

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

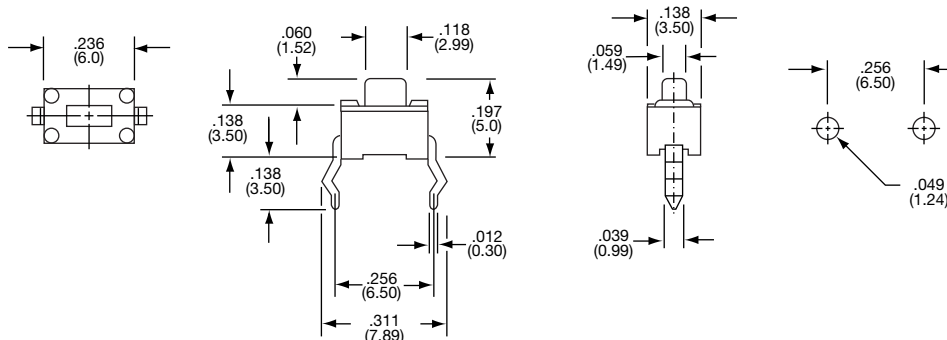
TYPICAL PERFORMANCE CHARACTERISTICS:

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

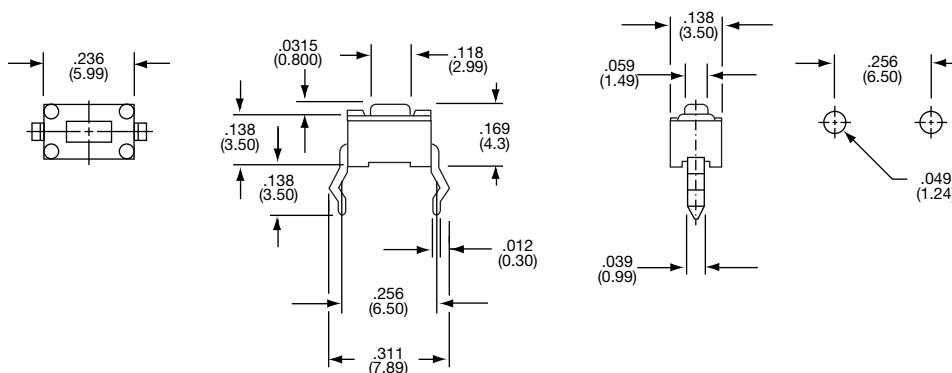
3.5 x 6mm





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

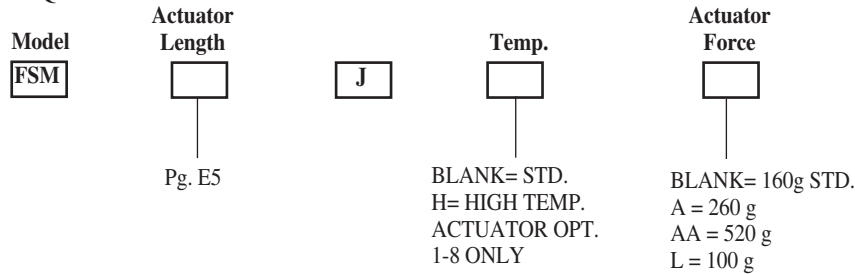
TYPICAL PERFORMANCE CHARACTERISTICS:

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

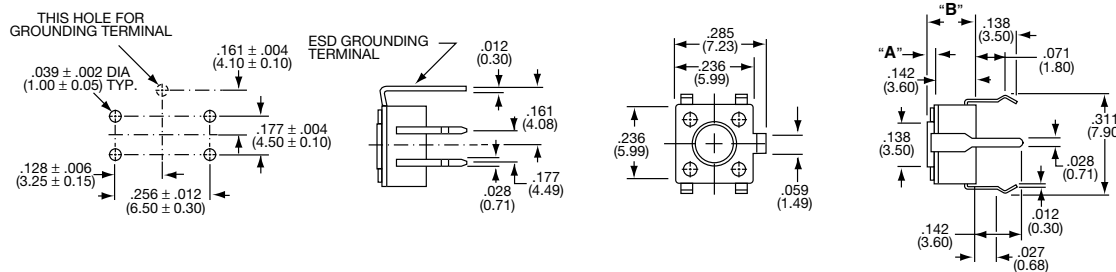
Operating Temperature.....-40°F to +221°F (-40°C to +105°C)
 Storage Temperature.....-40°F to +221°F (-40°C to +105°C)
 Solder Heat ResistanceSee Page M3-4

PART NUMBERING SEQUENCE



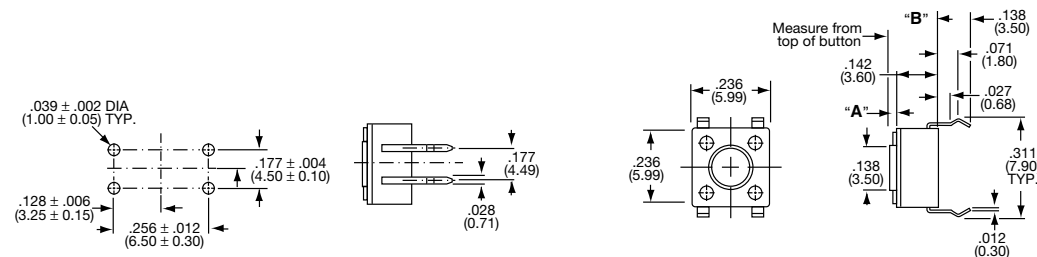
E
FSMJ Series

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:

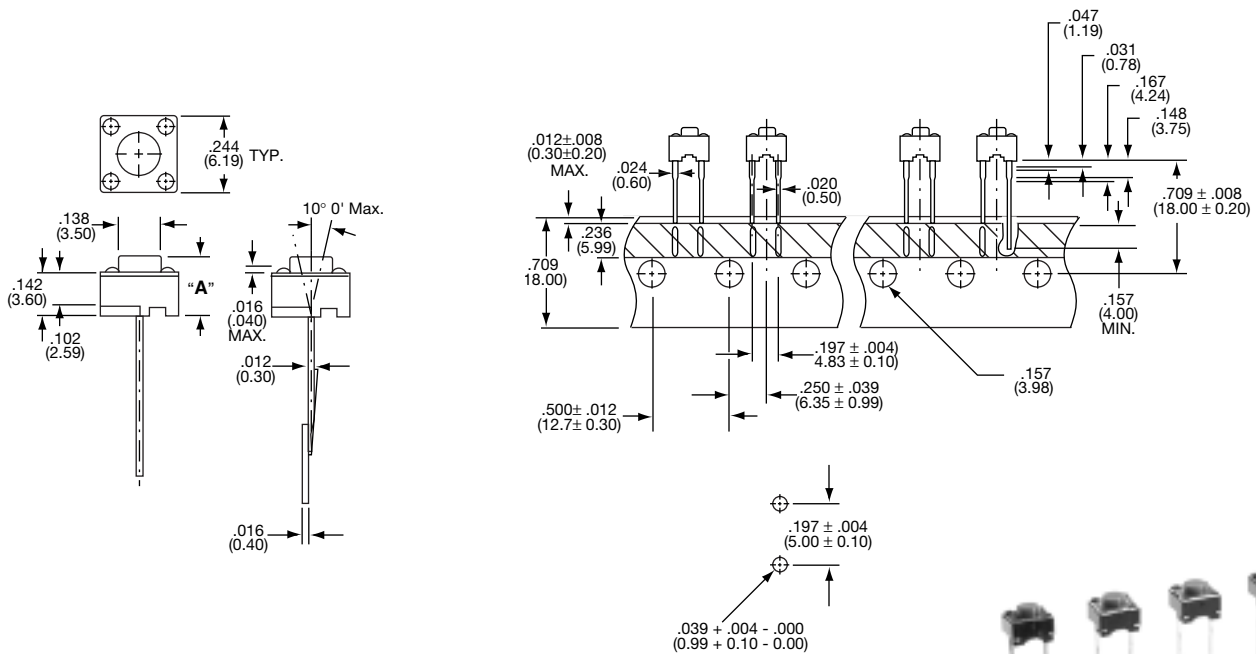
Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuation ForceSee Below
 Actuator Travel......010" (.254)
 Life ExpectancyUp to 100,000 Cycles

ENVIRONMENTAL SPECIFICATIONS

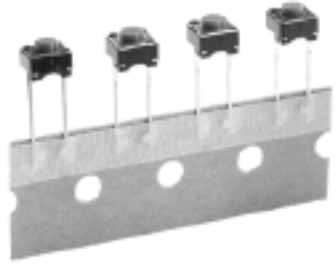
Operating Temperature..... -40°F to +221°F (-40°C to +105°C)
 Storage Temperature.....-40°F to +221°F (-40°C to +105°C)
 Solder Heat ResistanceSee Page M3-4

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:

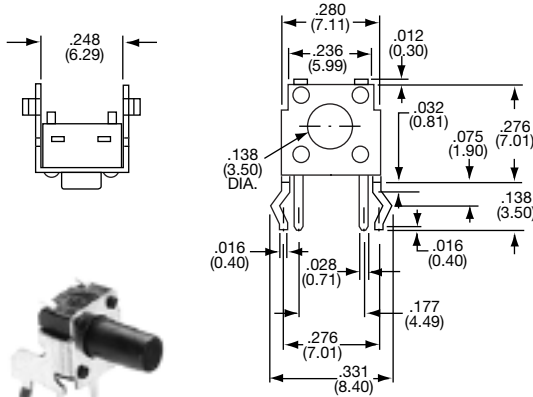
ContactsCopper alloy, silver clad plate
 Case.....PBT
 Actuator ButtonNylon/acetal
 FrameSteel, tin plate
 TerminalsCopper alloy, silver plate

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:

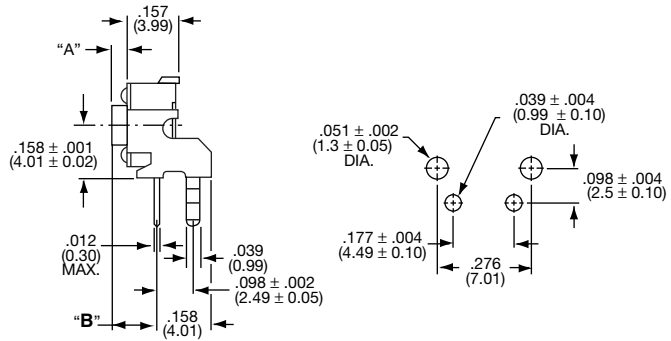
Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuation ForceSee Below
 Actuator Travel......012" (0,3)
 Life ExpectancyUp to 100,000 Cycles
 Up to 50,000 Cycles 520 GF (AA option)



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)	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:

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:

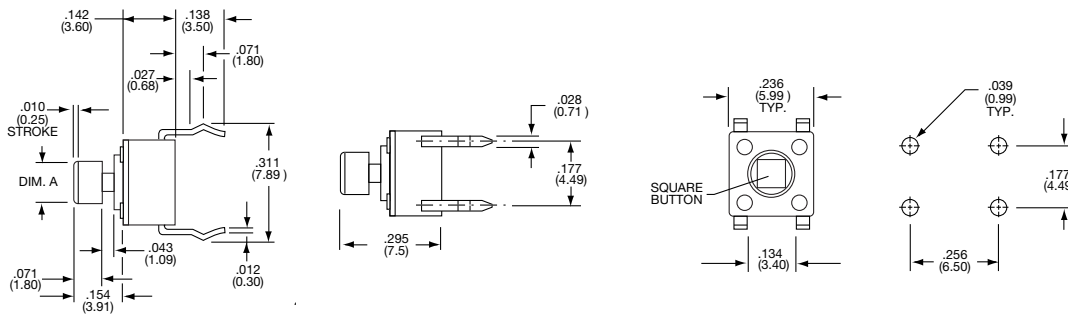
Contact Rating50 mA @ 12 VDC
 Initial Contact Resistance100 Milliohms Max.
 Insulation Resistance100 Megohms min. @ 100 VDC
 Dielectric Strength500 VAC for 1 minute
 Actuation Force100 and 160 ±50 Grams
 Actuator Travel......010"(.254)
 Life ExpectancyUp to 100,000 Cycles

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

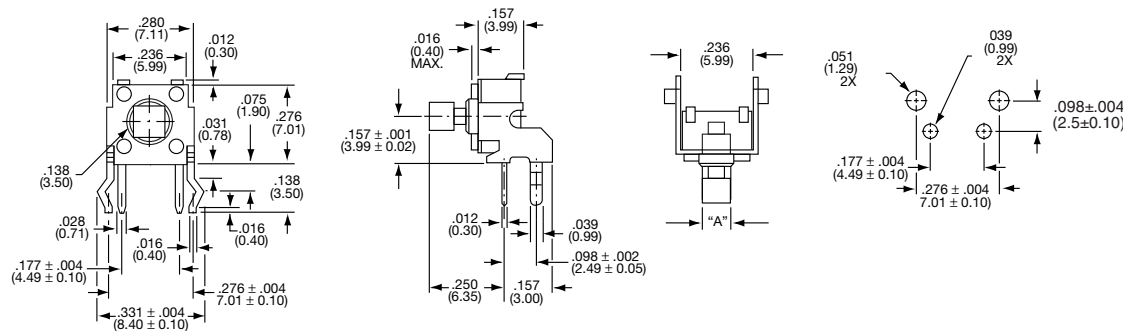


FSMCDA

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

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

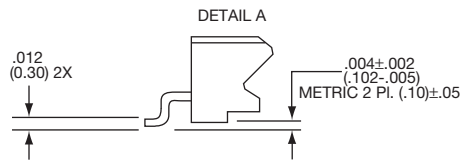
TYPICAL PERFORMANCE CHARACTERISTICS:

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

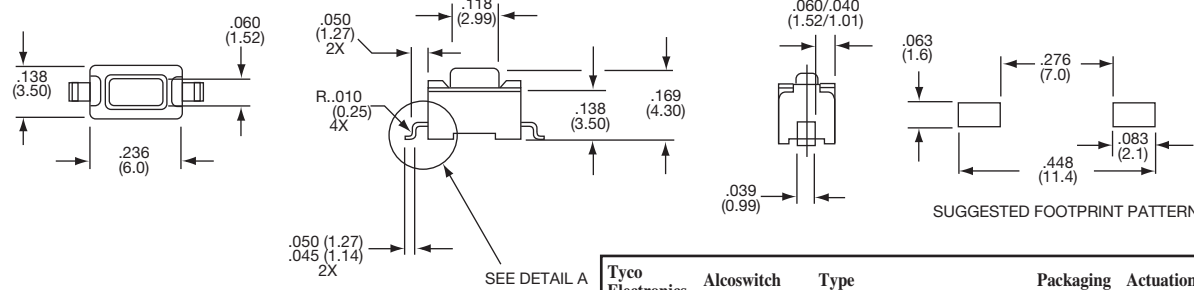
ENVIRONMENTAL SPECIFICATIONS:

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)

3.5 x 6.0 mm



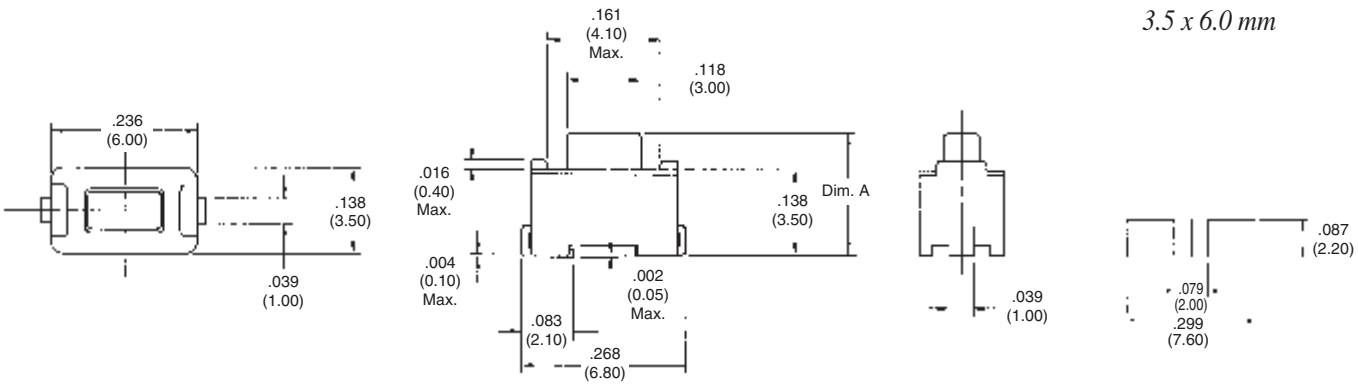
FSMSM



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

(On) indicates momentary position.

3.5 x 6.0 mm



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

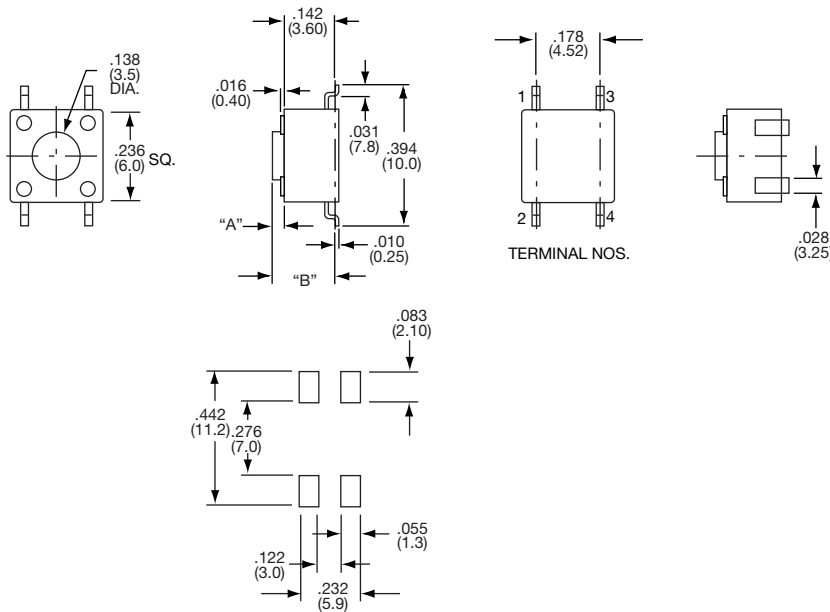
TYPICAL PERFORMANCE CHARACTERISTICS:

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



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