

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

**MATERIAL SPECIFICATIONS:**

Contacts .....Stainless/Silver clad plate  
 Case Material .....Nylon  
 Actuator Material .....PBT  
 Terminals/Fixed Contacts.....Copper alloy, Silver/Nickel

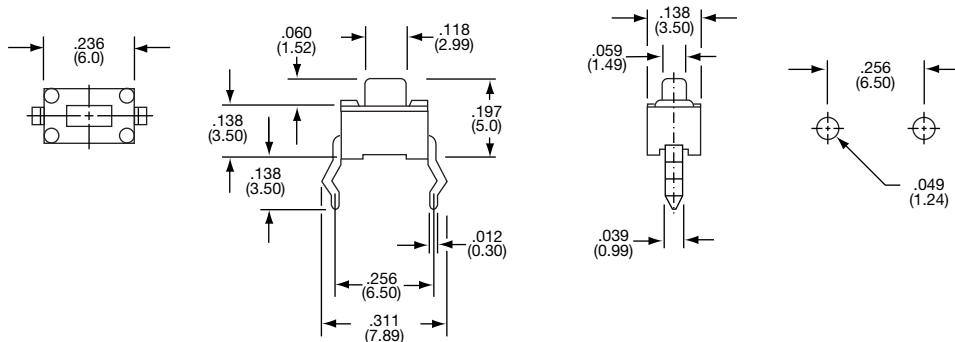
**TYPICAL PERFORMANCE CHARACTERISTICS:**

Contact Rating .....50 mA @ 12 VDC  
 Initial Contact Resistance .....100 Milliohms max.  
 Insulation Resistance .....100 Megohms min. @ 500 VDC  
 Dielectric Strength .....500 VAC for 1 minute  
 Actuation Force .....130±50 Grams  
 Actuator Travel......010"(.254)  
 Life Expectancy .....Up 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 Resistance .....See Page M3-4

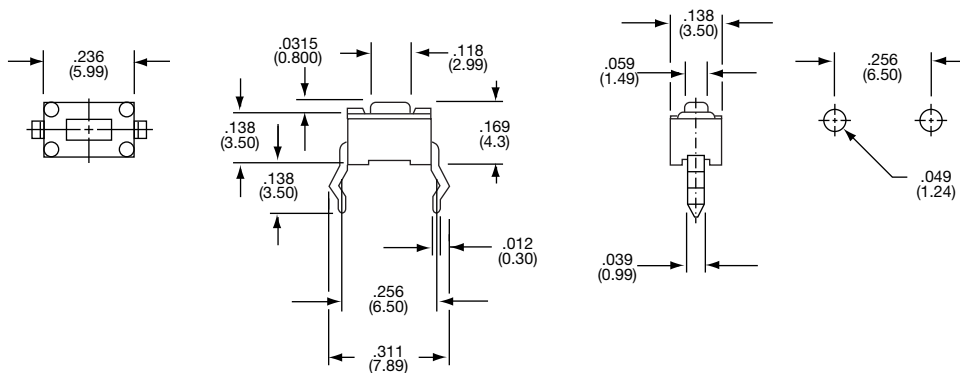
3.5 x 6mm





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:**

Contacts .....Copper alloy, silver plate  
 Case.....Polyamide  
 Actuator Button .....Polyacetal Resin  
 Frame .....Steel, tin plate  
 Terminals .....Copper alloy, silver plate

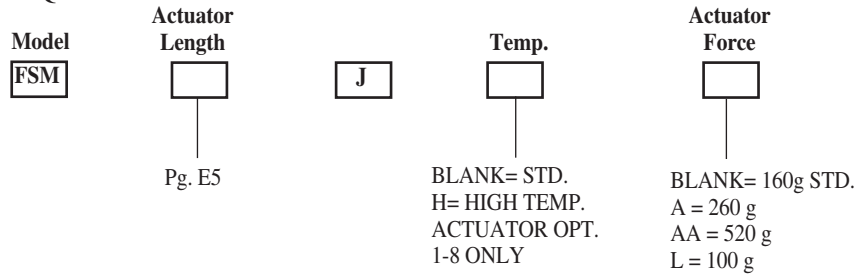
**TYPICAL PERFORMANCE CHARACTERISTICS:**

Contact Rating .....50 mA @ 12 VDC  
 Initial Contact Resistance .....100 Milliohms max.  
 Insulation Resistance .....100 Megohms min. @ 100 VDC  
 Dielectric Strength .....500 VAC  
 Actuation Force .....See page E5  
 Actuator Travel......012" (0,3)  
 Electrostatic Discharge  
 w/ESD Ground Terminal .....5Kv w/no discharge  
 Life Expectancy .....Up to 100,000 Cycles

**ENVIRONMENTAL SPECIFICATIONS**

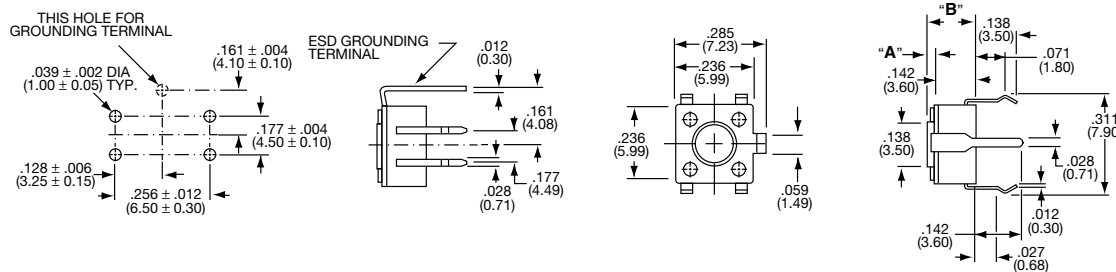
Operating Temperature.....-40°F to +221°F (-40°C to +105°C)  
 Storage Temperature.....-40°F to +221°F (-40°C to +105°C)  
 Solder Heat Resistance .....See Page M3-4

**PART NUMBERING SEQUENCE**



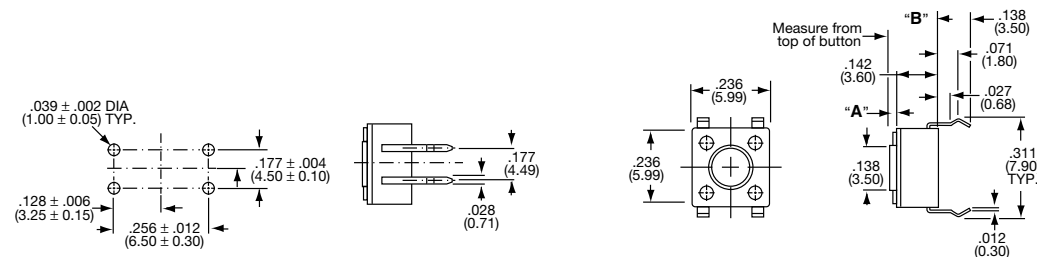
**E**  
FSMJ Series

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			
<b>With Ground Terminal</b>						
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
<b>Without Ground Terminal</b>						
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:**

Contacts .....Copper alloy, silver clad plate  
 Case.....Nylon  
 Actuator Button .....PBT  
 Cover.....Steel, tin plate  
 Terminals .....Copper alloy, silver clad plate

**TYPICAL PERFORMANCE CHARACTERISTICS:**

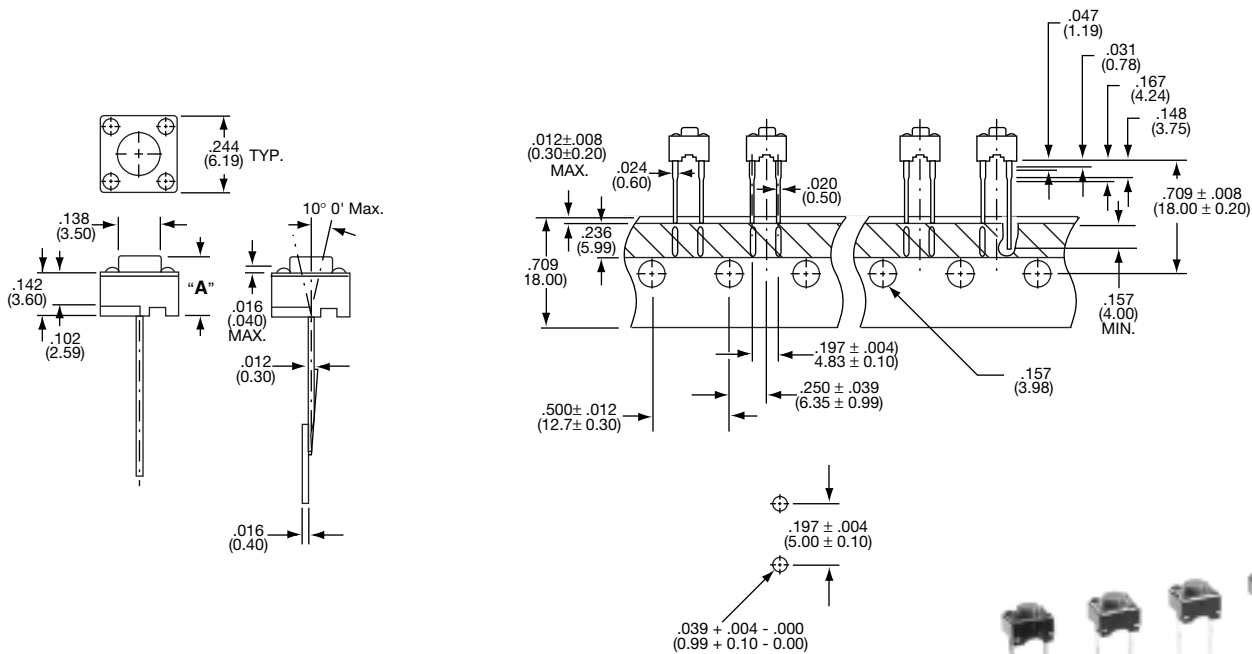
Contact Rating .....50 mA @ 12 VDC  
 Initial Contact Resistance .....100 Milliohms max.  
 Insulation Resistance .....100 Megohms min. @ 100 VDC  
 Dielectric Strength .....500 VAC for 1 minute  
 Actuation Force .....See Below  
 Actuator Travel......010" (.254)  
 Life Expectancy .....Up to 100,000 Cycles

**ENVIRONMENTAL SPECIFICATIONS**

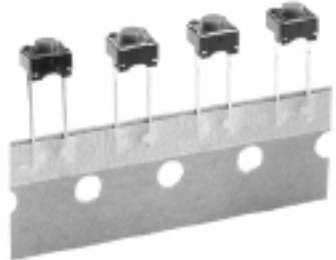
Operating Temperature..... -40°F to +221°F (-40°C to +105°C)  
 Storage Temperature.....-40°F to +221°F (-40°C to +105°C)  
 Solder Heat Resistance .....See Page M3-4

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:**

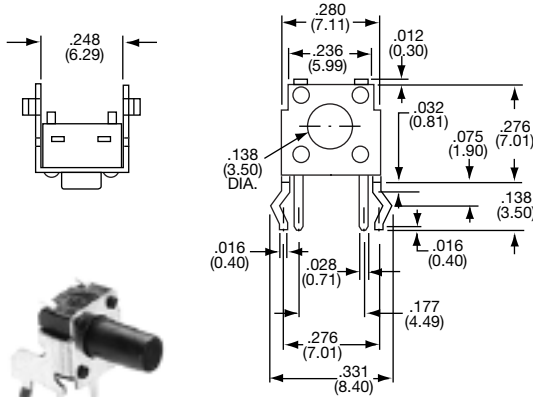
Contacts .....Copper alloy, silver clad plate  
 Case.....PBT  
 Actuator Button .....Nylon/acetal  
 Frame .....Steel, tin plate  
 Terminals .....Copper alloy, silver plate

**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

**TYPICAL PERFORMANCE CHARACTERISTICS:**

Contact Rating .....50 mA @ 12 VDC  
 Initial Contact Resistance .....100 Milliohms max.  
 Insulation Resistance .....100 Megohms min. @ 100 VDC  
 Dielectric Strength .....500 VAC for 1 minute  
 Actuation Force .....See Below  
 Actuator Travel......012" (0,3)  
 Life Expectancy .....Up to 100,000 Cycles  
 Up to 50,000 Cycles 520 GF (AA option)



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**

<b>Model</b>	<b>Actuator Length</b>	<b>Temperature</b>	<b>Actuation Force</b>
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)	1		
.049" (1,24)	2		
.128" (3,25)	3		
.226" (5,74)	4		
.140" (3,55)	5		
.167" (4,24)	6		
.364" (9,24)	7		
.522" (13,26)	8		

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:**

Contacts .....Copper alloy, silver clad plate  
 Case.....Nylon  
 Actuator Button .....Polyacetal Resin  
 Cover.....Pet film  
 Terminals .....Copper alloy, silver plate  
 Frame (R/A) .....Steel, tin plate

**TYPICAL PERFORMANCE CHARACTERISTICS:**

Contact Rating .....50 mA @ 12 VDC  
 Initial Contact Resistance .....100 Milliohms Max.  
 Insulation Resistance .....100 Megohms min. @ 100 VDC  
 Dielectric Strength .....500 VAC for 1 minute  
 Actuation Force .....100 and 160 ±50 Grams  
 Actuator Travel......010"(.254)  
 Life Expectancy .....Up to 100,000 Cycles

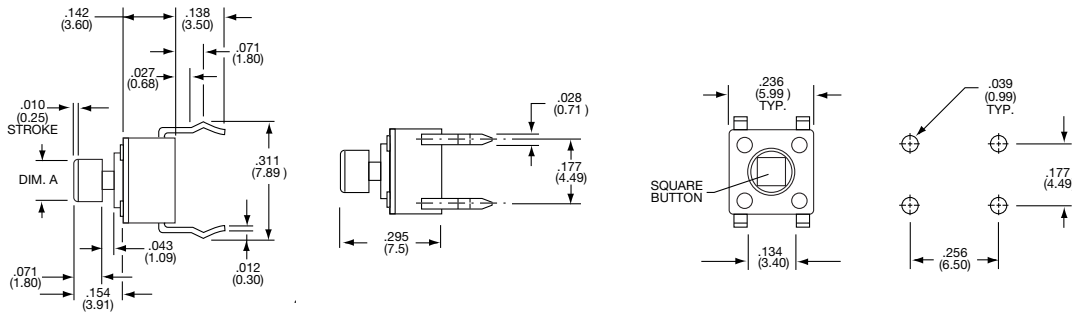
**ENVIRONMENTAL SPECIFICATIONS**

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 Resistance .....See Page M3-4

6 x 6 mm



FSMCDA



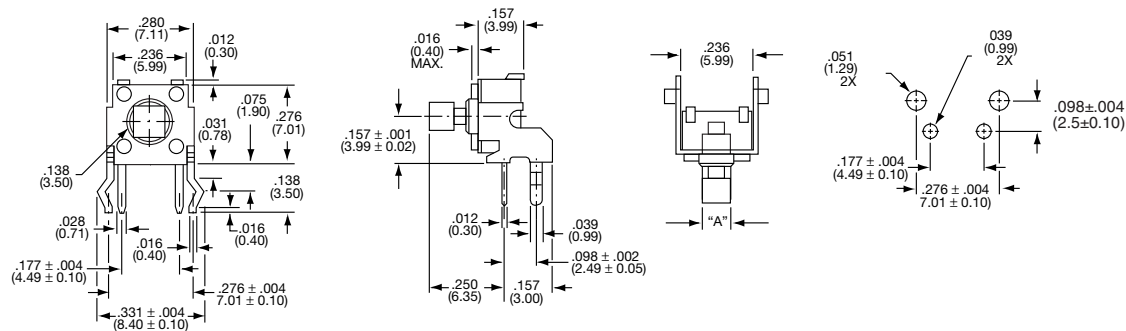
Tyco Electronics	Alcoswitch	Dim. A	Type			Force
7-1437565-8	FSMCD	.095 (2,42)	SPST	Off	(On)	100±50g
7-1437565-9	FSMCDA	.110 (2,80)	SPST	Off	(On)	160±50g

(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

E  
FSMCD & FSMRACD Series

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

**MATERIAL SPECIFICATIONS:**

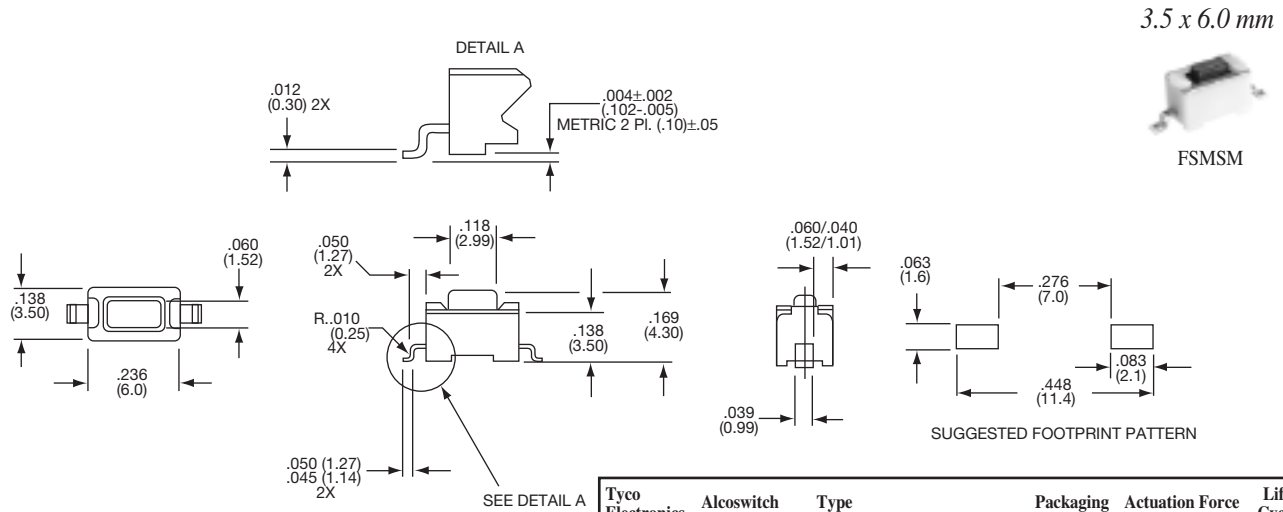
Contacts .....Stainless steel, silver clad plate  
 Case Material .....FSMSM: PPS  
 Actuator Material .....FSMSM: Nylon  
 FSMJM: PPS  
 Terminals .....Copper alloy, silver plate or tin plate  
 Cover.....Stainless steel

**TYPICAL PERFORMANCE CHARACTERISTICS:**

Contact Rating .....50 mA @ 12 VDC  
 Initial Contact Resistance .....100 Milliohms max.  
 Insulation Resistance .....100 Megohms min. @ 500 VDC  
 Dielectric Strength .....500 VAC for 1 minute  
 Actuator Travel......010"(.254)  
 Life Expectancy .....20,000-40,000 Cycles

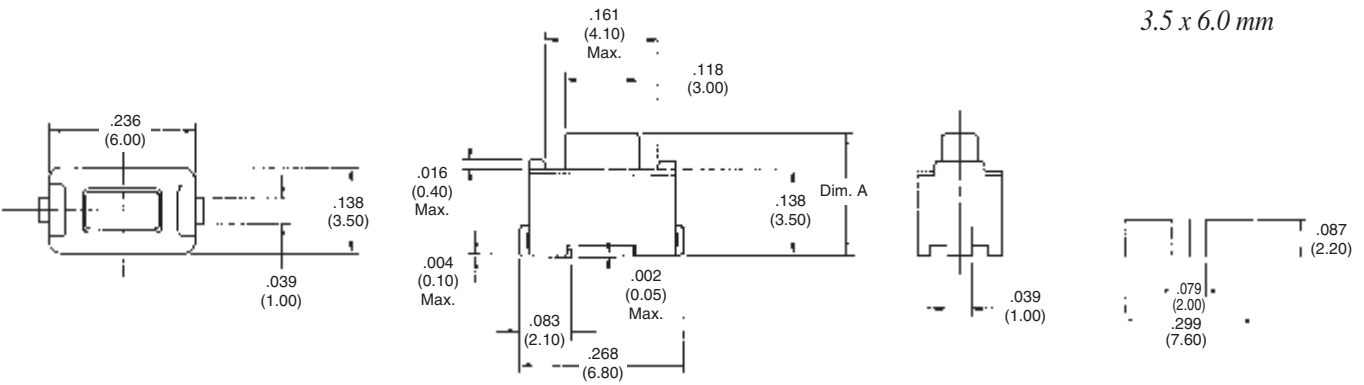
**ENVIRONMENTAL SPECIFICATIONS:**

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 Resistance .....FSMSM 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)



Tyco Electronics	Alcoswitch	Type	Actuation Force	Life Cycle
1437566-3	FSMSM	SPST Off (On)	180±50	20,000
1437566-4	FSMSMTR		180±50	20,000

(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:**

Contacts .....Copper alloy, silver plate  
 Case.....PPS  
 Actuator Button .....PPS  
 Cover.....Steel, tin plate  
 Terminals .....Copper alloy, silver plate

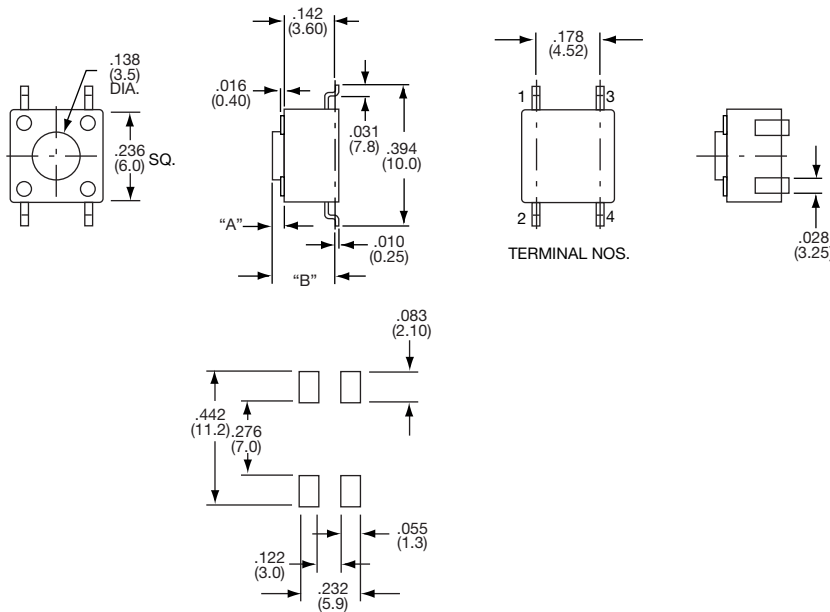
**TYPICAL PERFORMANCE CHARACTERISTICS:**

Contact Rating .....50 mA @ 12 VDC  
 Initial Contact Resistance .....100 Milliohms max.  
 Insulation Resistance .....100 Megohms min. @ 100 VDC  
 Dielectric Strength .....500 VAC for 1 minute  
 Actuation Force .....See Below  
 Actuator Travel......010"(.254)  
 Life Expectancy .....Up 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 Resistance .....IR Soldering EIA-364-56  
 Procedure 5 Level 3, 500°F (260°C)

6 x 6 mm



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	FSM2JSMAATR	.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	FSM4JSMAATR	.055 (1.40)	.196 (5.00)	260 ± 50 grams
—	FSM6JSMAA	—	FSM6JSMAATR	.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

E  
FSMJ SMA Series