

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

**MATERIAL SPECIFICATIONS:**

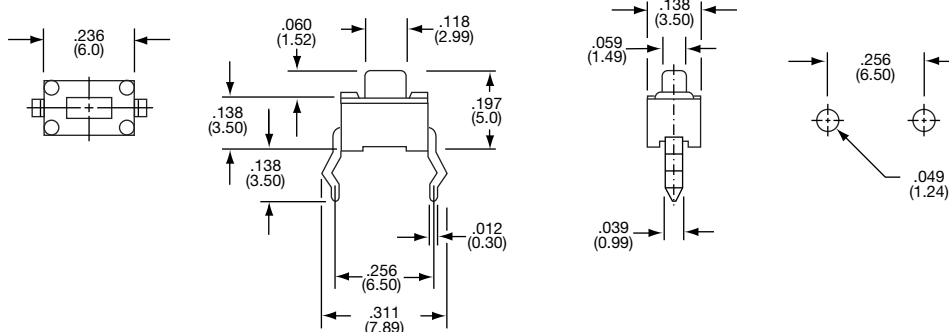
Contacts .....Stainless/Silver clad plate  
Case Material .....Nylon  
Actuator Material .....PBT  
Terminals/Fixed Contacts.....Copper alloy, Silver/Nickel

**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

**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



3.5 x 6mm

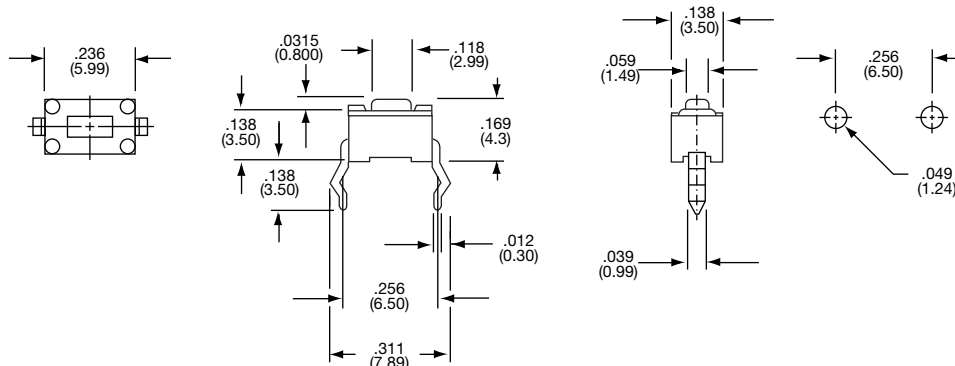


FSM

**E**

FSM Series

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



3.5 x 6mm



FSMC

Tyco Electronics	Alcoswitch	Type	Off	On
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

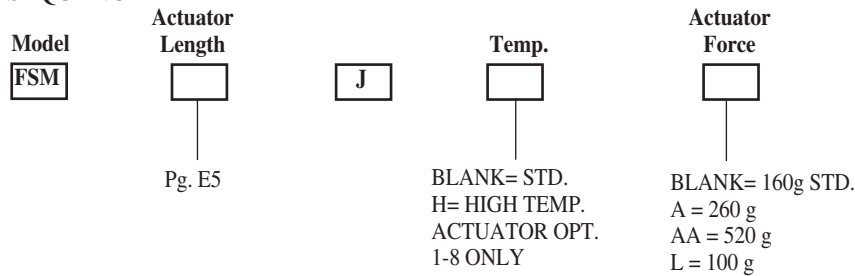
**ENVIRONMENTAL SPECIFICATIONS**

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

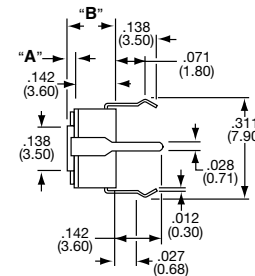
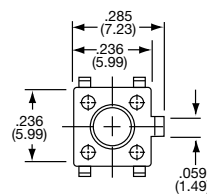
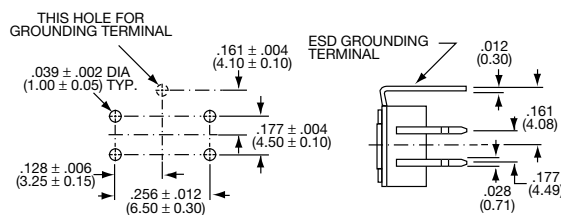
**TYPICAL PERFORMANCE CHARACTERISTICS:**

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

**PART NUMBERING SEQUENCE**

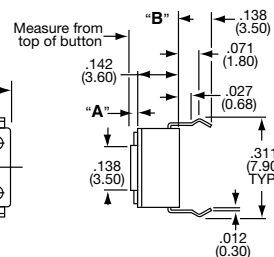
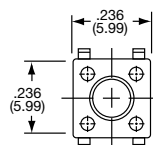
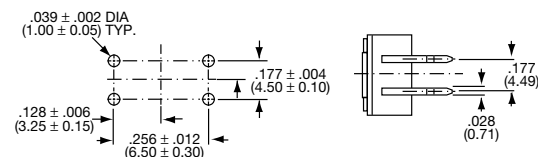


6 x 6 mm



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
—	FSM3JAA	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
—	FSM5JAA	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
—	FSM7JAA	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
—	FSM9JAA	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
—	FSM11JAA	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	FSM13JAA	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	FSM15JAA	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
—	FSM17JAA	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	FSM2JAA	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
2-1437565-4	FSM2JL	0.028 (0.70)	0.169 (4.30)	100±50gf	PBT	100,000
3-1437565-6	FSM4J	0.055 (1.40)	0.196 (5.00)	160±50gf	PBT	100,000
3-1437565-7	FSM4JAA	0.055 (1.40)	0.196 (5.00)	260±50gf	PBT	100,000
3-1437565-8	FSM4JAA	0.055 (1.40)	0.196 (5.00)	520±100gf	PBT	100,000
—	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	FSM6JAA	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	FSM8JAA	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
—	FSM10JAA	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
—	FSM12JAA	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
—	FSM14JAA	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
—	FSM16JAA	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
—	FSM18JAA	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:**

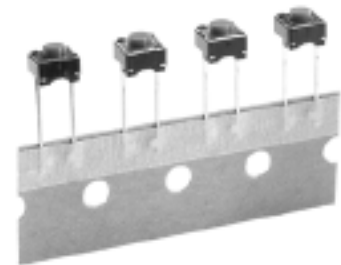
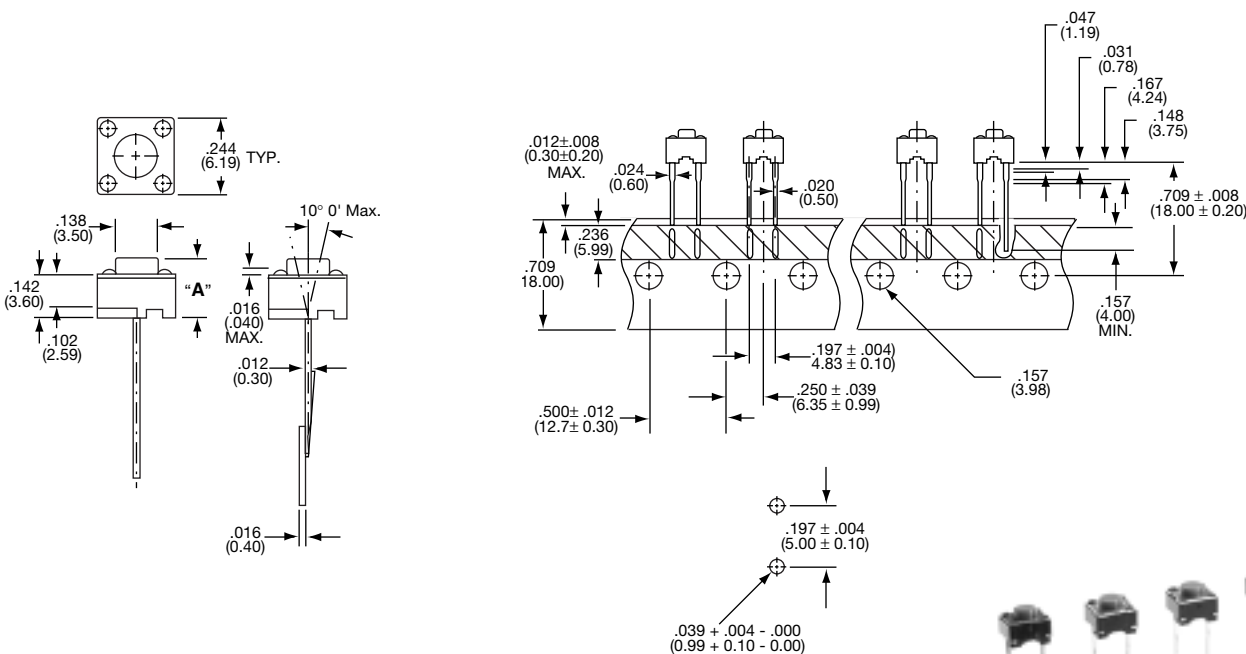
Contacts .....Copper alloy, silver clad plate  
Case.....Nylon  
Actuator Button .....PBT  
Cover.....Steel, tin plate  
Terminals .....Copper alloy, silver clad plate

**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

**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



FSM4JRT

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

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

**MATERIAL SPECIFICATIONS:**

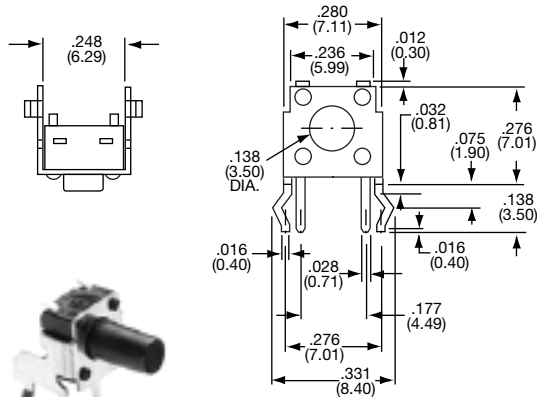
Contacts .....Copper alloy, silver clad plate  
Case.....PBT  
Actuator Button .....Nylon/acetel  
Frame .....Steel, tin plate  
Terminals .....Copper alloy, silver plate

**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

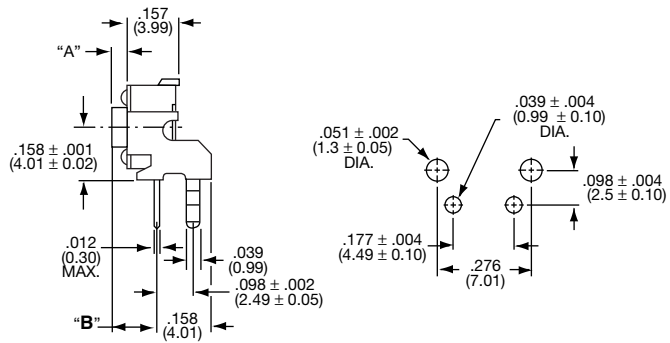
**TYPICAL PERFORMANCE CHARACTERISTICS:**

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	Off	On
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)		

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

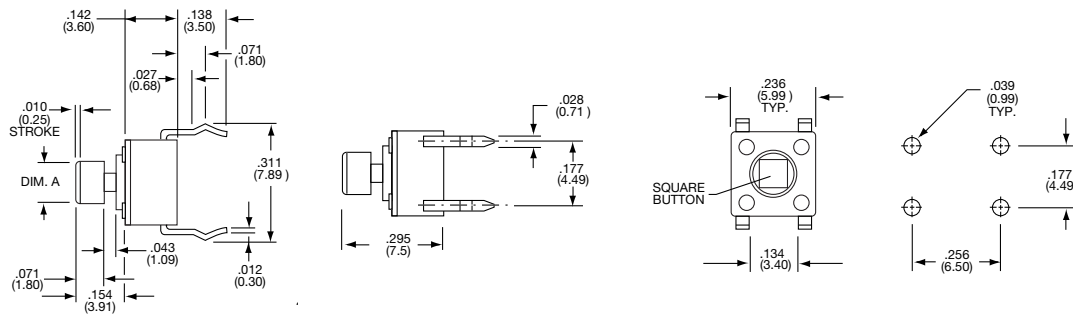
**TYPICAL PERFORMANCE CHARACTERISTICS:**

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

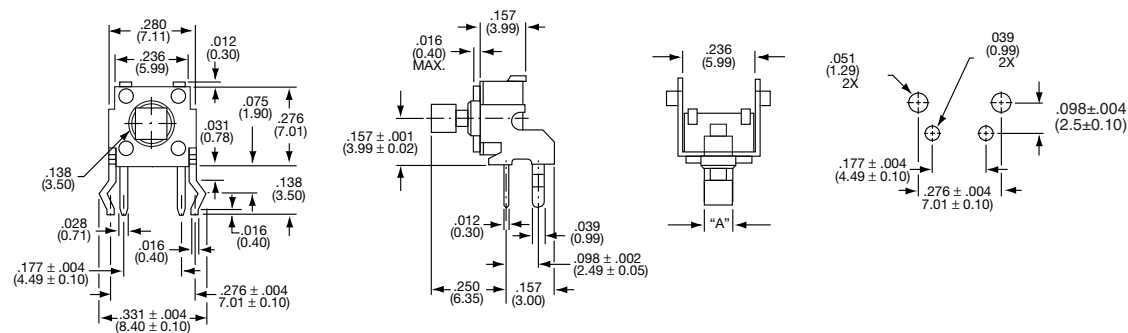


FSMCD

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

(On) indicates momentary position.

6 x 6 mm



FSMRACD

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

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

**MATERIAL SPECIFICATIONS:**

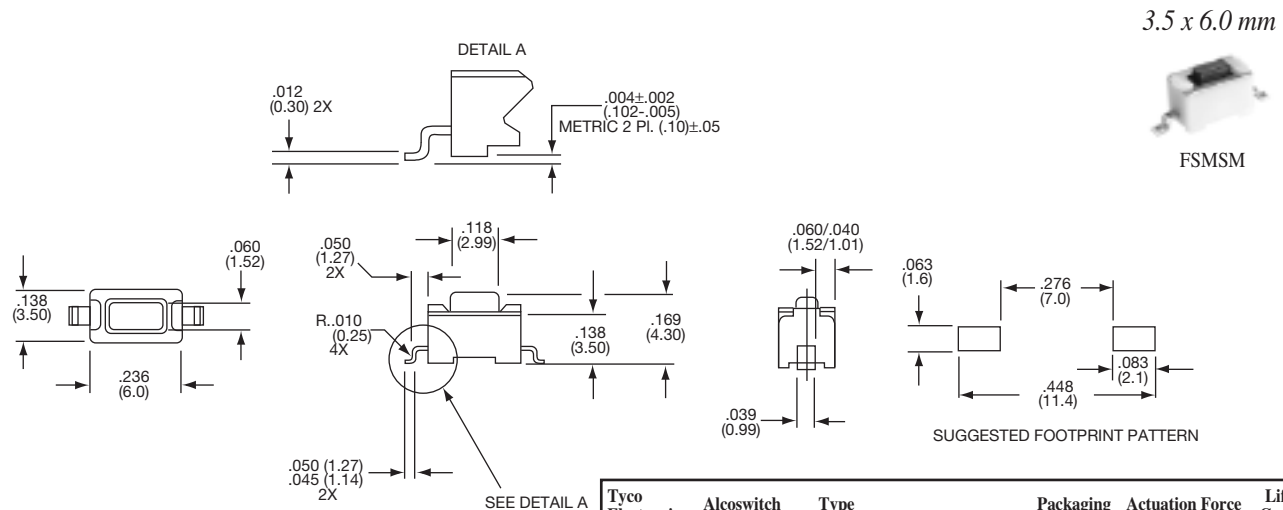
Contacts .....Stainless steel, silver clad plate  
Case Material .....FSMSM: PPS  
Actuator Material .....FSMSM: Nylon  
FSMJM: PPS  
Terminals .....Copper alloy, silver plate or tin plate  
Cover.....Stainless steel

**TYPICAL PERFORMANCE CHARACTERISTICS:**

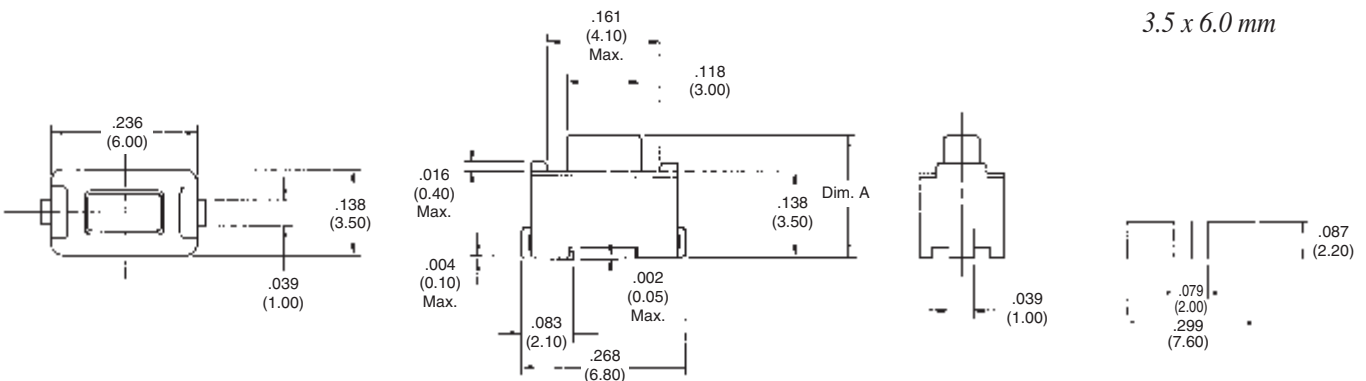
Contact Rating .....50 mA @ 12 VDC  
Initial Contact Resistance .....100 Milliohms max.  
Insulation Resistance .....100 Megohms min. @ 500 VDC  
Dielectric Strength .....500 VAC for 1 minute  
Actuator Travel......010"(.254)  
Life Expectancy .....20,000-40,000 Cycles

**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)



(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

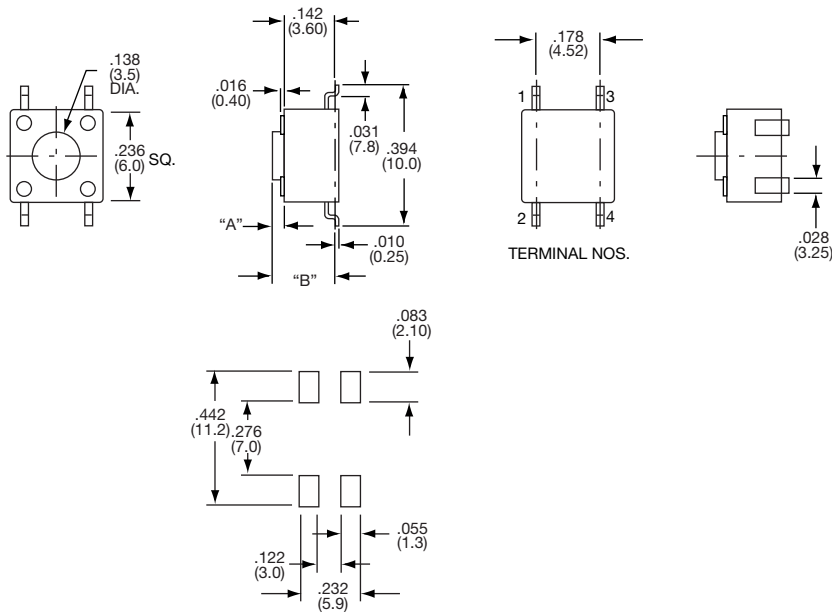
**ENVIRONMENTAL SPECIFICATIONS**

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)

**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

6 x 6 mm



FSMJ SMA

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