

Tactile Switches, .138 [3.5] x .236 [6], Through Hole

MATERIAL SPECIFICATIONS:

ContactsStainless/Silver clad plate
 Case MaterialNylon
 Actuator MaterialPBT
 Terminals/Fixed Contacts.....Copper alloy, Silver/Nickel

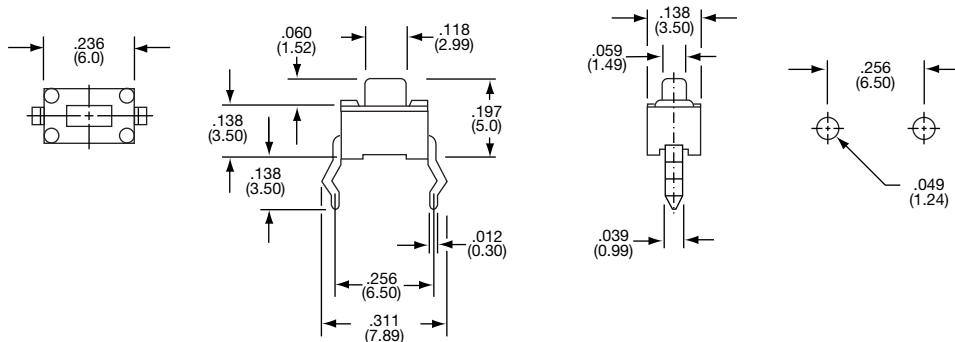
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 500 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuation Force130±50 Grams
 Actuator Travel......010"(.254)
 Life ExpectancyUp to 20,000 Cycles



ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-40°F to +185°F (-40°C to + 85°C)
 Storage Temperature.....-40°F to +185°F (-40°C to + 85°C)
 Solder Heat ResistanceSee Page M3-4

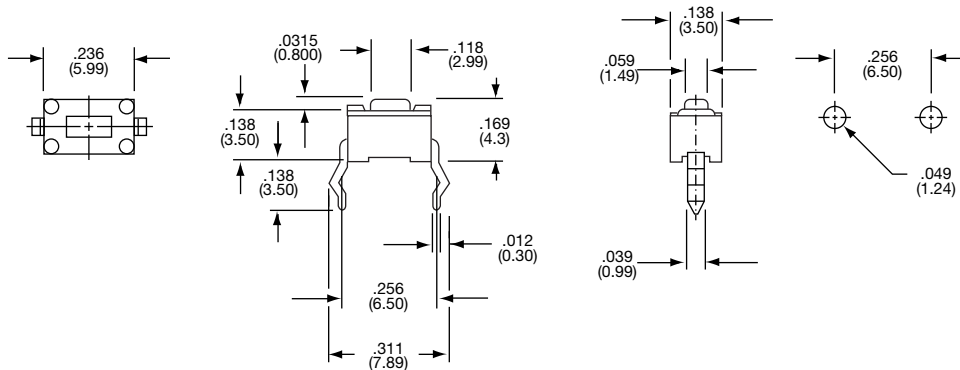
3.5 x 6mm





FSM

Tyco Electronics	Alcoswitch	Type		
1437565-1	FSM	SPST	Off	(On) (On) indicates momentary position.

3.5 x 6mm



FSMC

Tyco Electronics	Alcoswitch	Type		
7-1437565-6	FSMC	SPST	Off	(On) (On) indicates momentary position.

Tactile Switches, .236 [6] x .236 [6], Through Hole

MATERIAL SPECIFICATIONS:

ContactsCopper alloy, silver plate
 Case.....Polyamide
 Actuator ButtonPolyacetal Resin
 FrameSteel, tin plate
 TerminalsCopper alloy, silver plate

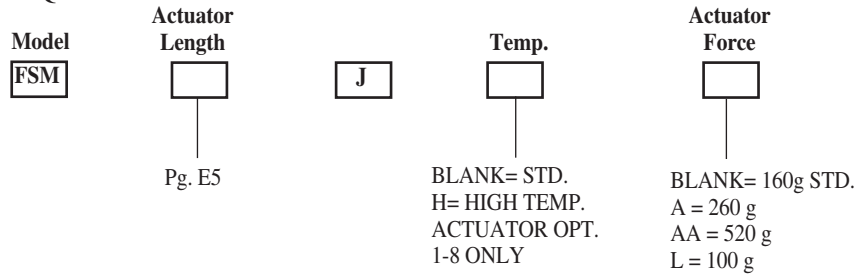
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC
 Actuation ForceSee page E5
 Actuator Travel......012" (0,3)
 Electrostatic Discharge
 w/ESD Ground Terminal5Kv w/no discharge
 Life ExpectancyUp to 100,000 Cycles

ENVIRONMENTAL SPECIFICATIONS

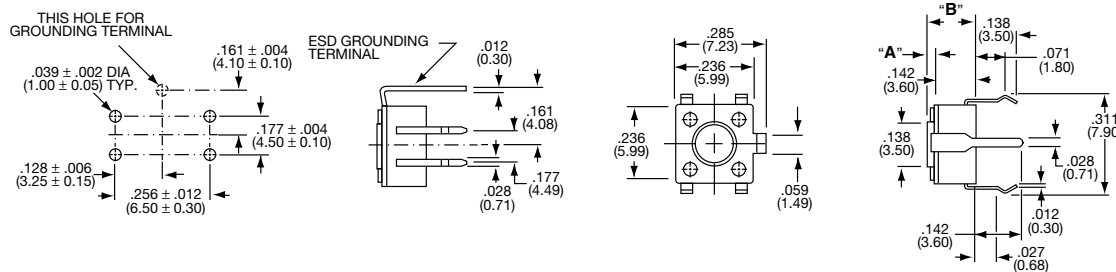
Operating Temperature.....-40°F to +221°F (-40°C to +105°C)
 Storage Temperature.....-40°F to +221°F (-40°C to +105°C)
 Solder Heat ResistanceSee Page M3-4

PART NUMBERING SEQUENCE



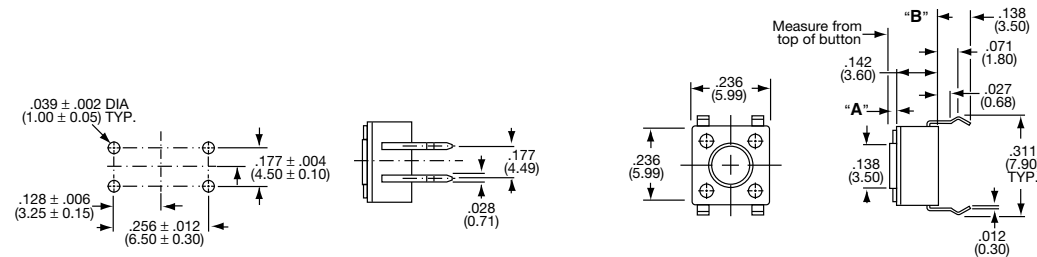
E
FSMJ Series

6 x 6 mm



FSM1J WITH ESD TERMINAL

6 x 6 mm



FSM2J WITHOUT ESD TERMINAL

Tactile Switches, .236 [6] x .236 [6], Through Hole (Continued)

TYCO Electronics Part Number	ALCO Part Number	DIMENSIONS		Actuation Force	Actuator Material	Life Cycles
		A	B			
With Ground Terminal						
1-1437565-5	FSM1J	0.028 (0.70)	0.169 (4.30)	160±50gf	PBT	100,000
—	FSM1JAA	0.028 (0.70)	0.169 (4.30)	260±50gf	PBT	100,000
—	FSM1JAA	0.028 (0.70)	0.169 (4.30)	520±100gf	PBT	100,000
—	FSM1JL	0.028 (0.70)	0.169 (4.30)	100±50gf	PBT	100,000
3-1437565-3	FSM3J	0.055 (1.40)	0.196 (5.00)	160±50gf	PBT	100,000
—	FSM3JA	0.055 (1.40)	0.196 (5.00)	260±50gf	PBT	100,000
—	FSM3JAA	0.055 (1.40)	0.196 (5.00)	520±100gf	PBT	100,000
—	FSM3JL	0.055 (1.40)	0.196 (5.00)	100±50gf	PBT	100,000
4-1437565-4	FSM5J	0.134 (3.40)	0.276 (7.00)	160±50gf	ACETAL	100,000
—	FSM5JA	0.134 (3.40)	0.276 (7.00)	260±50gf	ACETAL	100,000
—	FSM5JAA	0.134 (3.40)	0.276 (7.00)	520±100gf	ACETAL	100,000
—	FSM5JL	0.134 (3.40)	0.276 (7.00)	100±50gf	ACETAL	100,000
5-1437565-1	FSM7J	0.232 (5.90)	0.374 (9.50)	160±50gf	PBT	100,000
—	FSM7JA	0.232 (5.90)	0.374 (9.50)	260±50gf	PBT	100,000
—	FSM7JAA	0.232 (5.90)	0.374 (9.50)	520±100gf	PBT	100,000
—	FSM7JL	0.232 (5.90)	0.374 (9.50)	100±50gf	PBT	100,000
7-1437565-5	FSM9J	0.146 (3.70)	0.287 (7.30)	160±50gf	ACETAL	100,000
—	FSM9JA	0.146 (3.70)	0.287 (7.30)	260±50gf	ACETAL	100,000
—	FSM9JAA	0.146 (3.70)	0.287 (7.30)	520±100gf	ACETAL	100,000
—	FSM9JL	0.146 (3.70)	0.287 (7.30)	100±50gf	ACETAL	100,000
1437565-8	FSM11J	0.173 (4.40)	0.315 (8.00)	160±50gf	ACETAL	100,000
—	FSM11JA	0.173 (4.40)	0.315 (8.00)	260±50gf	ACETAL	100,000
—	FSM11JAA	0.173 (4.40)	0.315 (8.00)	520±100gf	ACETAL	100,000
—	FSM11JL	0.173 (4.40)	0.315 (8.00)	100±50gf	ACETAL	100,000
1-1437565-0	FSM13J	0.370 (9.40)	0.512 (13.00)	160±50gf	ACETAL	100,000
1-1437565-1	FSM13JA	0.370 (9.40)	0.512 (13.00)	260±50gf	ACETAL	100,000
—	FSM13JAA	0.370 (9.40)	0.512 (13.00)	520±100gf	ACETAL	100,000
—	FSM13JL	0.370 (9.40)	0.512 (13.00)	100±50gf	ACETAL	100,000
—	FSM15J	0.527 (13.40)	0.669 (17.00)	160±50gf	ACETAL	100,000
147916-1	FSM15JA	0.527 (13.40)	0.669 (17.00)	260±50gf	ACETAL	100,000
—	FSM15JAA	0.527 (13.40)	0.669 (17.00)	520±100gf	ACETAL	100,000
—	FSM15JL	0.527 (13.40)	0.669 (17.00)	100±50gf	ACETAL	100,000
—	FSM17J	0.193 (4.90)	0.335 (8.51)	160±50gf	ACETAL	100,000
—	FSM17JA	0.193 (4.90)	0.335 (8.51)	260±50gf	ACETAL	100,000
—	FSM17JAA	0.193 (4.90)	0.335 (8.51)	520±100gf	ACETAL	100,000
—	FSM17JL	0.193 (4.90)	0.335 (8.51)	100±50gf	ACETAL	100,000
Without Ground Terminal						
2-1437565-0	FSM2J	0.028 (0.70)	0.169 (4.30)	160±50gf	PBT	100,000
2-1437565-1	FSM2JA	0.028 (0.70)	0.169 (4.30)	260±50gf	PBT	100,000
—	FSM2JAA	0.028 (0.70)	0.169 (4.30)	520±100gf	PBT	100,000
—	FSM2JL	0.028 (0.70)	0.169 (4.30)	100±50gf	PBT	100,000
2-1437565-4	FSM4J	0.055 (1.40)	0.196 (5.00)	160±50gf	PBT	100,000
3-1437565-6	FSM4JA	0.055 (1.40)	0.196 (5.00)	260±50gf	PBT	100,000
3-1437565-7	FSM4JAA	0.055 (1.40)	0.196 (5.00)	520±100gf	PBT	100,000
3-1437565-8	FSM4JL	0.055 (1.40)	0.196 (5.00)	100±50gf	PBT	100,000
4-1437565-5	FSM6J	0.134 (3.40)	0.276 (7.00)	160±50gf	ACETAL	100,000
4-1437565-6	FSM6JA	0.134 (3.40)	0.276 (7.00)	260±50gf	ACETAL	100,000
—	FSM6JAA	0.134 (3.40)	0.276 (7.00)	520±100gf	ACETAL	100,000
—	FSM6JL	0.134 (3.40)	0.276 (7.00)	100±50gf	ACETAL	100,000
5-1437565-2	FSM8J	0.232 (5.90)	0.374 (9.50)	160±50gf	PBT	100,000
5-1437565-3	FSM8JA	0.232 (5.90)	0.374 (9.50)	260±50gf	PBT	100,000
5-1437565-4	FSM8JAA	0.232 (5.90)	0.374 (9.50)	520±100gf	PBT	100,000
1571376-1	FSM8JL	0.232 (5.90)	0.374 (9.50)	100±50gf	PBT	100,000
1437565-7	FSM10J	0.146 (3.70)	0.287 (7.30)	160±50gf	ACETAL	100,000
—	FSM10JA	0.146 (3.70)	0.287 (7.30)	260±50gf	ACETAL	100,000
—	FSM10JAA	0.146 (3.70)	0.287 (7.30)	520±100gf	ACETAL	100,000
—	FSM10JL	0.146 (3.70)	0.287 (7.30)	100±50gf	ACETAL	100,000
1437565-9	FSM12J	0.173 (4.40)	0.315 (8.00)	160±50gf	ACETAL	100,000
—	FSM12JA	0.173 (4.40)	0.315 (8.00)	260±50gf	ACETAL	100,000
—	FSM12JAA	0.173 (4.40)	0.315 (8.00)	520±100gf	ACETAL	100,000
—	FSM12JL	0.173 (4.40)	0.315 (8.00)	100±50gf	ACETAL	100,000
1-1437565-2	FSM14J	0.370 (9.40)	0.512 (13.00)	160±50gf	ACETAL	100,000
—	FSM14JA	0.370 (9.40)	0.512 (13.00)	260±50gf	ACETAL	100,000
—	FSM14JAA	0.370 (9.40)	0.512 (13.00)	520±100gf	ACETAL	100,000
—	FSM14JL	0.370 (9.40)	0.512 (13.00)	100±50gf	ACETAL	100,000
1-1437565-3	FSM16J	0.527 (13.40)	0.669 (17.00)	160±50gf	ACETAL	100,000
—	FSM16JA	0.527 (13.40)	0.669 (17.00)	260±50gf	ACETAL	100,000
—	FSM16JAA	0.527 (13.40)	0.669 (17.00)	520±100gf	ACETAL	100,000
—	FSM16JL	0.527 (13.40)	0.669 (17.00)	100±50gf	ACETAL	100,000
1-1437565-4	FSM18J	0.193 (4.90)	0.335 (8.51)	160±50gf	ACETAL	100,000
—	FSM18JA	0.193 (4.90)	0.335 (8.51)	260±50gf	ACETAL	100,000
—	FSM18JAA	0.193 (4.90)	0.335 (8.51)	520±100gf	ACETAL	100,000
—	FSM18JL	0.193 (4.90)	0.335 (8.51)	100±50gf	ACETAL	100,000



Tactile Switches, .236 [6] x .236 [6], Radial Tape

MATERIAL SPECIFICATIONS:

ContactsCopper alloy, silver clad plate
 Case.....Nylon
 Actuator ButtonPBT
 Cover.....Steel, tin plate
 TerminalsCopper alloy, silver clad plate

TYPICAL PERFORMANCE CHARACTERISTICS:

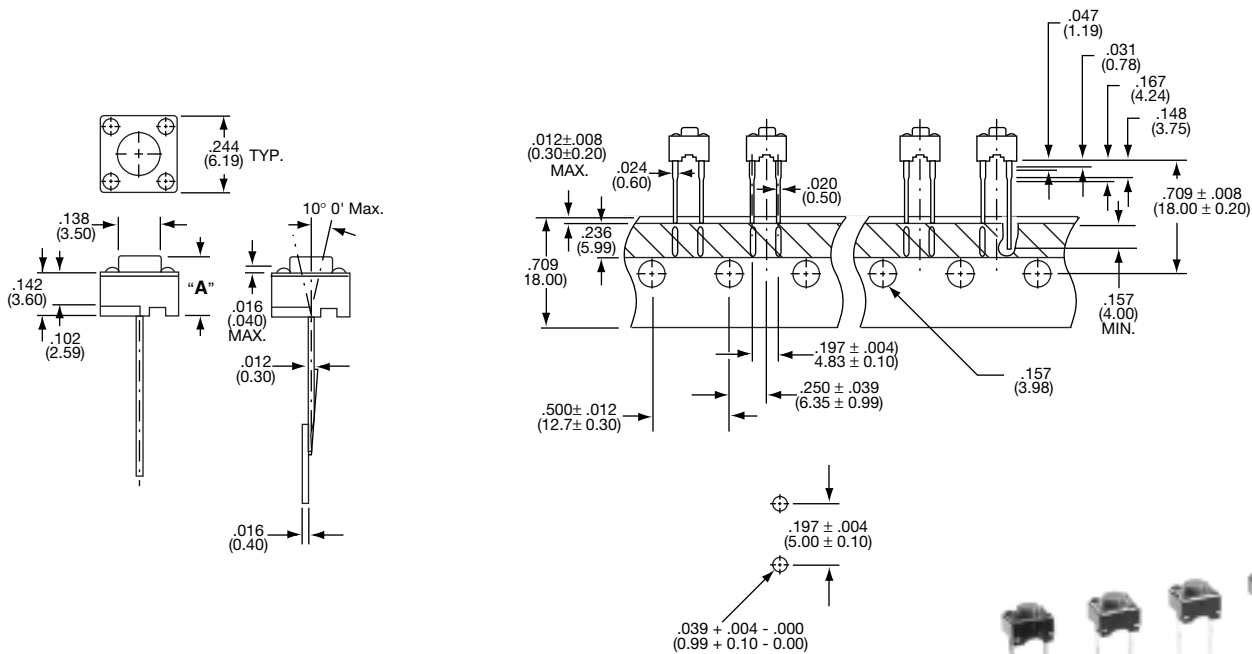
Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuation ForceSee Below
 Actuator Travel......010" (.254)
 Life ExpectancyUp to 100,000 Cycles

ENVIRONMENTAL SPECIFICATIONS

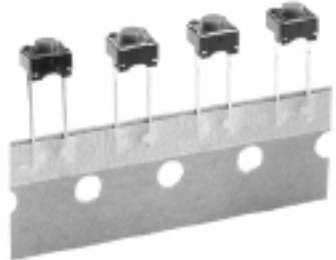
Operating Temperature..... -40°F to +221°F (-40°C to +105°C)
 Storage Temperature.....-40°F to +221°F (-40°C to +105°C)
 Solder Heat ResistanceSee Page M3-4

E

FSMJRT Series



Tyco Electronics	Alcoswitch	Dimension A	Actuation Force
2-1437565-6	FSM2JRT	4.3 (.169)	160 +/-50 gm
2-1437565-2	FSM2JART	4.3 (.169)	260 +/-75 gm
4-1437565-0	FSM4JRT	5.0 (.197)	160 +/-50 gm
147997-1	FSM4JART	5.0 (.197)	260 +/-75 gm
4-1437565-8	FSM6JRT	7.0 (.276)	160 +/-50 gm
1571402-1	FSM6JART	7.0 (.276)	260 +/-75 gm
147694-1	FSM8JRT	9.5 (.374)	160 +/-50 gm
147871-1	FSM8JART	9.5 (.374)	260 +/-75 gm
1571010-1	FSM14JRT	13.0 (.512)	160 +/-50 gm



FSM4JRT

Tactile Switches, .236 [6] x .236 [6], Right Angle

MATERIAL SPECIFICATIONS:

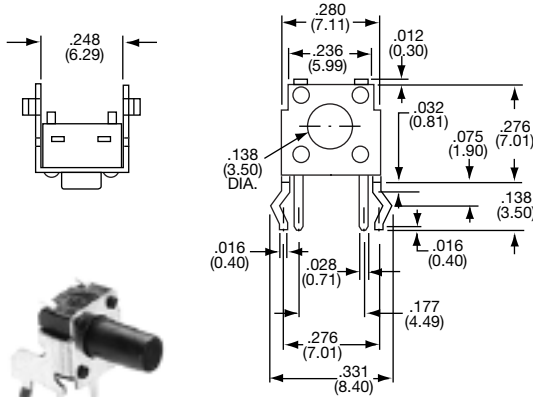
ContactsCopper alloy, silver clad plate
 Case.....PBT
 Actuator ButtonNylon/acetal
 FrameSteel, tin plate
 TerminalsCopper alloy, silver plate

TYPICAL PERFORMANCE CHARACTERISTICS:

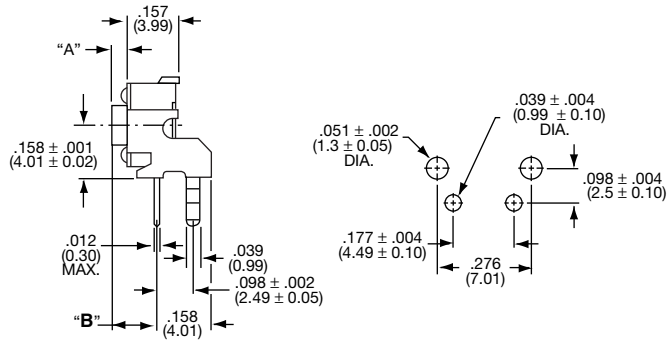
Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuation ForceSee Below
 Actuator Travel......012" (0,3)
 Life ExpectancyUp to 100,000 Cycles
 Up to 50,000 Cycles 520 GF (AA option)

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature.....-4°F to +185°F (-20°C to +85°C)
 Storage Temperature.....-22°F to +185°F (-30°C to +85°C)
 Solder Heat Resistance.....See Page M3-4



FSMRA7J



Type		
SPST	Off	(On)

(On) indicates momentary position.

Tyco Electronics	Alcoswitch	Dim. A	Dim B
8-1437565-4	FSMRA 1J	.022" (0,55)	.124" (3,15)
1571386-2	FSMRA 1JL	.022" (0,55)	.124" (3,15)
8-1437565-5	FSMRA 2J	.049" (1,25)	.152" (3,86)
1571386-1	FSMRA 2JL	.049" (1,25)	.152" (3,86)
8-1437565-8	FSMRA 2JA	.049" (1,25)	.152" (3,86)
8-1437565-9	FSMRA 2JH	.049" (1,25)	.152" (3,86)
9-1437565-0	FSMRA 3J	.128" (3,25)	.230" (5,84)
1571386-3	FSMRA 3JL	.128" (3,25)	.230" (5,84)
9-1437565-1	FSMRA 4J	.226" (5,74)	.329" (8,36)
1571819-1	FSMRA 4JA	.226" (5,74)	.329" (8,36)
1571386-4	FSMRA 4JL	.226" (5,74)	.329" (8,36)
9-1437565-2	FSMRA 5J	.140" (3,55)	.242" (6,15)
1571386-5	FSMRA 5JL	.140" (3,55)	.242" (6,15)
9-1437565-3	FSMRA 6J	.167" (4,25)	.269" (6,85)
1571386-6	FSMRA 6JL	.167" (4,25)	.269" (6,85)
9-1437565-5	FSMRA 7J	.364" (9,25)	.467" (11,86)
1571386-7	FSMRA 7JL	.364" (9,25)	.467" (11,86)
1571419-1	FSMRA 8J	.522" (13,26)	.624" (15,85)
1571386-8	FSMRA 8JL	.522" (13,26)	.624" (15,85)

PART NUMBERING SEQUENCE

Model	Actuator Length	Temperature	Actuation Force
FSMRA			
	J		
ACTUATOR LENGTH DIM "A"	SWITCH HEIGHT DIM "B"	BLANK = STD. TEMP. H = HIGH TEMP.	BLANK = 160 g (STD.) A = 260 g (OPT.) AA = 520 g (OPT.) L = 100 g (OPT.)
.022" (0,56)	.124" (3,15)		
.049" (1,24)	.152" (3,86)		
.128" (3,25)	.230" (5,84)		
.226" (5,74)	.329" (8,36)		
.140" (3,55)	.242" (6,15)		
.167" (4,24)	.269" (6,85)		
.364" (9,24)	.467" (11,86)		
.522" (13,26)	.624" (15,85)		

MATERIAL: CASE, PPS
ACTUATOR, PPS
(ACTUATOR OPTIONS 1 - 2)

CONSULT FACTORY FOR OTHER OPTIONS

Tactile Switches, .236 [6] x .236 [6], Square Button, Straight or Right Angle

MATERIAL SPECIFICATIONS:

ContactsCopper alloy, silver clad plate
 Case.....Nylon
 Actuator ButtonPolyacetal Resin
 Cover.....Pet film
 TerminalsCopper alloy, silver plate
 Frame (R/A)Steel, tin plate

TYPICAL PERFORMANCE CHARACTERISTICS:

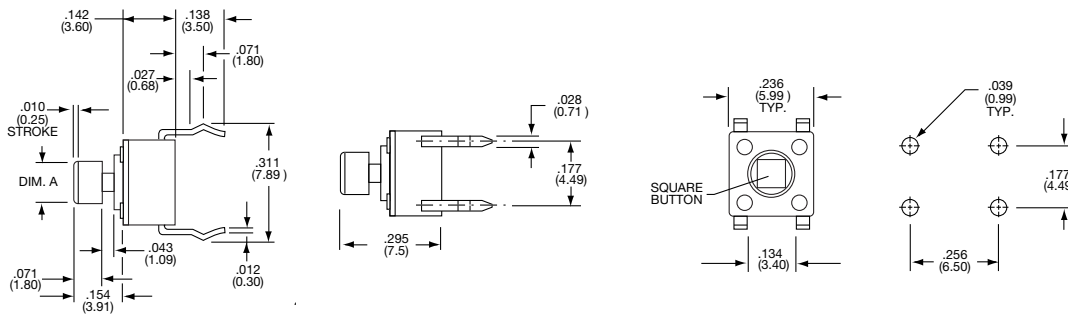
Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms Max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuation Force100 and 160 ±50 Grams
 Actuator Travel......010"(.254)
 Life ExpectancyUp to 100,000 Cycles

ENVIRONMENTAL SPECIFICATIONS



Operating Temperature..... -4°F to +185°F (-20°C to +85°C)
 Storage Temperature.....-22°F to +185°F (-30°C to +85°C)
 Solder Heat ResistanceSee Page M3-4

E
FSMCD & FSMRACD Series

6 x 6 mm

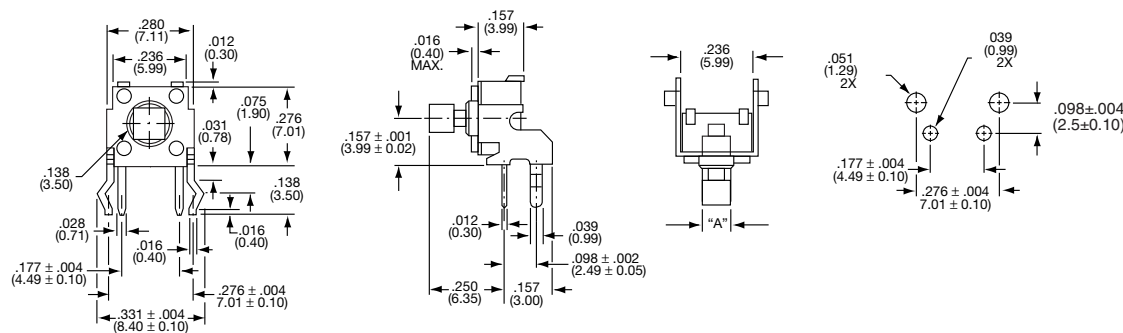


FSMCDA

Tyco Electronics	Alcoswitch	Dim. A	Type			Force
7-1437565-8	FSMCD	.095 (2,42)	SPST	Off	(On)	100±50g
7-1437565-9	FSMCDA	.110 (2,80)	SPST	Off	(On)	160±50g

(On) indicates momentary position.

6 x 6 mm



FSMRACDA

Tyco Electronics	Alcoswitch	Dim. A	Force
9-1437565-9	FSMRACD	.095 (2,42)	100±50g
1437566-1	FSMRACDA	.110 (2,80)	160±50g

E8

Catalog 1308390
 Issued 9-04

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in parentheses or brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
 Canada: 1-905-470-4425
 Mexico: 01-800-733-8926
 C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
 Hong Kong: 852-2735-1628
 Japan: 81-44-844-8013
 UK: 44-141-810-8967

Tactile Switches, .138 [3.5] x .236 [6], Surface Mount

MATERIAL SPECIFICATIONS:

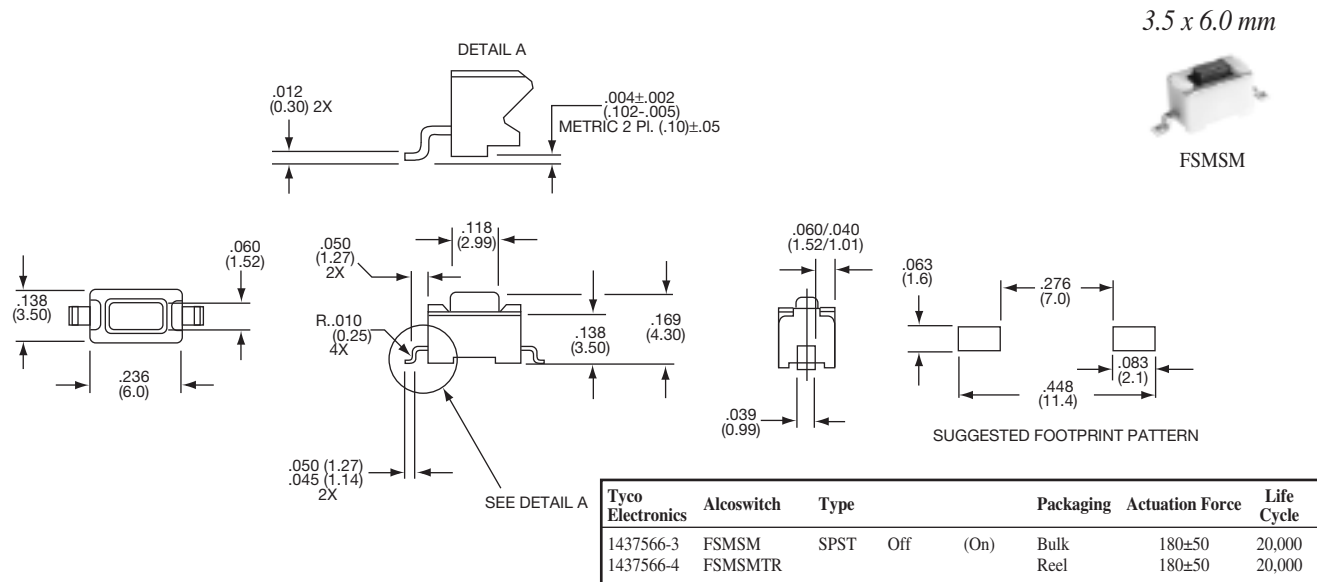
ContactsStainless steel, silver clad plate
 Case MaterialFSMSM: PPS
 Actuator MaterialFSMSM: Nylon
 FSMJM: PPS
 TerminalsCopper alloy, silver plate or tin plate
 Cover.....Stainless steel

TYPICAL PERFORMANCE CHARACTERISTICS:

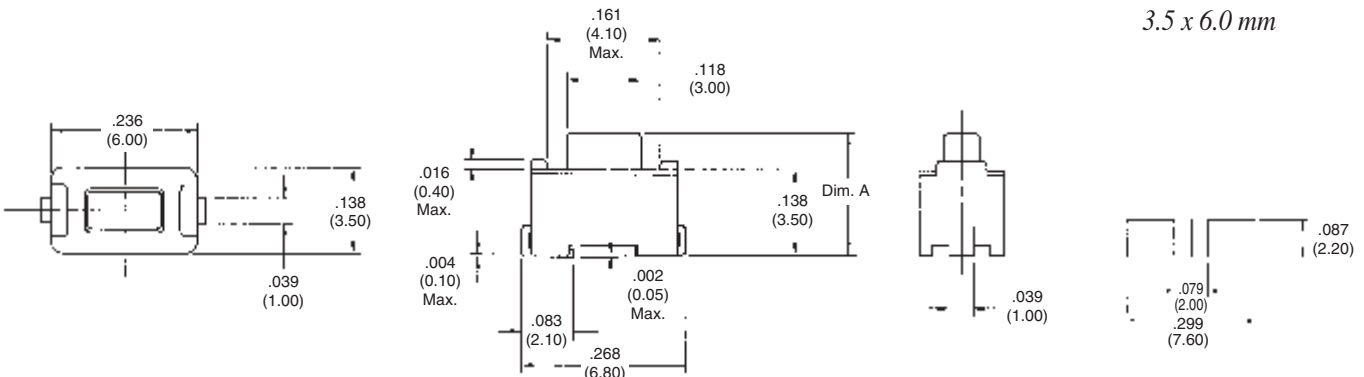
Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 500 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuator Travel......010"(.254)
 Life Expectancy20,000-40,000 Cycles

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-40°F to +185°F (-40°C to +85°C)
 Storage Temperature.....-40°F to +185°F (-40°C to +85°C)
 Solder Heat ResistanceFSMSM IR Soldering EIA-364-56,
 Procedure 5 Level 1, 215° C
 FSMJM IR Soldering per EIA 364-56
 Procedure 5, level 2, 464°F (240°C)



(On) indicates momentary position.



Tyco Electronics	Alcoswitch	Type	Dim. A	Actuation Force	Packaging	Life Cycle
147873-1	FSMJM5.0ATR	SPST	.197 (5.00)	180±50	Reel	40,000
147873-2	FSMJM4.3ATR	SPST	.169 (4.30)	180±50	Reel	40,000
147873-3	FSMJM3.5ATR	SPST	.138 (3.50)	180±50	Reel	40,000
147942-1	FSMJM4.3	SPST	.169 (4.30)	130±50	Bulk	40,000
147942-2	FSMJM4.3TR	SPST	.169 (4.30)	130±50	Reel	40,000

Tactile Switches, .236 [6] x .236 [6], Surface Mount

MATERIAL SPECIFICATIONS:

ContactsCopper alloy, silver plate
 Case.....PPS
 Actuator ButtonPPS
 Cover.....Steel, tin plate
 TerminalsCopper alloy, silver plate

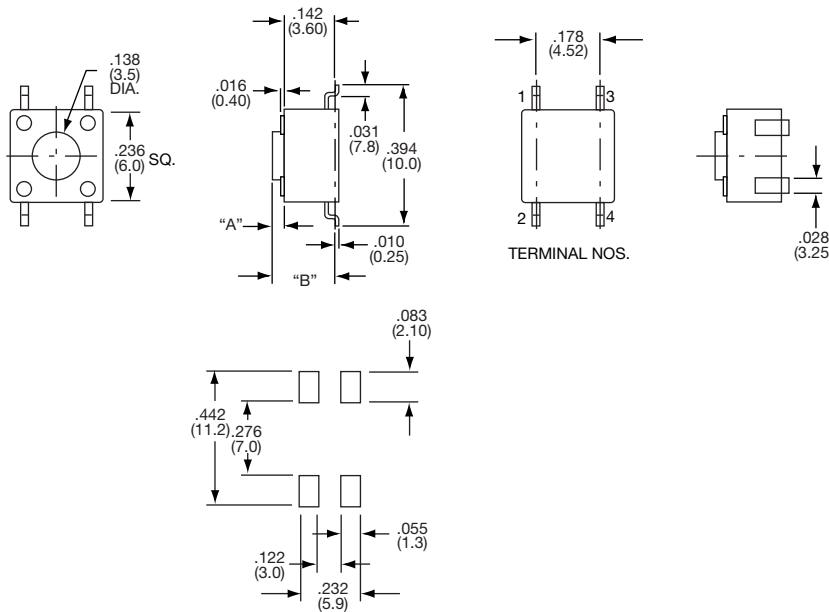
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuation ForceSee Below
 Actuator Travel......010"(.254)
 Life ExpectancyUp to 100,000 Cycles

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature.....-4°F to +185°F (-20°C to +85°C)
 Storage Temperature.....-22°F to +185°F (-30°C to +85°C)
 Solder Heat ResistanceIR Soldering EIA-364-56
 Procedure 5 Level 3, 500°F (260°C)

6 x 6 mm



E
FSMJ SMA Series

Bulk Pack Part Number		Tape & Reel Part Number		Actuator Length	Switch Height	Actuation Force
Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Dimension A	Dimension B	
2-1437565-7	FSM2JSMA	3-1437565-0	FSM2JSMATR	.028 (0.70)	.169 (4.30)	160 ± 50 grams
4-1437565-1	FSM4JSMA	4-1437565-2	FSM4JSMATR	.055 (1.40)	.196 (5.00)	160 ± 50 grams
4-1437565-9	FSM6JSMA	5-1437565-0	FSM6JSMATR	.134 (3.40)	.276 (7.00)	160 ± 50 grams
2-1437565-8	FSM2JSMAA	2-1437565-9	FSM2JSMATR	.028 (0.70)	.169 (4.30)	260 ± 50 grams
1571563-1	FSM4JSML	1571563-2	FSM4JSMLTR	.055 (1.40)	.196 (5.00)	100 ± 50 grams
1571563-3	FSM4JSMAA	1571563-4	FSM4JSMATR	.055 (1.40)	.196 (5.00)	260 ± 50 grams
—	FSM6JSMAA	—	FSM6JSMATR	.134 (3.40)	.276 (7.00)	260 ± 50 grams
3-1437566-8	FSM8JSMA	—	FSM8JSMATR	.232 (5.90)	.374 (9.50)	260 ± 50 grams
1571527-1	FSM2JSML	1571527-2	FSM2JSMLTR	.028 (0.70)	.169 (4.30)	100 ± 50 grams