1POLE 1 THROW.

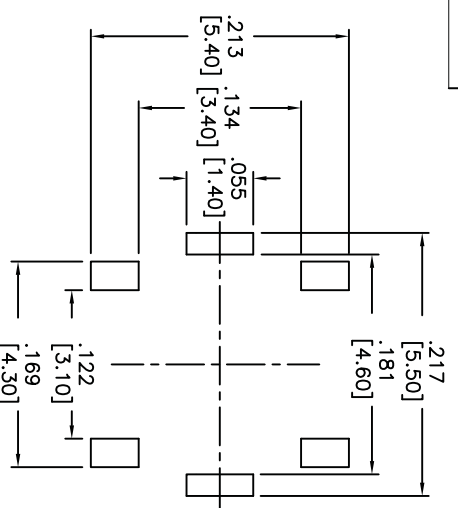
MATERIALS:
COVER: NICKEL SILVER.
BASE: HIGH-TEMP. THERMOPLASTIC.
COLOR, BLACK.
STEM: BRASS WITH NICKEL PLATING
CONTACT DISC: STAINLESS STEEL WITH SILVER CLADDING.
TERMINAL: BRASS WITH SILVER PLATING.
TAPE: TEFLON

SOLDERING:
HAND SOLDERING: 30 WATT IRON AT 350°C FOR 5 SEC.
IR REFLOW: 260°C MAX
LEAD FREE PROCESS COMPATIBLE
ROHS COMPLIANT

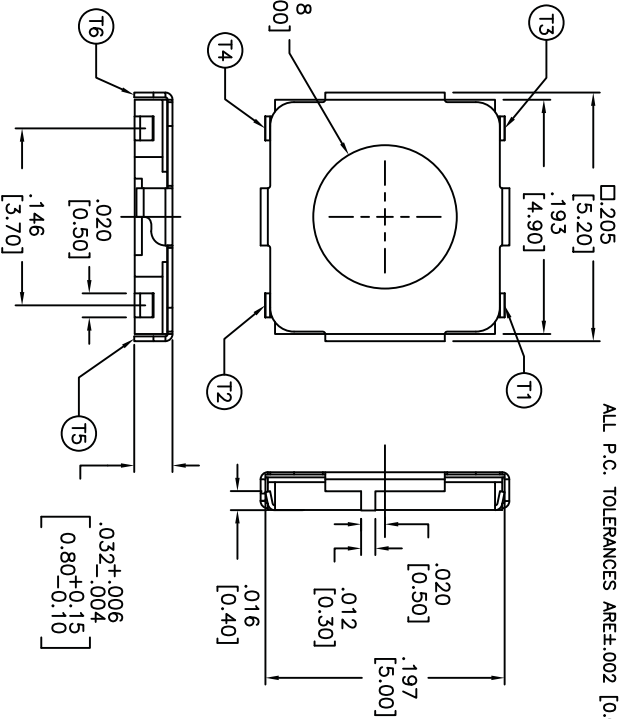
DATE	SYM	REVISION RECORD	DWN.	CK.

Q.A. INSPECT: 		DESIGNER'S INITIAL: DIMENSION		PHN. CJD	
TOLERANCES (UNLESS OTHERWISE SPECIFIED) .XX=±.02[0.05] .XXX=±.008[0.20] .XXXX=±.0008[0.02] ANGLE = 40.5°		 APM 63 NACK RD. 01835 HENRIETTA, MI 48059 TEL: 313-772-5554 FAX: 313-772-5554		BR. PJD	
TITLE MECHANICAL CONTACT SWITCH		SHEET 1 OF 1		SCALE 10:1	
DATE 8/15/05		DRAWING NO. ATMG52*V*		REV A	

THIS DOCUMENT IS THE PROPERTY OF APDM COMPONENTS AND SHALL NOT BE COPIED, REPRODUCED, DISCLOSED OR USED AS THE BASIS FOR MANUFACTURING OR SALE WITHOUT PERMISSION OF A DULY AUTHORIZED REPRESENTATIVE OF APDM COMPONENTS INC.

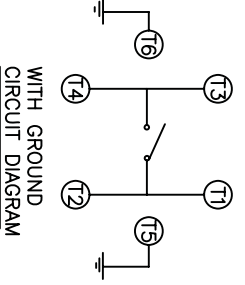
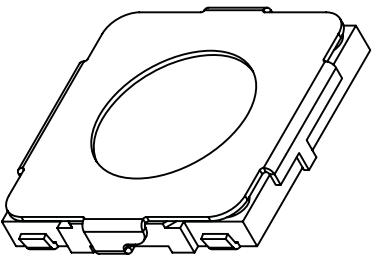


P.C.B LAYOUT
UNLESS OTHERWISE SPECIFIED
ALL P.C. TOLERANCES ARE ±.002 [0.05]



OPERATION FORCE: ATUG52**V*
2 = 100gf
3 = 160gf
4 = 260gf

PACKAGE STYLE: T/R=TAPE AND REEL
LEAD FREE



DESCRIPTION: MINIATURE MECHANICAL CONTACT SWITCH WITH J TYPE SMT AND GROUNDING TERMINALS.

SPECIFICATIONS:
OPERATION TEMPERATURE RANGE: -25°C TO +70°C
STORAGE TEMPERATURE RANGE: -30°C TO +80°C
VIBRATION TEST: PASSES METHOD 201A MIL-STD-202F.
SHOCK TEST: 50G PER METHOD 213B MIL-STD202F.
ELECTRICAL LIFE: 1,000,000 CYCLES MIN FOR 100gf 160gf.
200,000 CYCLES MIN FOR 260gf.
RATING: 50mA, 12VDC.
CONTACT RESISTANCE: 100mΩ MAX.
INSULATION RESISTANCE: 100MΩ MIN. AT 500VDC.
DIELECTRIC STRENGTH: 250VAC/1 MINUTE.
STROKE: 0.25 ±0.06mm
CONTACT ARRANGEMENT: 1POLE 1 THROW.

MATERIALS:
COVER: NICKEL SILVER.
BASE: HIGH-TEMP. THERMOPLASTIC.
COLOR: BLACK.
STEM: BRASS WITH NICKEL PLATING
CONTACT DISC: STAINLESS STEEL WITH SILVER CLADDING.
TERMINAL: BRASS WITH SILVER PLATING.
TAPE: TEFLON

SOLDERING:
HAND SOLDERING: 30 WATT IRON AT 350°C FOR 5 SEC.
IR REFLOW: 260°C MAX.
LEAD FREE PROCESS COMPATIBLE
ROHS COMPLIANT

DATE	SYM	REVISION RECORD	DWN.	CK.

Q.A. INSPECT:		DESIGNATES CRITICAL DIMENSION		TOLERANCES (UNLESS OTHERWISE SPECIFIED)		TITLE		DATE		DRAWING NO.		REV	
APDM		63 Nank. Rd. 01835		X.XX=±0.005		MECHANICAL CONTACT SWITCH		8/11/06		ATUG52**V*		A	
APDM		Tel: 603-885-3534		.XXX=±0.008 [0.20]		THIRD ANGLE PROJECTION							
APDM		Fax: 603-885-3534		.XXX=±0.008 [0.02]		P.D							
APDM		APDM COMPONENTS INC.		ANGLE = 40.5°		P.J.D							

1 2 3 4 5 6 7 8