Chicago Switch

9/21/77

CATALOG 7708

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POLICY GOVERNING BLANKET ORDERS AND SCHEDULED SHIPMENTS

Chicago Switch offers a lower price to induce you to place a larger order, scheduled over a period of time. This allows us to plan ahead. Long range planning affords economies of scale and economies of flexibility. WE OFFER TO SHARE THESE ECONOMIES WITH YOU. You may change your schedule if necessary, however a delay may cost you at least the price of money and possibly reflect the rising cost of materials and labor.

CUSTOMER'S RESPONSIBILITY

Blanket orders must be based upon a total quantity. Price quotations are applicable only to the total quantity. We reserve the right to fabricate and assemble the entire quantity at one time.

MINIMUM SHIPMENTS

When a shipping schedule is applied, the minimum quantity per monthly shipment shall be 10% of the total order, and valued at not less than $300.00. The resultant maximum schedule period does not exceed 10 months.

CHANGES IN SHIPPING SCHEDULE

The entire quantity shall initially be scheduled by agreement. Schedules may be changed during the period to accommodate the customer's requirements. However, minimum monthly shipments must be maintained and prices may be subject to "shipping date increment" to cover cost increases. The entire residual balance must be shipped and billed at the end of the period.

DECREASE IN QUANTITY

If a decrease in quantity is negotiated before manufacture is completed, a revision of the prices may be required (as to quantities already invoiced, as well as to order balances) to conform to our existing price schedules. Also, a possible additional amount may be required to cover work in process.

MINIMUM ORDER $25.00

In order to maintain Chicago Switch's high standard of quality, prices and specifications subject to change without notice.

Engineering Data

The conservative load and life specifications presented as part of this catalog serve as a guide in the selection of switches. Yet, in the majority of applications, one cannot find the specifications which precisely match his load – the variety and mix of parameters render such a listing impossible.

To find out what you need, ask the switch manufacturer. Outline your load and life requirements:

- We will test to your parameters, if necessary.
- There is no need to under-design or over-design. Under certain conditions, a 1 amp switch may carry 5 amps; the reverse limitation may also be true. In effect, special criteria may expand the range or impose limitations on rated load and life expectancy specifications.

Our data files continue to grow. As we enter our third decade of experience, we offer increased efficiency and expertise in the design of small, miniature and sub-miniature switches.

definition of terms

Actuation Force: See operating force.

Ambient: The environment in which a switch operates.

Breakdown Voltage: (dielectric strength) The high voltage the insulator can withstand without breaking down.

Contact Bounce: The time during switching in which electrical instability caused by the rebound of the contacts is observed (millisecond range).

Contact Rating: The capacity to carry an electrical load.

Contact Resistance: The resistance of a pair of contacts, measured at the terminals, which effectively appears in series with the load (milliohm range).

Dielectric Strength: See breakdown voltage.

Dry Circuit: See low energy.

Duty Cycle: The ratio of on-time to off-time.

End of Life Criteria: See life expectancy.

Insulation Resistance: (leakage resistance) The resistance between two normally insulated parts measured at a specified high D.C. potential (megohm range).

Leakage Resistance: See insulation resistance.

Life Expectancy: (useful life) Depends upon the end of life criteria for a specific application. In order to determine your failure criteria, the following parameters should be known:

- breakdown voltage
- contact resistance
- duty cycle
- insulation resistance
- mechanical breakdown
- operating force

Low Energy: (dry circuit, signal circuit) Definitions vary from a few microamps at a few microvolts to that power level at which no electrical effects such as arcing, melting or softening of contacts are associated with the switching. Low energy as listed in the catalog refers to test data obtained at 5-10 milliamps at 5-6 volts DC resistive. As in all our specifications, a conservative safety factor is included.

Maintained Switch: A switch which maintains the mode or position to which it is actuated.

Momentary Switch: (spring return) A switch which automatically returns to its original or at rest position.

Operating Force: (actuation force) The force required to transfer the switch from one position to another (gram range).

Signal Circuit: See low energy.

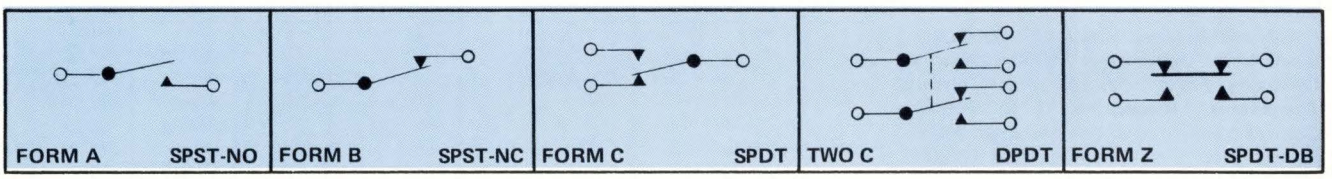
Snap-Action Switch: A switch design whose characteristics tend to remove the control of the actual contact transfer (anti-tease) from the operator or actuator (generally for the purpose of quick make and break).

Useful Life: See life expectancy.

In summary, switches may be rated for a range of applications with electrical loads from low energy up to many amps. A single switch structure may cover a wide segment of the range with or without special contacts.

Tell us your needs. Given the details of the electrical load, we can probably supply your switch to live as long as your application requires. We will consider end of life criteria and environment in which the switch must operate.

common switch circuits



SPECIAL NOTE: Unless otherwise specified, 2 place decimal tolerances are ± .010. 3 place decimal tolerances are ± .005.

Introduction

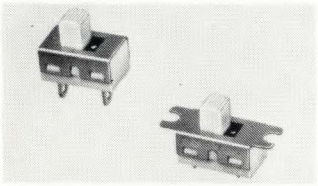
Chicago Switch Inc., located in Chicago, has been producing and supplying a broad line of quality switches for over 20 years. Advanced design engineering, automated assembly techniques and a rigid quality assurance program allows us to offer you the same fine quality at competitive prices that we have provided for a select group of OEM users for over 2 decades.

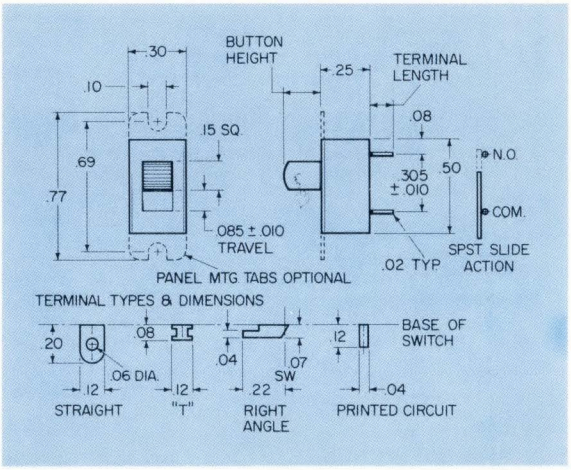
Besides the large selection of stock switches offered, our engineering services are available to help custom design the exact switch for your application. Depending on quantities a custom switch may be ultimately less expensive.

All specifications listed in this catalog are subject to change without notice.

The Mini Mike™ Line

ultra low bounce
SPST maintained
slide action switches
U.L. listed





specifications

Contact Rating: From 1 volt 10 ma to 1.0 amps inductive at 125VAC.
Contact Material: Hard gold over barrier.
Contact Resistance: 20 milliohms max. initially
Life Expectancy: 100,000 actuations.
End of Life Criteria: 100 milliohms contact resistance
Stroke: .085"
Breakdown Voltage: 1,000 V 60 Hz
Insulation Resistance: 60,000 megohms
Operating Force: 200-500 grams initially
Temperature Range: -40°C to +100°C
Contact Bounce: 1 millisecond max. initially; less than 2 milliseconds after 100,000 actuations

Part Number	Terminal Type	Panel Mtg. Tabs.	Button Height	Button Color	Terminal Length
23-021-013	Straight	No	.20	Black	.20
23-021-017	Straight	Yes	.20	Black	.20
23-021-019	Straight	Yes	.20	White	.20
23-021-020	Straight	No	.20	White	.20
23-021-023	"T"	Yes	.20	White	.08
23-021-024	"T"	No	.20	White	.08
23-021-025	"T"	Yes	.20	Black	.08
23-021-026	"T"	No	.20	Black	.08
23-021-031	Rt. Angle	No	.20	Black	.07
23-021-032	Rt. Angle	Yes	.20	Black	.07
23-021-033	Rt. Angle	No	.20	White	.07
23-021-034	Rt. Angle	Yes	.20	White	.07
23-021-040	P.C.	No	.20	Black	.12
23-021-041	P.C.	No	.20	White	.12
23-021-045	"T"	Yes	.20	Black	.08
23-021-047	"T"	Yes	.20	Black	.08

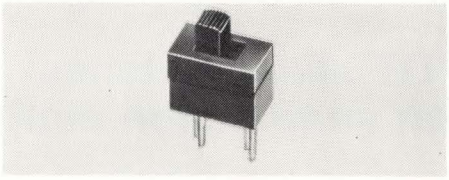
Consult factory for other versions, colors and white dots.

Patented

Made in U.S.A.

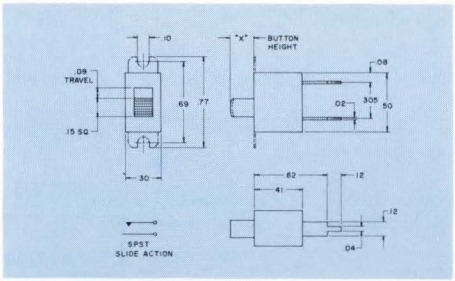
The Mini Mike™ Line

low bounce SPST slide action switches for P.C. applications momentary (spring return) or maintained



specifications

Contact Rating: From 1 volt 10 ma to 1.0 amp inductive at 125VAC
Contact Material: Hard gold over barrier
Contact Resistance: 20 milliohms max. initially
Life Expectancy: 100,000 actuations
End of Life Criteria: 100 milliohms contact resistance
Stroke: .085"
Breakdown Voltage: 1,000 V 60 Hz
Insulation Resistance: 60,000 megohms
Operating Force: 150-300 grams initially
Temperature Range: -40°C to +100°C
Contact Bounce: 1 millisecond max. initially; less than 2 milliseconds after 100,000 actuations



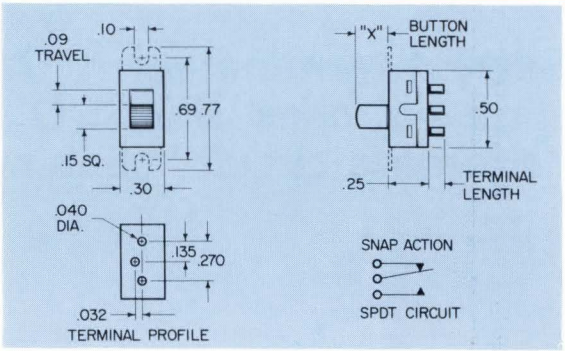
PART NUMBER	TYPE	BUTTON HEIGHT	BUTTON COLOR	TERMINAL LENGTH	MOUNTING
23-021-601	Momentary	.20	Black	.12	P.C.
23-021-602	Maintained	.20	Black	.12	P.C.
23-021-606	Momentary	.20	Black	.12	Panel
23-021-607	Maintained	.20	Black	.12	Panel

Patented — Consult factory for additional terminal configurations. — Made in U.S.A.

SPDT slide switches with snap action contacts

specifications

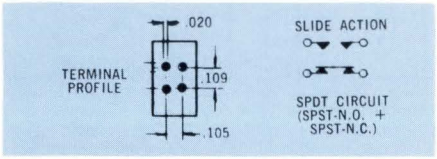
Contact Rating: 250 milliamps resistive at 30VDC
Contact Material: Hard gold over barrier
Contact Resistance: 20 milliohms max. initially
Life Expectancy: 100,000 actuations
End of Life Criteria: 100 milliohms contact resistance
Stroke: .085"
Breakdown Voltage: 1,500 V 60 Hz
Insulation Resistance: 15,000 megohms
Operating Force: 100-500 grams
Temperature Range: -40°C to +100°C
Contact Bounce: 2 milliseconds*



INSERT MOLDED PINS

Part Number	Mounting	Button Height	Button Color	Terminal Length	Contacts
23-021-103	Panel	.20	Black	.08	Gold
23-021-105	P.C.	.20	Black	.12	Gold
23-021-106	P.C.	.20	Black	.08	Gold
23-021-109	Panel	.25	Black	.12	Gold
23-021-112	Panel	.20	Black	.12	Gold
23-021-126	P.C.	.20	White	.12	Gold
23-021-127	Panel	.20	White	.12	Gold
23-021-142†	P.C.	.20	Black	.12	Gold
29-000-009	P.C.	.20	Black	Rt. Angle	Gold

†Meets Telephone Industry Specification KS20400L3



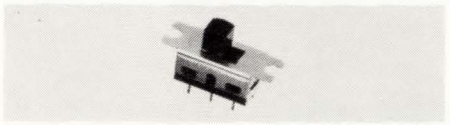
INSERT MOLDED PINS – FORM "Z"

Part Number	Mounting	Button Height	Button Color	Terminal Length	Contacts
23-021-304	P.C.	.14	Black	.12	Gold

*Does not apply to 23-021-304. — Patented — Made in U.S.A.

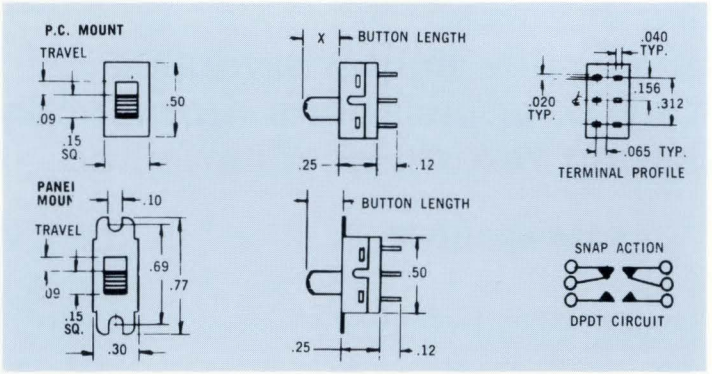
The Mini Mike™ Line

DPDT slide switches with snap action contacts



specifications

Contact Rating: 1 volt 10 ma to 100 ma at 125VAC
Contact Material: Hard gold over barrier
Contact Resistance: 20 milliohms max. initially
Life Expectancy: 100,000 actuations
End of Life Criteria: 50 milliohms contact resistance
Stroke: .085"
Breakdown Voltage: 1,000 V 60 Hz
Insulation Resistance: 50,000 megohms
Operating Force: 200-500 grams
Temperature Range: -40°C to +100°C
Contact Bounce: 2 milliseconds max. initially



INSERT MOLDED PINS

Part Number	Mounting	Button Height	Button Color	Terminal Length
23-021-113	Panel	.20	Black	.12
23-021-114	P.C.	.20	Black	.12
23-021-118**	Panel	.25	Black	.12
23-021-124	Panel	.20	White	.12
23-021-125	P.C.	.20	White	.12
23-021-305†	P.C.	.20	Black	.12

Made in U.S.A.

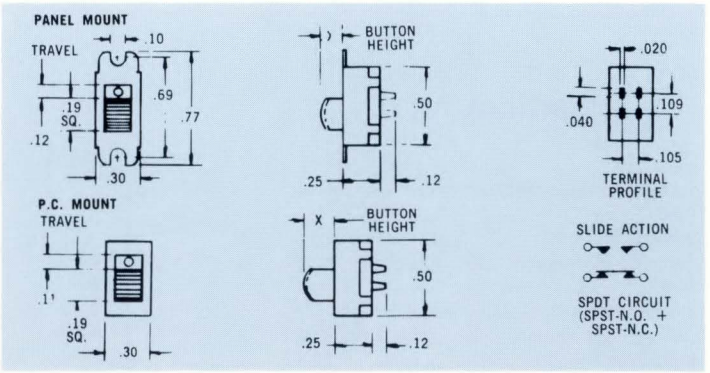
**White Dot
† Meets Telephone Industry Specification KS20400L2

Patented

SPDT 4 terminal form "Z" slide switches SPST-NO + SPST-NC "alternate circuit" slide switches

specifications

Contact Rating: 1 volt 10 ma to 500 ma at 125VAC
Contact Material: Hard gold over barrier
Contact Resistance: 20 milliohms max. initially
Life Expectancy: 50,000 actuations
End of Life Criteria: 100 milliohms contact resistance
Stroke: .120"
Breakdown Voltage: 250 V 60 Hz
Insulation Resistance: 75,000 megohms initially
Operating Force: 100-500 grams initially
Temperature Range: -40°C to +100°C
Contact Bounce: 2 milliseconds max. initially



Part Number	Mounting	Button Height	Button Color	Terminal Length	Contacts
23-021-005	P.C.	.20	Black	.12	Gold
23-021-006	Panel	.14	Black	.12	Gold
23-021-008	P.C.	.14	Black	.12	Gold
23-021-009	Panel	.20	Black	.12	Gold
23-021-016†	Panel	.14	Black	.12	Heavy Gold

† Meets Telephone Industry Specification KS20400L1.

Patented

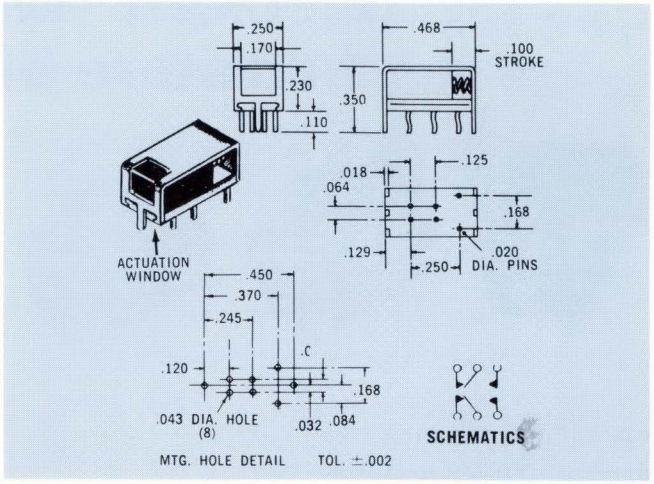
Made in U.S.A.

Module Series

momentary subminiature slide switch SPDT or DPDT

specifications

Contact Rating: 250 milliamps resistive at 9VDC
Contact Material: Solid silver or gold plated
Contact Resistance: 20 milliohms max. initially
Life Expectancy: 150,000 actuations
End of Life Criteria: 100 milliohms contact resistance
Stroke: .090"
Breakdown Voltage: 250 V 60 Hz
Leakage Resistance: 100,000 megohms min.
Operating Force: 100-500 grams
Temperature Range: -30°C to +65°C
Humidity: 200 hrs. at 90% relative and 40°C

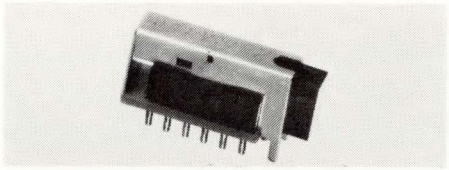


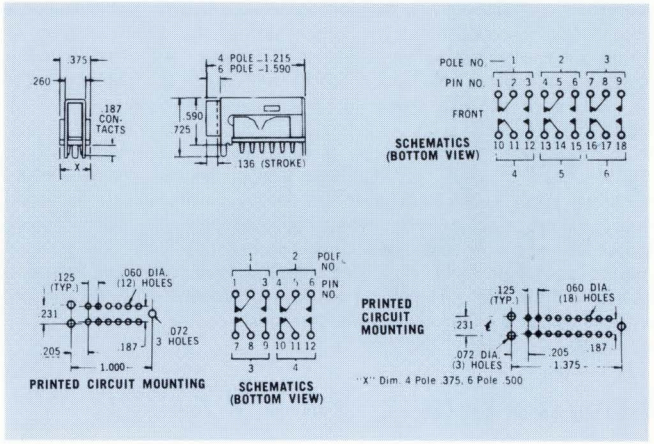
Part Number	Description
23-020-002	Silver contacts, DPDT
23-020-003	Silver contacts, SPDT
23-020-012	Gold contacts, DPDT
23-020-014	Gold contacts, SPDT

Patented

Made in U.S.A.

4PDT and 6PDT—P.C. mount





specifications

Contact Rating: 1 volt 10 ma to 250 ma at 125VAC
Contact Material: Hard gold over barrier
Contact Resistance: 25 milliohms max. initially
Life Expectancy: 250,000 actuations
End of Life Criteria: 100 milliohms contact resistance
Stroke: .136"
Breakdown Voltage: 750 V 60 Hz
Initial Resistance: 75,000 megohms initially

Part Number Identification Chart

Shown at right are non-shorting (break before make) variations only. All shorting (make before break) and combinations of shorting and non-shorting are available.

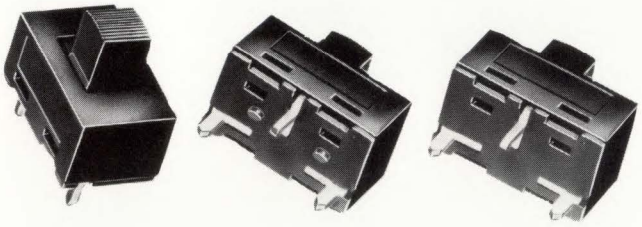
Part Number	Poles	Description
23-004-000	4	Momentary Action, Basic Switch Module, Plug-In
23-006-000	6	Momentary Action, Basic Switch Module, Plug-In
23-010-000	4	Push-On — Push-Off, Alternate Action, Plug-In
23-010-021†	4	Push-On — Push-Off, Alternate Action, Plug-In
23-011-000	6	Push-On — Push-Off, Alternate Action, Plug-In
23-011-021††	6	Push-On — Push-Off, Alternate Action, Plug-In
23-012-000	4	Push Button, Panel Mount, Momentary, Round Button
23-013-000	6	Push Button, Panel Mount, Momentary, Round Button
23-016-000	4	Push-On, Push-Off, Panel Mount, Round Button
23-017-000	6	Push-On, Push-Off, Panel Mount, Round Button
23-024-000	4	Rocker Actuated, Momentary, Plug-In
23-025-000	6	Rocker Actuated, Momentary, Plug-In
23-026-000	4	Rocker Actuated, Push-On, Push-Off, Plug-In
23-027-000	6	Rocker Actuated, Push-On, Push-Off, Plug-In

† Meets Telephone Industry Specification KS20400L5
†† Meets Telephone Industry Specification KS20400L4

Patented

Made in U.S.A.

Mr. Clean™ Wave-Solderable Miniature Slide Switches



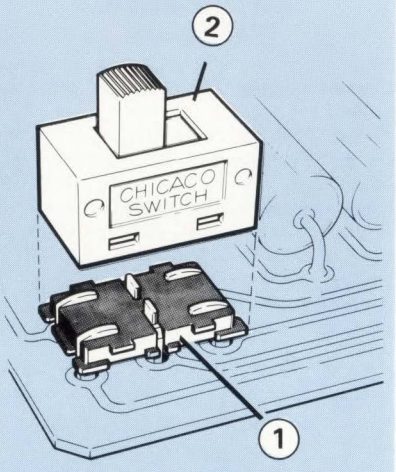
- Anti-Contamination
- Unique 2 Piece Assembly
- Eliminates Solder & Cleaning Residue Problems
- Over Center Snap Action
- Stand-Off Bases Available

Mr. Clean™ is our new line of wave-solderable, anti-contamination, miniature slide switches. Designed to work on a unique (patents pending) 2 piece principle, only the simple exposed base half of the switch is wave-soldered to the printed circuit board. The over center snap action mechanism in the upper half of the switch is never exposed to the soldering or cleaning processes. After the cleaning process is complete, the upper half of the switch is snapped together by hand with the base piece to form a clean efficient switch — Mr. Clean™.

All Mr. Clean™ circuit configurations are now also available with a stand-off base. These bases rest .03" away from the printed circuit board. Where space permits, many designers prefer Mr. Clean™ with Stand-Offs. This revolutionary design completely eliminates contamination problems from flux and cleaning solvents, major causes of switch failure. Mr. Clean™ is totally compatible with fluorinated, chlorinated, and aqueous cleaning methods.

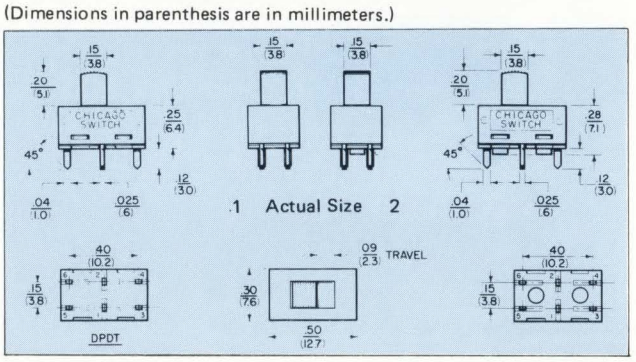
HOW IT WORKS

(1) Insert lower base half into P. C. board by hand or with automatic insertion equipment. Then wave solder same as other components on board. Clean board in standard manner to remove excess flux.



(2) After board is cleaned and dried—simply snap the clean uncontaminated upper switch half in place—by hand. No tools, special equipment or orientation needed.

(Dimensions in parenthesis are in millimeters.)



1 Without Standoffs 2 With Standoffs

how to order: 24-XXX-020

CIRCUIT

1 — SPST - European
2 — SPDT
3 — Form "Z"
4 — DPDT
5 — SPST - U.S.A.

ASSEMBLY MODE

1 — Fully Assembled
2 — (2) Sub-Assemblies
3 — Fully Assembled w/Stand-Off (.03") Base
4 — (2) Sub-Assemblies w/Stand-Off (.03") Base

TERMINAL TYPE AND PLATING

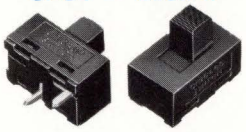
0 — P.C. Hard Gold — 30 micro inches gold over 30 micro inches nickel
1 — P.C. Silver
2 — P.C. Western Electric Gold — 50 micro inches gold over 100 micro inches nickel
3 — P.C. Western Electric Gold — 50 micro inches gold over 100 micro inches nickel & Western Electric Specification Inspection

NOTE: The anti-contamination feature is based on the 2 Sub-Assemblies assembly method.

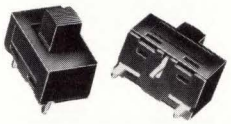
Patents Pending Ratings are conservative, data sheets available on request. Made in U.S.A.

Mr. Clean™ Wave-Solderable Miniature Slide Switches

SPST — U.S.A.



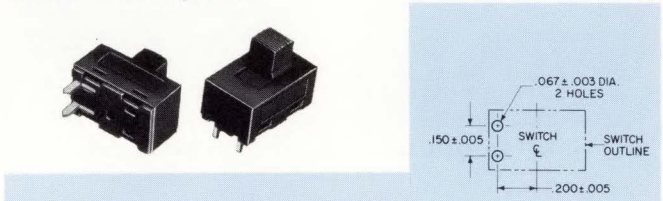
SPDT



specifications

Contact Rating: Low energy up to 500 ma 125VAC 12VDC
Contacts: Hard gold over nickel barrier over brass
Life Expectancy: 200,000 actuations at 10 ma @ 6VDC resistive
End of Life Criteria: 100 milliohms
Contact Resistance: 20 milliohms initially
Insulation Resistance: 10,000 megohms
Temperature Range: -40°C to 100°C
Operating Force: 100-500 grams initially
Stroke: .090"
Hi Pot Breakdown Rating: Interterminal — 1,500 V 60 Hz
Capacitance Rating: Interterminal — .5 to .6 picofarads

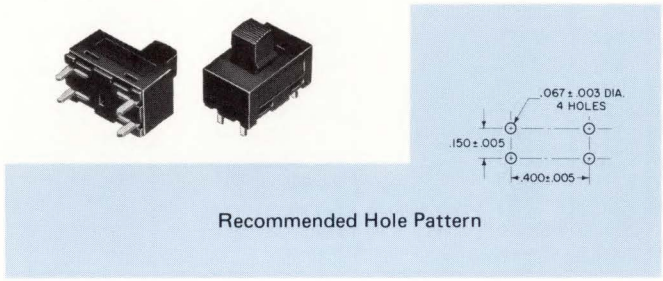
SPST — European



specifications

Contact Rating: Low energy up to 1 amp 125VAC 12VDC
Contacts: Hard gold over nickel barrier over brass
Life Expectancy: 50,000 actuations at 10 ma @ 6VDC resistive
End of Life Criteria: 100 milliohms
Contact Resistance: 20 milliohms initially
Insulation Resistance: 10,000 megohms
Temperature Range: -40°C to 100°C
Operating Force: 100-500 grams initially
Stroke: .090"
Hi Pot Breakdown Rating: Interterminal — 3,500 V 60 Hz.
Capacitance Rating: Interterminal — .3 to .4 picofarads.

FORM "Z"

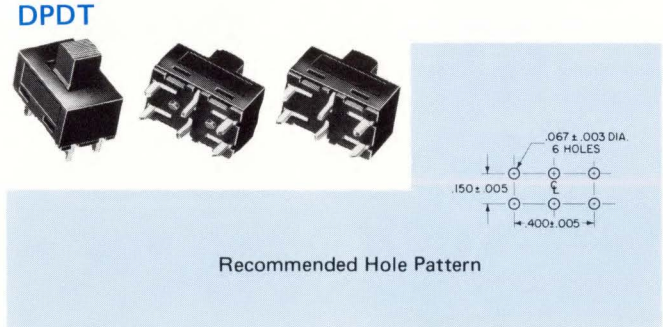


specifications

Contact Rating: Low energy up to 1 amp 125VAC 12VDC
Contacts: Hard gold over nickel barrier over brass
Life Expectancy: 50,000 actuations at 10 ma @ 6VDC resistive
End of Life Criteria: 100 milliohms
Contact Resistance: 20 milliohms initially
Insulation Resistance: 10,000 megohms
Temperature Range: -40°C to 100°C
Operating Force: 100-500 grams initially
Stroke: .090"
Hi Pot Breakdown Rating:
- **Interterminal:** 2,000 V 60 Hz
- **Interpole:** 1,500 V 60 Hz

Capacitance Rating:
- **Interterminal:** .4 to .5 picofarads
- **Interpole:** .6 to .7 picofarads

DPDT



specifications

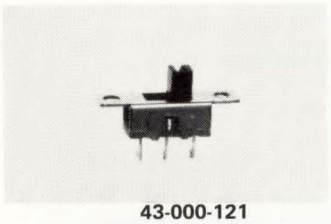
Contact Rating: Low energy up to 250 ma 125VAC 12VDC
Contacts: Hard gold over nickel barrier over brass
Life Expectancy: 100,000 actuations at 10 ma @ 6VDC resistive
End of Life Criteria: 100 milliohms
Contact Resistance: 20 milliohms initially
Insulation Resistance: 10,000 megohms
Breakdown Voltage: 1,000 V 60 Hz
Temperature Range: -40°C to 100°C
Operating Force: 100-500 grams initially
Stroke: .090"
Hi Pot Breakdown Rating:
- **Interterminal:** 1,000 V 60 Hz
- **Interpole:** 1,000 V 60 Hz

Capacitance Rating:
- **Interterminal:** .5 to .7 picofarads
- **Interpole:** .9 to 1.1 picofarads

Patents Pending — Ratings are conservative, data sheets available on request. — Made in U.S.A.

The Economite® Line

low cost miniature slide switches

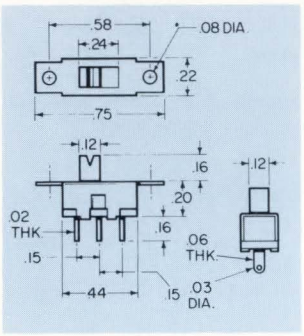


43-000-121

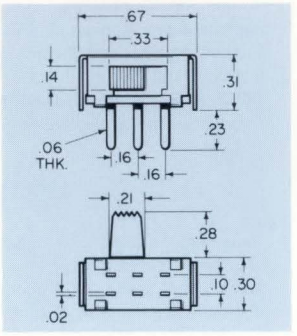
43-200-227

43-200-124 (SPDT)

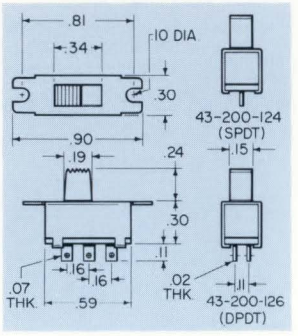
43-100-111 (SPDT)



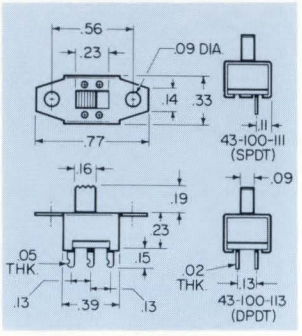
43-000-121



43-000-227



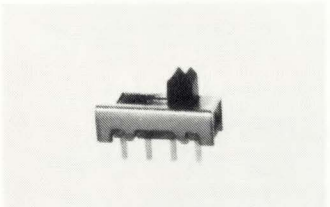
43-200-126 (DPDT)



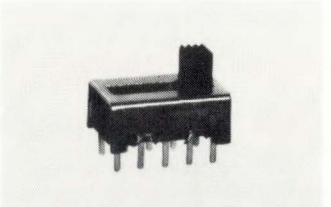
43-100-113 (DPDT)

- Maximum Rating – 125VAC and 12VDC resistive
- SPDT, SP3Position, DPDT and DP4Position circuits available
- Dimensional Tolerance ± .010
- Various actuators, circuits and terminals available – consult factory
- Silver plated contacts standard
- Gold plated contacts optional on some versions – consult factory

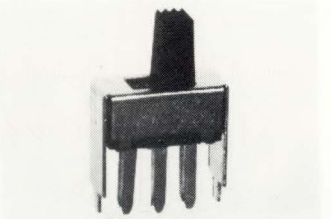
Part Number	Circuit	Mounting	Button Height
43-000-121	SPDT	Panel	.16
43-000-132	SP3Position	P.C.	.16
43-100-111	SPDT	Panel	.19
43-100-113	DPDT	Panel	.19
43-200-124	SPDT	Panel	.24
43-200-125	SPDT	Rt. Angle P.C.	.16
43-200-126	DPDT	Panel	.28
43-200-222	SPDT	P.C. (Standoff)	.28
43-200-223	DPDT	P.C. (Standoff)	.28
43-200-227	DPDT	P.C. (Side Mount)	.28
43-300-221	DPDT	Panel	.35
43-300-223	DPDT 3 Pos. C/Off	Panel	.39
43-301-224	SPDT	Panel	.35
43-901-243	DP4Position	P.C.	.19



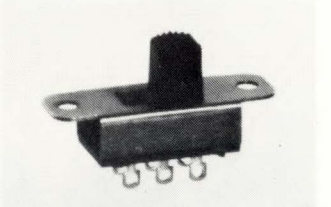
43-000-132



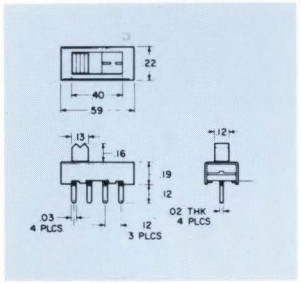
43-901-243

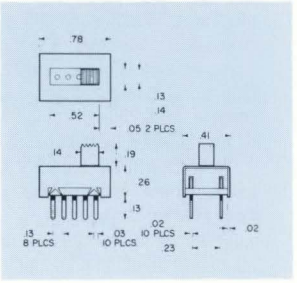


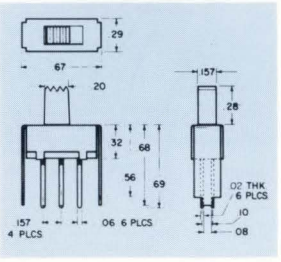
43-200-222
43-200-223

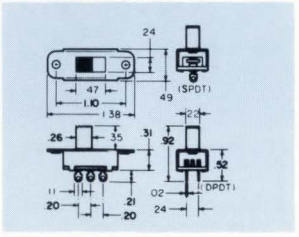


43-300-221 (DPDT)
43-300-223 (DPDT 3-pos.)
43-301-224 (SPDT)



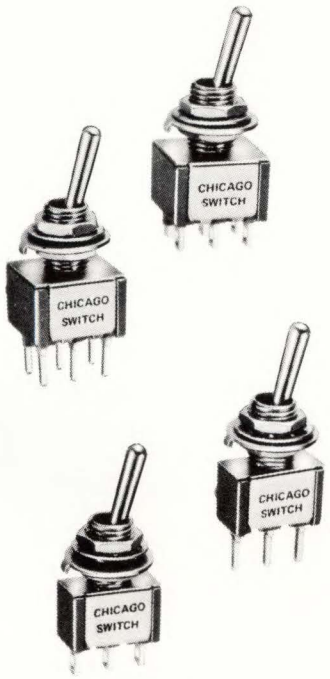






Made in the Orient

Miniature Toggle Switches



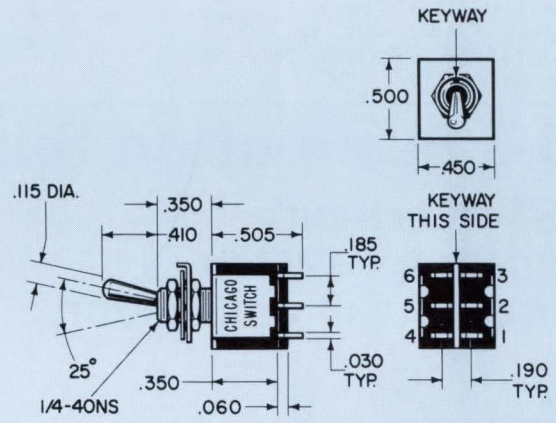
CHICAGO SWITCH, as part of our ongoing commitment to provide a wide range of quality switch products, is pleased to announce our miniature toggle switches. U.L. listed at 5 amps resistive 120VAC, these toggle switches are miniature in size, but big in quality and long life. The combinations of circuits, actuators and terminals, available from stock or on request, make this toggle switch one of the most versatile items in our line. Panel or printed circuit mounting make for easy installation where speed, size and cost are at a premium.

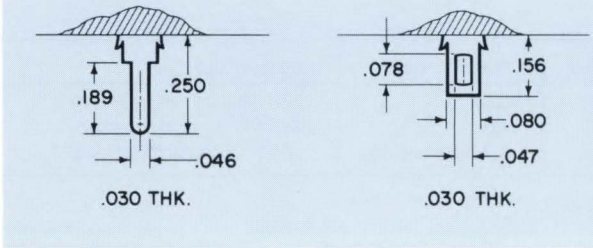
how to order:

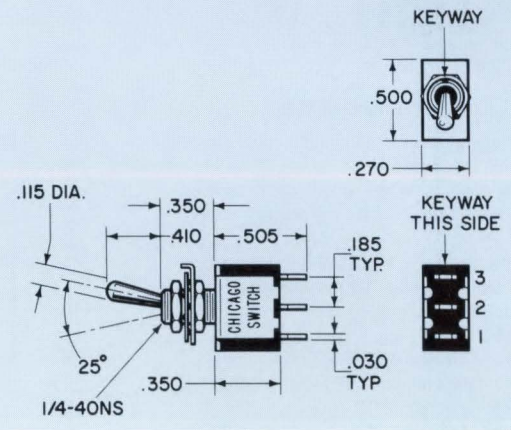
Part Number	Circuit	Function	Terminals
400-000-000	SPDT	On-On	Solder
400-000-002	SPDT	On-On	P.C.
401-000-000	SPDT	On-Off-On	Solder
401-000-002	SPDT	On-Off-On	P.C.
410-000-000	DPDT	On-On	Solder
410-000-002	DPDT	On-On	P.C.
411-000-000	DPDT	On-Off-On	Solder
411-000-002	DPDT	On-Off-On	P.C.

specifications

Contact Rating: 5 amps resistive at 120VAC or 28VDC, 2 amps resistive at 250VAC
Contact Material:
End: Coin silver, or silver plated brass terminals
Center: Silver plated brass or zinc
Contact Resistance: 10 milliohms max. initially
Life Expectancy: 100,000 actuations at rated load for ON-ON versions. All other versions 40,000 actuations
Breakdown Voltage: 1,000 V 60 Hz
Insulation Resistance: 1,000 megohms min.
Case: Melamine
Actuator: Chrome plated brass
Bushing: Nickel plated brass
Mounting Hardware:
Nut: Nickel plated brass
Locking Ring: Nickel plated brass
Lockwasher: Nickel plated steel



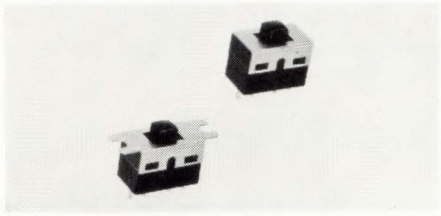


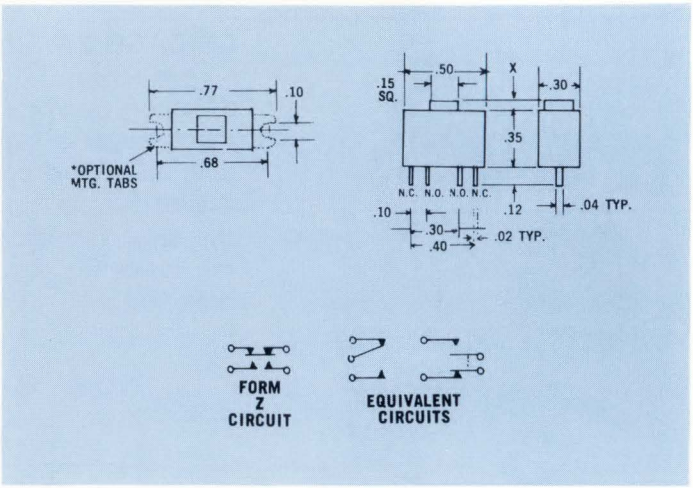


Made in U.S.A.

Tapit™ Keyboard Subminiature Pushbutton Switch

4 terminal printed circuit momentary switch





specifications

Contact Rating: 1 volt 10 ma to 100 ma at 125VAC
Contact Material: Hard gold over barrier — bifurcated contacts for high reliability
Contact Resistance: 50 milliohms initially
Life Expectancy: 5,000,000 actuations
End of Life Criteria: 500 milliohms contact resistance
Stroke: .080"
Breakdown Voltage: 500 V 60 Hz
Insulation Resistance: 50,000 megohms
Operating Force: 100-300 grams
Temperature Range: -40°C to +100°C
Circuit: SPST-NO & SPST-NC "Form Z" alternate circuits

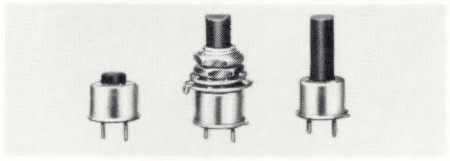
how to order:

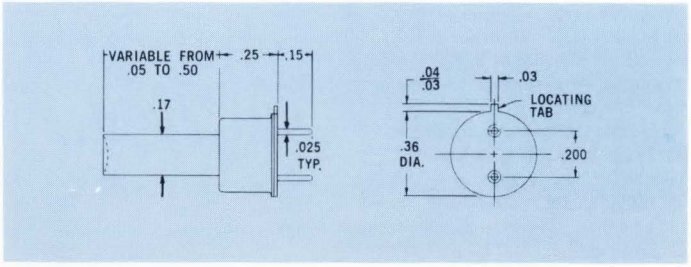
Part Number	Description	Button Height*	Stroke
34-500-001	With Mounting Tabs	.09	.080
34-500-002	P.C. Mount	.09	.080
34-500-003	With Mounting Tabs	.68	.080
34-500-004	P.C. Mount	.68	.080

* Other lengths available upon request. Made in U.S.A. Patented

TO-5 Pushbutton Spasaver™ Switch

SPST-NO circuit momentary switch printed circuit applications





specifications

Contact Rating: 1 volt 10 ma to 100 ma at 125VAC
Contact Material: Hard gold over barrier
Contact Resistance: 50 milliohms max. initially
Life Expectancy: 1,000,000 actuations
End of Life Criteria: 100 milliohms contact resistance
Stroke: .055"
Breakdown Voltage: 500 V 60 Hz
Insulation Resistance: 50,000 megohms
Operating Force: 100-300 grams
Temperature Range: -30°C to +65°C

how to order:

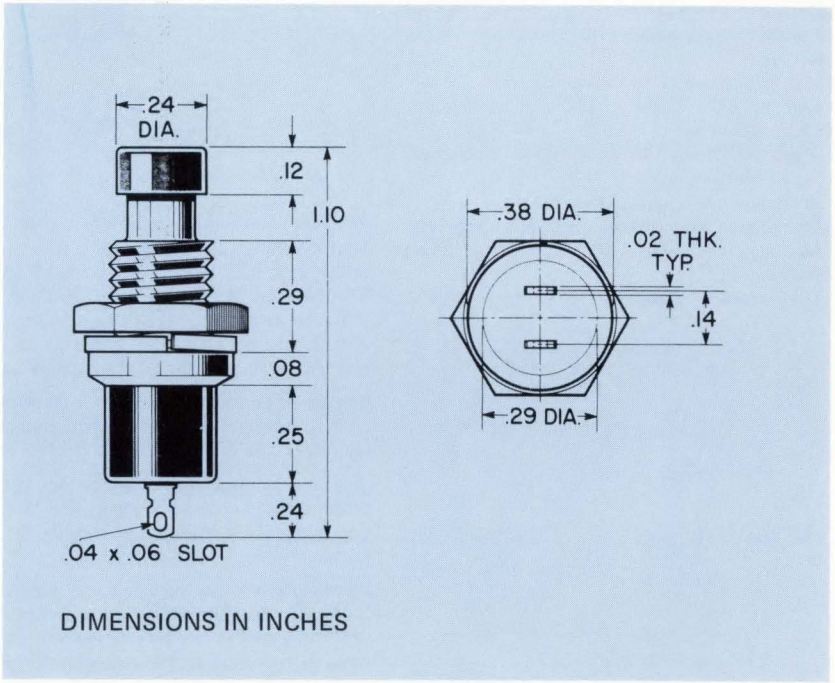
Part Number	Shaft Length*	Description
34-550-001	.06	SPST-NO momentary
34-550-002	.50	SPST-NO momentary
34-001-001	.20 over bushing	SPST-NO with bushing**

* Other lengths available upon request.
** Includes: (1) ¼" internal tooth lockwasher
(2) ¼-40 nuts (not shown) Patented Made in U.S.A.

The Economite® Line

low cost miniature pushbutton switches

SPST-NO circuit momentary switch for panel mounting



DIMENSIONS IN INCHES

These attractive miniature pushbutton switches are ideal for use in applications requiring a SPST momentary action, such as business machines, appliances, communication equipment, vending machines and all applications where space, weight and low cost are of prime importance. These reliable switches are available in a variety of pushbutton colors and include necessary panel mounting hardware.

specifications

Contact Rating:
Silver: 1 amp
Gold: 1 volt 10 ma to 500 ma at 125 VAC
Contact Material: Silver or gold
Contact Resistance: 20 milliohms initially
Life Expectancy: 50,000 actuations
End of Life Criteria: 1 ohm
Stroke: .060"
Breakdown Voltage: 500 V 60 Hz
Insulation Resistance: 50,000 megohms
Operating Force: 100-300 grams
Temperature Range: -30°C to +68°C
Contact Combination: SPST-NO
Mounts: 9/32" dia. panel hole

how to order:

Part Number	Contacts	Button Color
44-111-001		White
44-111-011	SPST-NO	Black
44-111-021	1 AMP	Red
44-111-031	SILVER	Green
44-111-041		Blue
44-111-051		Yellow

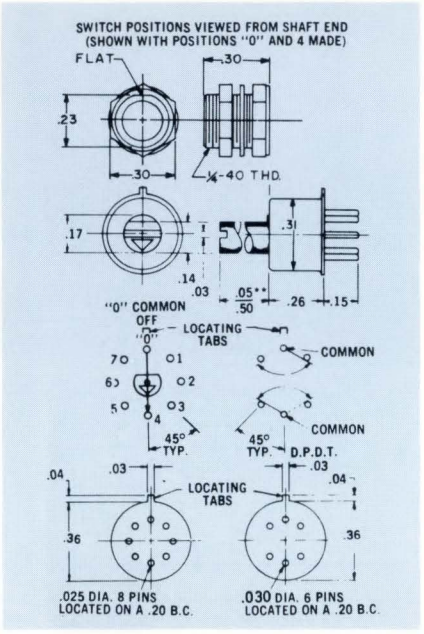
44-111-000		White
44-111-010	SPST-NO	Black
44-111-020	LOW ENERGY	Red
44-111-030	GOLD	Green
44-111-040		Blue
44-111-050		Yellow

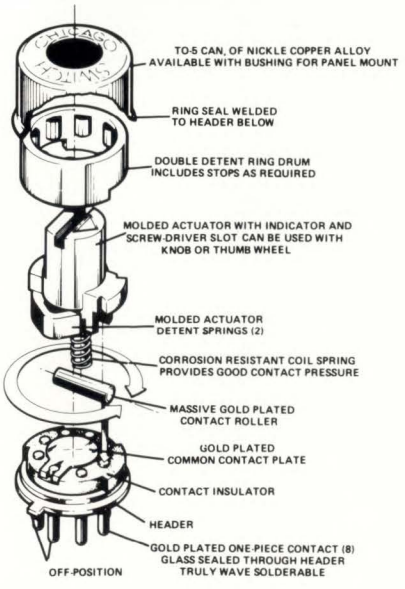
Made in the Orient

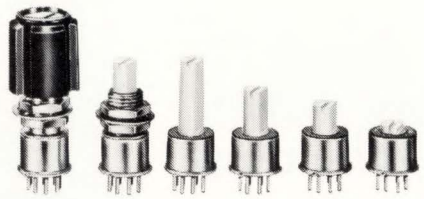
TO-5 Rotary Spasaver™ Switch

specifications

Contact Rating: 1 volt 10 ma to 500 ma at 125VAC
Contact Material: Hard gold over barrier
Contact Resistance: 80 milliohms max. initially
Life Expectancy: 10,000 actuations
End of Life Criteria: 100 milliohms contact resistance
Angle of Throw: 45°/position – 8 position max.
Breakdown Voltage: 500 V 60 Hz
Insulation Resistance: 50,000 megohms
Actuation Torque: 50 inch-grams max. initially
Temperature Range: -30°C to +100°C







This new sub-miniature rotary switch gets up to 8 positions into a TO-5 can. Gold contacts assure reliable switching over a long life. Mounting can be accomplished by wave soldering directly to P.C. board, by means of board sockets, or panel mounted with optional bushing. The actuator moves through 360° in detented steps of 45°. Also available with stops as required from 2 to 8 positions. Contacts will switch 0.5 amps at 125VAC (will carry 3 amps) with an operating temperature range of -30°C to 100°C. The exploded drawing will give you an indication of the quality and engineering features of this switch.

The small compact size offers a distinct advantage, particularly in view of the increasing cost of P.C. board real estate and the premium on front or rear panel space. Now you know why we call it a SPASAVER. With the hand wiring eliminated, the savings are even greater.

The use of glass to metal contact pin seals eliminates any contamination when using the latest wave soldering techniques. This method of soldering not only reduces the time of connecting, removes the possibility of connection errors, but assures uniformly good solder joints as well. A savings in itself.

Applications of switches of this type are widely varied. One of the more popular uses is in manually programming a single standardized P.C. board for test or multifunction usage. With the switch mounted near the access edge, using a thumb wheel, the board does not have to be removed to change function or program. This type of application is used in test equipment, process control equipment, computer peripherals input terminals and telephone switching equipment.

The panel mount bushing version also offers some unique advantages which are cost saving. After the switch or switches are P.C. mounted, the board can be panel mounted via the switch bushings.

how to order:

30-XXX-XXX

Code	Positions	Switch Positions
202	2 (45°)	1,2
303	3 (90°)	1,2,3
404	4 (135°)	1,2,3,4
505	5 (180°)	1,2,3,4,5
606	6 (225°)	1,2,3,4,5,6
707	7 (270°)	1,2,3,4,5,6,7
808	8 (360°)	1,2,3,4,5,6,7,0

Code	Std. Shaft Lengths *
05	.05"
18	.18"
30	.30"
50	.50"

Code	Bushing
0	None
1	¼-40 THD.** w/flat

*Different shaft lengths available on a special order basis – consult factory.
**Includes: (1) ¼" internal tooth lockwasher
(2) ¼-40 nuts .06" thick
Hardware shipped bulk.

Knob (optional) CS No. 55-000-529

NOTE: Shaft length measured with no bushing. With bushing .30" actuator is flush with top of bushing.

DPDT **30-222-XXX**

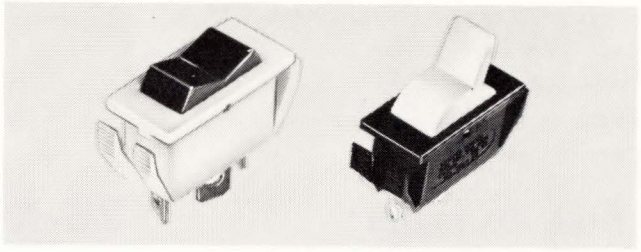
BUSHING CODE
SHAFT LENGTH CODE

Patented Made in U.S.A.

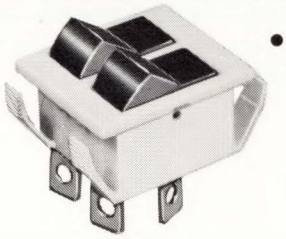
Single-Pole Rocker and Paddle Switches

26 series and P26 series—unlighted

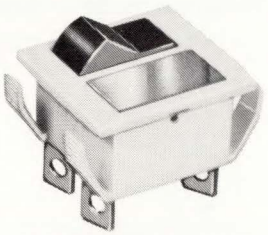
- U.L. Listed and CSA Certified for: 10 amps at 125VAC inductive or 12VDC; 8 amps at 250VAC inductive, ½ h.p. (U.L. File No. E43318) (CSA File No. 39185)
- Contacts: Silver-cadmium
- Breakdown Voltage: 2,000 V 60 Hz min.
- Snap-in installation
- Features: Heavy duty and low energy versions available
- Wide range of color combinations
- Special colors, hot stamping and metal bezels available
- Matching panel lights and lighted switches available
- Solder, screw or slip-on terminals



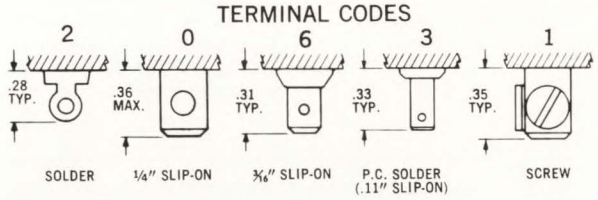
- Two switches in one case. Specify by two part numbers. Such as: "26-290-102 + 26-280-103" Panel cutout 1.08" x .96"
- U.L. listed 6 amps inductive at 125VAC

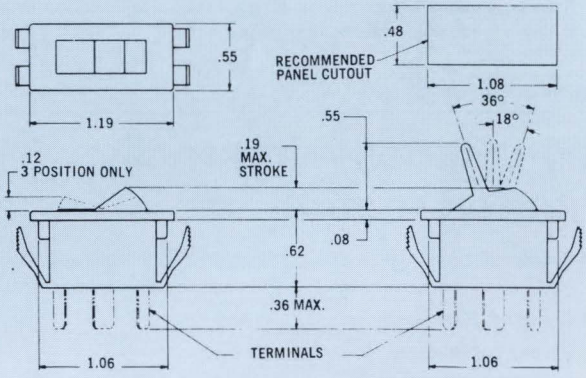


- Switch plus a lens in one case.



TERMINAL CODES





Panel Thickness: Snaps into panels from .031" to .125" thick.

how to order:

P26-XXX-10X

ADD "P" FOR PADDLE SWITCH

TERMINAL CODE

- 0 — ¼" wide slip-on
- 1 — Screw
- 2 — Solder
- 3 — P.C. Solder (.11" slip-on)
- 6 — 3/16" wide
- 8 — See Series 26-8

ROCKER & PADDLE COLOR CODE

- 0 — White
- 2 — Red
- 4 — Ivory*
- 5 — Green*
- 6 — Blue
- 8 — Gray*
- 9 — Black

CASE COLOR CODE

- 0 — White
- 1 — Brt. Alum. Bezel
- 2 — Red
- 4 — Ivory
- 5 — Green
- 6 — Light Blue
- 8 — Gray
- 9 — Black

CIRCUIT CODE

- 0 — SPST on-off
- 1 — SPST-NO Momentary-on
- 2 — SPDT Maintained
- 3 — SPDT Momentary Transfer
- 4 — SPDT 3-Position Center-off
- 5 — SPST-NC Momentary-off
- 6 — SPDT 3-Position Center-off Momentary-both sides
- 8 — Refer to lighted rocker switch series
- 9 — SPDT 3-Position Center-off Momentary-one side

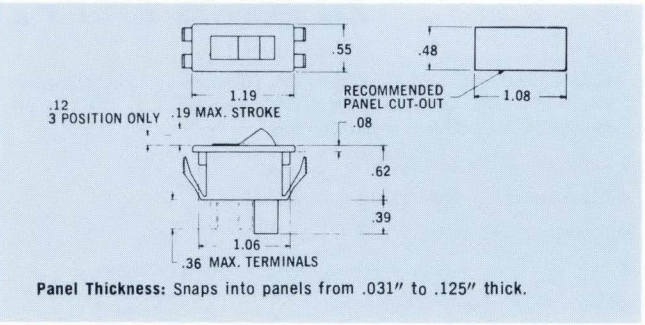
*Rocker color only.

Made in Europe

Single-Pole Lighted Rocker Switches

26 series (neon & incandescent)

- U.L. Listed and CSA Certified for: 10 amps at 125VAC inductive or 12VDC; 8 amps at 250VAC inductive, ½ h.p. (U.L. File No. E43318) (CSA File No. 39185)
- Contacts: Silver-cadmium
- Positive actuation
- Slip-on, solder and screw terminals
- Metal bezels available



Panel Thickness: Snaps into panels from .031" to .125" thick.

how to order: 26-XXX-XX8

TERMINAL CODE

- 0 — ¼" slip-on
- 1 — Screw
- 2 — Solder
- 3 — P.C. solder (.11" slip-on)
- 6 — 3/16" slip-on
- 8 — See Series 26-8

ROCKER COLOR CODE

- 0 — White
- 2 — Red
- 3 — Clear
- 4 — Amber
- 5 — Green†

CASE COLOR CODE

- 0 — White
- 1 — Brt. Alum. Bezel
- 2 — Red
- 4 — Ivory
- 5 — Green
- 6 — Light Blue
- 8 — Gray
- 9 — Black

CIRCUIT CODE

- 1 — SPST on-off
- 3 — SPST-NO Momentary-on

LAMP CODE

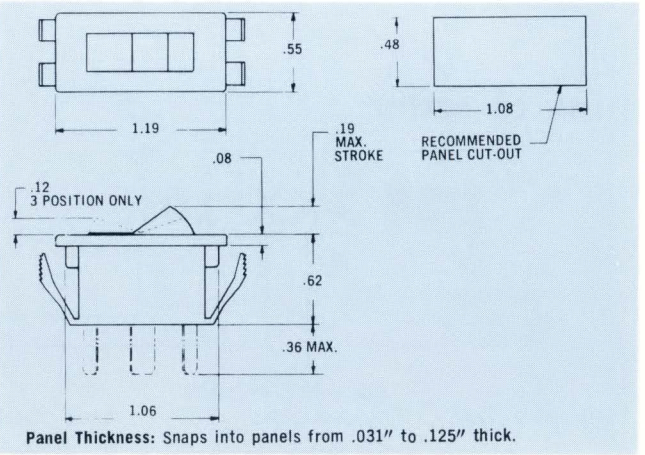
- 2 — 4-6.3 V incandescent 600,000 - 3,000 hour life
- 3 — 18-28 V incandescent 1,760,000 - 10,000 hour life
- 4 — 9-14 V incandescent 180,000 - 1,000 hour life
- 6 — 125 V neon, high intensity, 5,000 hour life
- 7 — 250 V neon, medium intensity, 25,000 hour life
- 8 — 125 V neon, medium intensity, 25,000 hour life
- 9 — NO LAMP

† Consult factory for neon versions in green.
Standard Lamp Terminations: Klipsocket 40-000-001 on incandescents, 6" wire leads with resistor on neons.

Made in Europe

26-8 series—internally lighted (neon)

- Suggested Load: 10 amps at 125VAC or 12VDC; 8 amps at 250 VAC
- Contacts: Silver-cadmium
- Snap-in installation
- Positive actuation
- Slip-on, solder and screw terminals
- Metal bezels available



Panel Thickness: Snaps into panels from .031" to .125" thick.

how to order: 26-8XX-XXX

CIRCUIT CODE

- 1 — SPST on-off
- 3 — SPST-NO Momentary-on
- 4 — SPST-NC Momentary-off

LAMP CODE

- 0 — 110 V neon
- 1 — 220 V neon

TERMINAL CODE

- 0 — ¼" wide slip-on
- 1 — Screw
- 2 — Solder
- 3 — P.C. solder (.11" slip-on)
- 6 — 3/16" wide slip-on

ROCKER CODE

- 0 — White
- 2 — Red
- 3 — Clear
- 4 — Amber

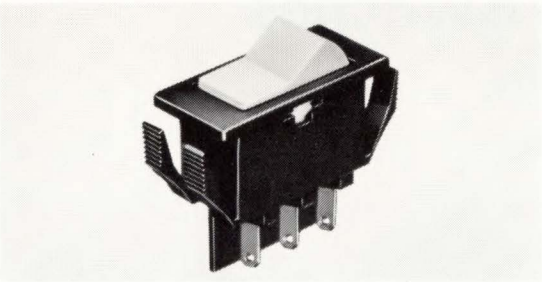
CASE CODE

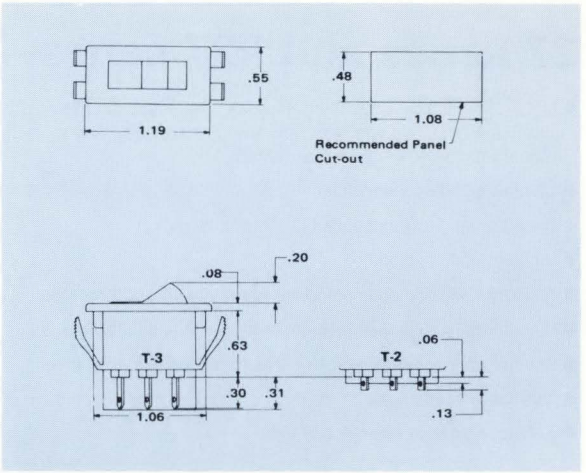
- 0 — White
- 1 — Brt. Alum. Bezel
- 2 — Red
- 4 — Ivory
- 5 — Green
- 6 — Light Blue
- 8 — Gray
- 9 — Black

Made in Europe

Double-Pole Rocker—Single-Pole Size

38 series—unlighted





- U.L. Listed and CSA Certified for: 6 amps at 125VAC inductive or 12VDC; 3 amps at 250VAC inductive; ½ h.p. (U.L. File No. E43318) (CSA File No. 39185)
- Breakdown Voltage: 2,000 V 60 Hz min.
- Snap-in installation
- Features: Heavy duty and low energy versions available
- Special colors, hot stamping and metal bezels available
- Matching panel lights available
- Solder or slip-on terminals

Panel Thickness: Snaps into panels from .031" to .125" thick.

how to order: 38-XX9-TRB

CIRCUIT CODE

00 — SPST on-off
01 — SPST-NO momentary-on
02 — SPDT maintained
03 — SPDT momentary transfer
05 — SPST-NC momentary-off
10 — DPST on-off
11 — DPST-NO momentary-on
12 — DPDT maintained
13 — DPDT momentary transfer
15 — DPST-NC momentary-off

TERMINAL CODE

2 — Solder
3 — .11" slip-on

ROCKER COLOR CODE

0 — White
8 — Gray
9 — Black

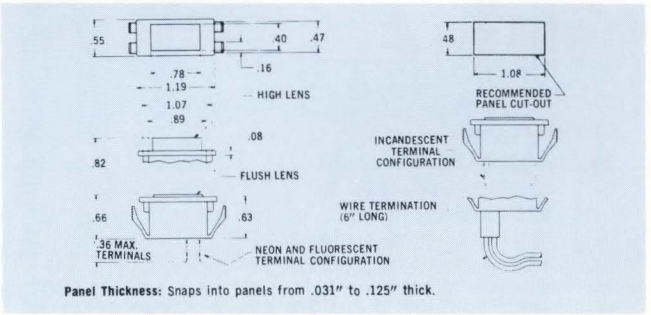
CASE COLOR CODE

0 — White
1 — Brt. Alum. Bezel
8 — Gray
9 — Black

Made in Europe

Panel Indicator Lights

15 series Matches 26, 27, and 38 series rocker and paddle switches.



Panel Thickness: Snaps into panels from .031" to .125" thick.

- U.L. Listed and CSA Certified versions available (U.L. File No. E43668) (CSA File No. 39184)
- Snap-in installation
- Hot stamping available
- Available with protruding lenses, transparent lenses, and two separate panel lights in one "double case"

how to order: 15-XXX-1X9

TERMINAL CODE

0 — ¼" wide slip-on
1 — Screw
2 — Solder
3 — P.C. solder (.11" slip-on)
4 — Wire (6" long)
6 — 3/16" wide slip-on

LENS CODE

0 — White, flush type
1 — White, high type
2 — Red, flush type
3 — Red, high type
4 — Yellow, flush type
5 — Green, flush type†
6 — Green, high type†
7 — Amber, high type
8 — Clear, flush type
9 — Blue, flush type**

CASE COLOR CODE

0 — White
1 — Brt. Alum. Bezel
2 — Red
4 — Ivory
5 — Light Green
6 — Light Blue
8 — Gray
9 — Black

LAMP CODE

0 — 125 V Neon, high intensity, 5,000 hour life
1 — 250 V Neon, medium intensity, 25,000 hour life
2 — 4-6.3 V Incandescent, 600,000 - 3,000 hour life*
3 — 18-28 V Incandescent, 1,760,000 - 10,000 hour life*
4 — 9-14 V Incandescent, 180,000 - 1,000 hour life*
5 — 125 V Neon, medium intensity, 25,000 hour life
6 — 380 V Neon, medium intensity, 25,000 hour life
7 — 125 V Fluorescent††
8 — 250 V Fluorescent††
9 — 380 V Fluorescent††

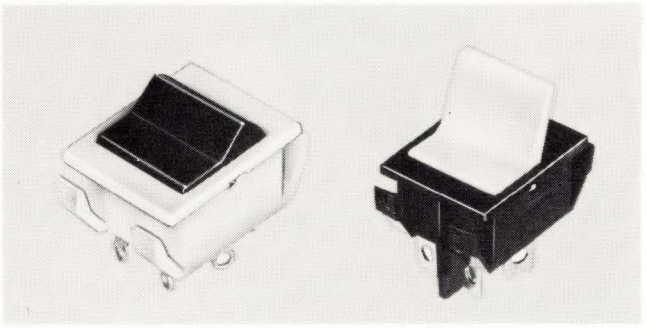
* Not U.L. Listed.
** Incandescent only.
† Incandescent and Fluorescent only.
†† Green or clear lens only.

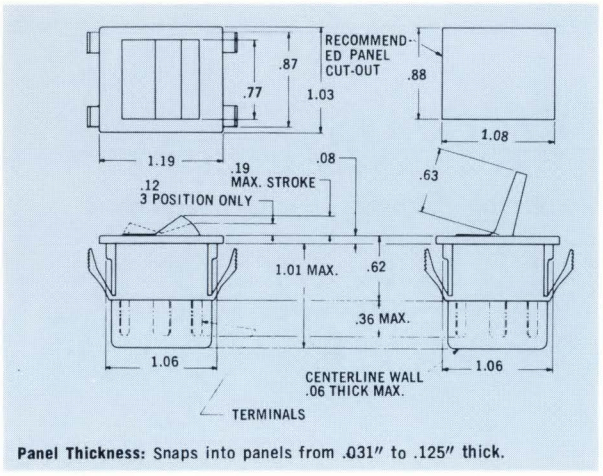
Made in Europe

Double-Pole and Single-Pole Rocker & Paddle Switches

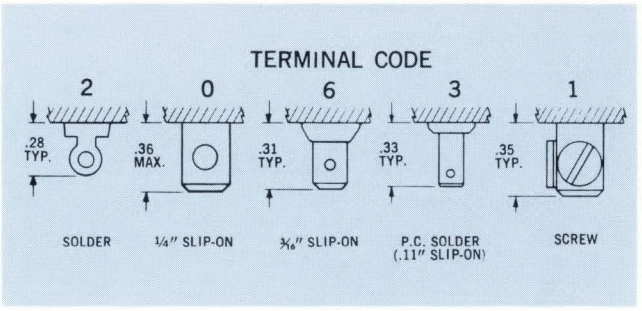
27 series and P27 series—unlighted

- U.L. Listed and CSA Certified for: 10 amps at 125VAC inductive or 12VDC; 8 amps at 250VAC inductive, ½ h.p. (U.L. File No. E43318) (CSA File No. 39185)
- Contacts: Silver-cadmium
- Breakdown Voltage: 2,000 V 60 Hz min.
- Snap-in installation
- Features: Heavy duty and low energy versions available
- Matching lighted switches and panel lights available
- Special colors, hot stamping and metal bezels available
- Numbered terminals
- Solder, screw or slip-on terminals





Panel Thickness: Snaps into panels from .031" to .125" thick.



how to order:

P27-1XX-XXX

ADD "P" FOR PADDLE SWITCH

CIRCUIT CODE

00 — SPST On-Off
01 — SPST-NO Momentary-On*
02 — SPDT Maintained
03 — SPDT Momentary-Transfer*
04 — SPDT 3-Position Center-Off
05 — SPST-NC Momentary-Off*
06 — SPDT 3-Position Center-Off Momentary-Both Sides
07 — SPDT 3-Position Center-Off Momentary-One Side
10 — DPST On-Off
11 — DPST-NO Momentary-On*
12 — DPDT Maintained
13 — DPDT Momentary-Transfer*
14 — DPDT 3-Position Center-Off
15 — DPST-NC Momentary-Off*
16 — DPDT 3-Position Center-Off Momentary-Both Sides
17 — DPDT 3-Position Center-Off Momentary-One Side

TERMINAL CODE

0 — ¼" wide slip-on
1 — Screw
2 — Solder
3 — P.C. solder (.11" slip-on)
6 — 3/16" wide slip-on

ROCKER & PADDLE COLOR CODE

0 — White
2 — Red
4 — Ivory
5 — Green
6 — Light Blue
8 — Gray
9 — Black

CASE COLOR CODE

0 — White
1 — Brt. Alum. Bezel
2 — Red
4 — Ivory
5 — Green
6 — Light Blue
8 — Gray
9 — Black

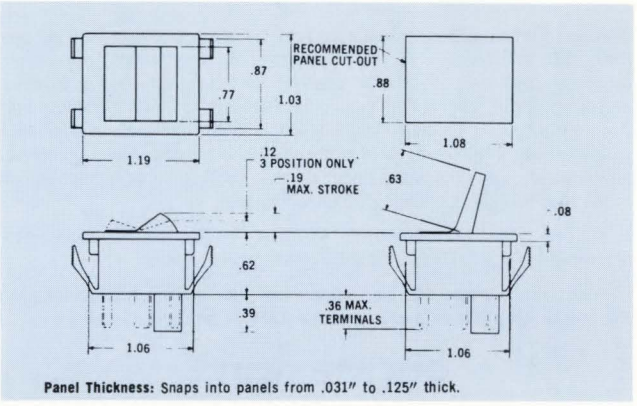
* Rocker switch circuits only.

Made in Europe

Double-Pole and Single-Pole Lighted Rocker & Paddle Switches

27 series and P27 series (neon & incandescent)

- U.L. Listed and CSA Certified for: 10 amps at 125VAC inductive or 12VDC; 8 amps at 250VAC inductive, ½ h.p. (U.L. File No. E43318) (CSA File No. 39185)
- Contacts: Silver-cadmium
- Snap-in installation
- Positive actuation
- Slip-on, solder and screw terminals
- Metal bezels available



Panel Thickness: Snaps into panels from .031" to .125" thick.

how to order: P27-XXX-XXX

ADD "P" FOR PADDLE SWITCH

CIRCUIT CODE

70 – SPST On-Off
71 – SPST-NO Momentary-On*
72 – SPDT Maintained
73 – SPDT Momentary Transfer*
74 – SPDT 3-Position Center-Off
75 – SPST-NC Momentary-Off*
76 – SPDT 3-Position Momentary-Both Sides
77 – SPDT 3-Position Momentary-One Side
80 – DPST On-Off
81 – DPST-NO Momentary-On*
85 – DPST-NC Momentary-Off*

LAMP CODE

2 – 4-6.3 V incandescent, 600,000 - 3,000 hour life
3 – 18-28 V incandescent, 1,760 - 1,000 hour life
4 – 9-14 V incandescent, 100,000 - 1,000 hour life
6 – 125 V neon, high intensity, 5,000 hour life
7 – 250 V neon, medium intensity, 25,000 hour life
8 – 125 V neon, medium intensity, 25,000 hour life
9 – NO LAMP

TERMINAL CODE

0 – ¼" slip-on
1 – Screw
2 – Solder
3 – P.C. solder (.11" slip-on)
6 – 3/16" slip-on

ROCKER & PADDLE COLOR CODE

0 – White
2 – Red
3 – Clear
4 – Amber
5 – Green†

CASE COLOR CODE

0 – White
1 – Brt. Alum. Bezel
2 – Red
4 – Ivory
5 – Green
6 – Light Blue
8 – Gray
9 – Black

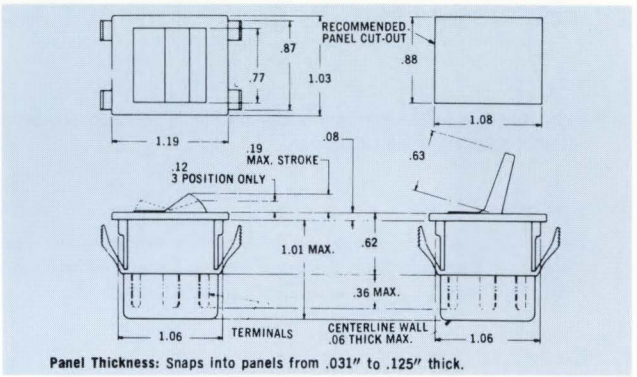
* Rocker switch circuits only.
† Consult factory for neon versions in green.
Standard Lamp Terminations: Klipsocket 40-000-001 on incandescents, 6" wire leads with resistor on neons.

Made in Europe

27-3 series— internally lighted

P27-3 series— internally lighted (neon)

- U.L. Listed and CSA Certified for: 10 amps at 125VAC inductive or 12VDC; 8 amps at 250VAC inductive, ½ h.p. (U.L. File No. E43318) (CSA File No. 39185)
- Contacts: Silver-cadmium
- Breakdown Voltage: 2,000 V 60 Hz min.
- Matching panel lights available
- Special colors, hot stamping and metal bezels available
- Numbered terminals
- Solder, screw or slip-on terminals



Panel Thickness: Snaps into panels from .031" to .125" thick.

how to order: P27-3XX-XXX

ADD "P" FOR PADDLE SWITCH

CIRCUIT CODE

0 – SPST On-Off
1 – SPST-NO Momentary-On*
2 – SPDT
3 – SPDT Momentary Transfer*
4 – SPDT 3-Position Center-Off
5 – SPST-NC Momentary-Off*
6 – SPDT 3-Position Center-Off Momentary-Both Sides
7 – SPDT 3-Position Center-Off Momentary-One Side
8 – DPST
9 – DPST-NO Momentary-On*

LAMP CODE

0 – 110 V neon***
1 – 220 V neon
6 – 380 V neon**

TERMINAL CODE

0 – ¼" wide slip-on
1 – Screw
2 – Solder
3 – P.C. solder (.11" slip-on)
6 – 3/16" wide slip-on

ROCKER AND PADDLE COLOR CODE

0 – White
2 – Red
3 – Clear
4 – Amber
5 – Green†

CASE COLOR CODE

0 – White
1 – Brt. Alum. Bezel
2 – Red
4 – Ivory
5 – Green
6 – Light Blue
8 – Gray
9 – Black

† Consult factory for neon versions in green.
* Rocker switch circuits only.
** 380 V neon not U.L. Listed
*** 110 V neon not listed at 250VAC

Made in Europe

Standard Leaf Switch Design Guide

Chicago Switch custom designed leaf switches provide for low cost, long life switching in stereo equipment, televisions, computers, business machines, electronic organs, vending machines, appliances, and electronic games. We would be pleased to custom design standard switches to fit your application — without costly retooling or special designing. Because of our engineering, production and design facilities — and the versatility of our tooling — you can get the exact leaf switch to meet your requirements.

Actuation can be furnished in cam, roller, pushbutton, rotor actuated — or any mechanical situation you require.

Contacts and lifters can be located on your switch anywhere along the blade length with increments of .001 of an inch, if necessary.

Contacts can be made of palladium, gold, silver, silver cadmium, 90-10, silver-plated — whatever material will do the best job.

Blade profile — Most industry standards and many specials are available from stock. Any profile can be made to your specifications. Blade material can be any of either the standard or exotic materials.

No matter what your requirements — Chicago Switch has the experience and facilities to produce leaf switches for you on both large and small orders — switches that are guaranteed to perform and produce to blueprint.

our design...

If CHICAGO SWITCH is to do the designing, give us as much of the following data as possible:

A. Circuit

Number and kind of circuits required. When you need a SPST circuit, be sure to specify whether normally open (NO) or normally closed (NC); if SPDT, whether break-before-make (non-shorting) or make-before-break (shorting).

B. Actuation

Kind of actuation required. Will you need a lifter — roller — cam follower? Will actuation be directly against a metal blade? A fiber-insulator blade?

C. Load

Note the load each circuit in the switch is to carry. It determines contact size and material.

D. Ambient

Required shelf life, duty cycle, ambient environment conditions — particularly if unusual. Contact material and, perhaps, plating might make a big, favorable difference.

E. Stroke

Any critical places within the stroke — if there are any — where switching must occur or actuation force reach a specified level. How far will switch be stroked?

F. Mounting

The side of the stack that is to be on the mounting surface, and the relationship to the point of actuation to the mounting surface and front mounting hole (the spacer hole nearest the blades).

G. Stack Height

Any limits there may be to height of stack.

H. U.L.

Whether the end use of your product requires U.L. approval.

or your design

If you want to do your own designing, you specify the prototype and we'll supply the samples for your approval, then handle the production runs.
What to Specify:

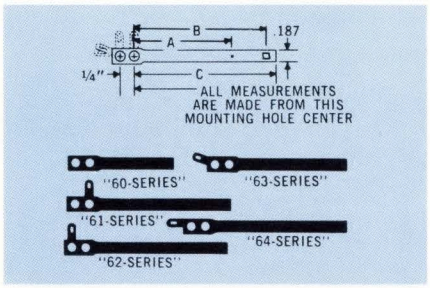
1. **Mounting Centers**
   You have your choice of ¼" mounting center with small spacers or with larger spacers, or 3/8" mounting center or our new miniature 3/16" line.
2. **Blades**
   a. Length of each blade
   b. Lug position of each blade
   c. Thickness and material of each blade
   d. Number of blades per switch
   e. Preforms
3. **Contacts**
   a. Size and shape of each contact
   b. Material of each contact
   c. Which particular blade each contact goes on and the contact position on the blade
4. **Lifters**
   a. Shape of each lifter
   b. Length of each lifter
   c. Which particular blade each lifter goes on and the lifter position on the blade
5. **Spacers**
   a. Size of each spacer
   b. Position of each spacer in the stack
6. **Tubing**
   a. Inside diameter of tubing
   NOTE: Only a No. 3 screw clearance diameter is available in ¼" x ½" spacers.
7. **Other Information**
   a. Forms in blades (if any)
   b. Sequence of switching (if necessary)
   c. Brackets (if any)
   d. Flexible fibre insulators (if any)
8. **Application Information**
   a. Load
   b. Duty cycle
   c. Life requirement
   d. Adverse ambient conditions
9. **A Sketch of the Suggested Prototype**

90% of all leaf switches can be built by using these standard, already tooled parts. By familiarizing yourself with them you can put together virtually any combination of switching circuits with low-cost leaf switches. Please use decimal-inch or fractional-inch dimensions, if possible — other notation if necessary.

Standard Leaf Switch Design Guide

blades

¼" Mounting Center

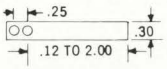


Blade Lengths: Any blade length, contact position, lifter position, or form-can be had in any .001" from .156" to 2.500" from the center of the front mounting hole.

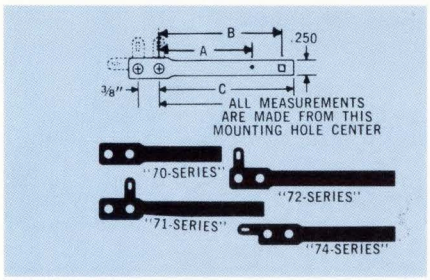
Thickness: Any blade thickness from .006" to .020" can be had.

Material: Both nickel-silver, and tinned phosphor bronze, the best all-around long-life spring materials, can be readily soldered to without pre-treatment. For use with .250" x .500" spacers, the mounting holes are .156" dia.

Fibre Insulators: Flexible vulcanized fibre insulators for ¼" mounting centers can be had in .010" and .015" thicknesses. Length from .125" to 2.000". .005" thick insulators can be had in lengths up to 1.312" maximum.



3/8" Mounting Center

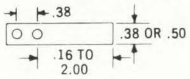


Blade Lengths: 1,500 different blade lengths can be had from .875" to 2.375" from the center of the front mounting hole. The same wide choice is available in contact hole positions (dimension "A"), lifter hole positions (dimension "B"), and form positions.

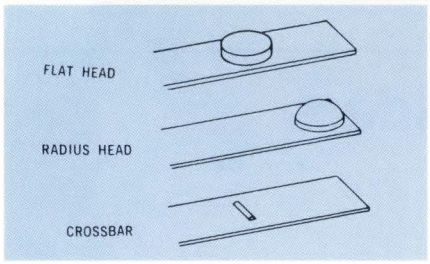
Thickness: Any blade thickness from .006" to .020" can be had. For use with .296" x .562" spacers, the mounting holes are .187" dia.

Material: Both nickel-silver and tinned phosphor-bronze are available.

Fibre Insulators: Flexible vulcanized fibre insulators for 3/8" mounting center can be had in .010" and .015" thicknesses and any length from .156" to 2.000".



contacts

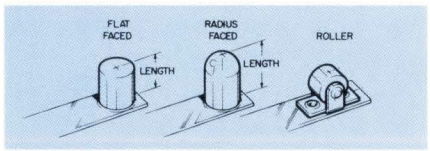


Sizes: .017" to .062" thick, .109" to .187" dia. for round contacts, .019" thick, .032" to .125" long for cross bar contacts.

Material: Fine silver for commercial applications, No. 1 gold alloy or palladium for low-energy circuits, silver-cadmium or silver-cadmium oxide for weld and arc resistance, gold flash for shelf life.

Stakings: Rivet head contacts are staked into holes in the blades. The staked shank itself can serve as a contact on the other side of the blade, behind the head. You may specify a flat, radiused or point stake, as you wish.

lifters

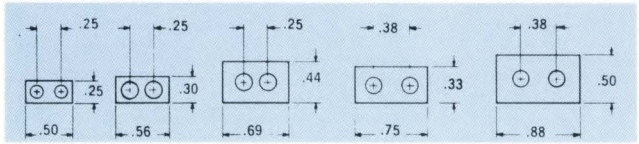


Standard lifters are nylon, .187" dia.

Lengths Available: 1/16" to 7/16" in increments of 1/32". Lifters can be positioned anywhere on the blade.

Note: Designate position of contacts, lifter preforms, and other components in terms of distance from the front mounting hole center. Self extinguishing (SE grades) material available. Special lifter shapes available.

spacers



Available in .032", .047", .062", .078" and .093" thicknesses and in the above profiles, self extinguishing (SE grades) material.

Header Plates: Available for ¼" and 3/8" mounting center switches.

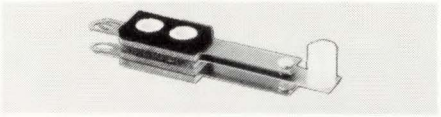
Mounting: Right angle brackets are available.

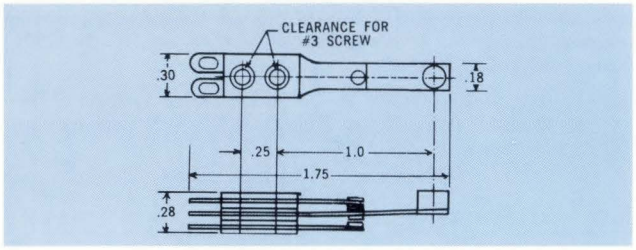
Nut Plates: Available for ¼" mounting center switches.

Tubing: Tubing can be had with an I.D. of: .105/.115 (for No. 3 screw), .114/.123 (for No. 4 screw), and .128/.137 (for No. 5 screw).

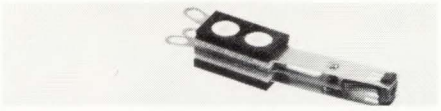
Standard Leaf Switch Design Guide

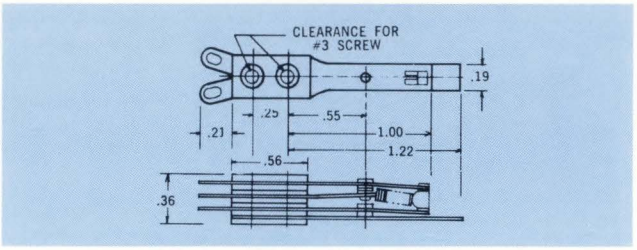
Basic Leaf Switch



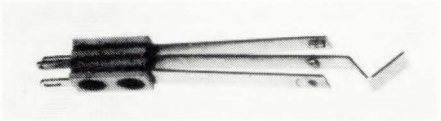


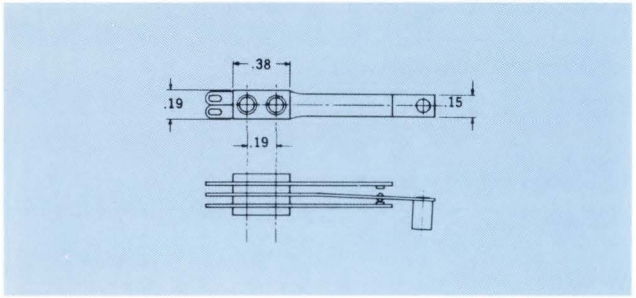
Basic Snap Switch



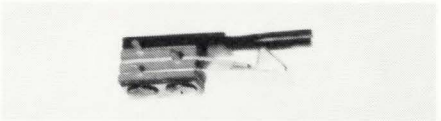


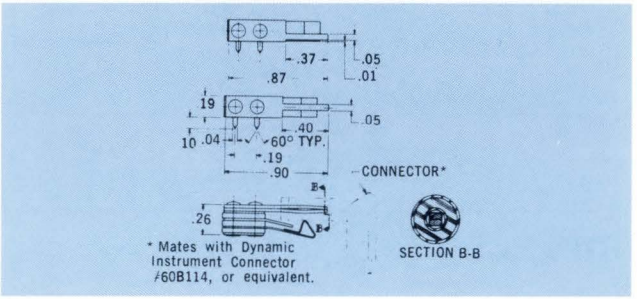
Spacesaver tm Leaf Switch





Jak-Switch tm Jack Adapter





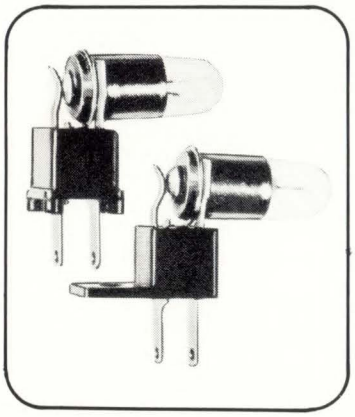
Made in U.S.A.

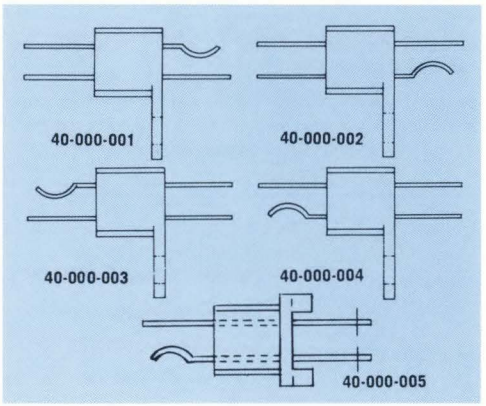
Klipsocket™ Lampholders

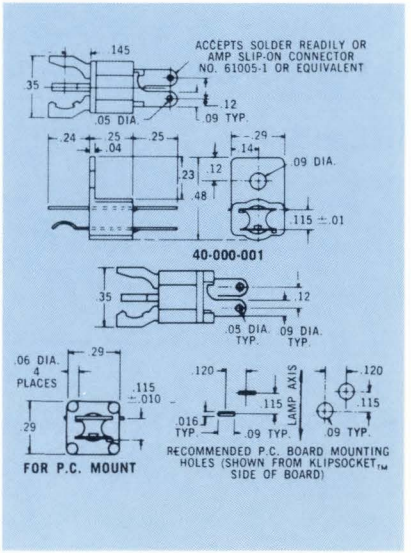
This low cost, reliable Klipsocket fits all T-1¾ Midget Flange Based Incandescent and Neon Lamps. The bulb engages with the nickel-silver contact-terminals which are molded in the glass filled nylon base. Terminals are designed for soldering or slip-on connectors.

specifications

Holding Force: 1 lb. min.
Breakdown Voltage: 2,000 V 60 Hz



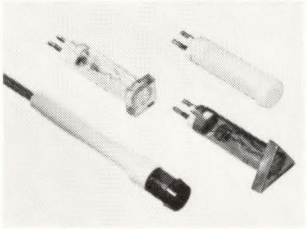




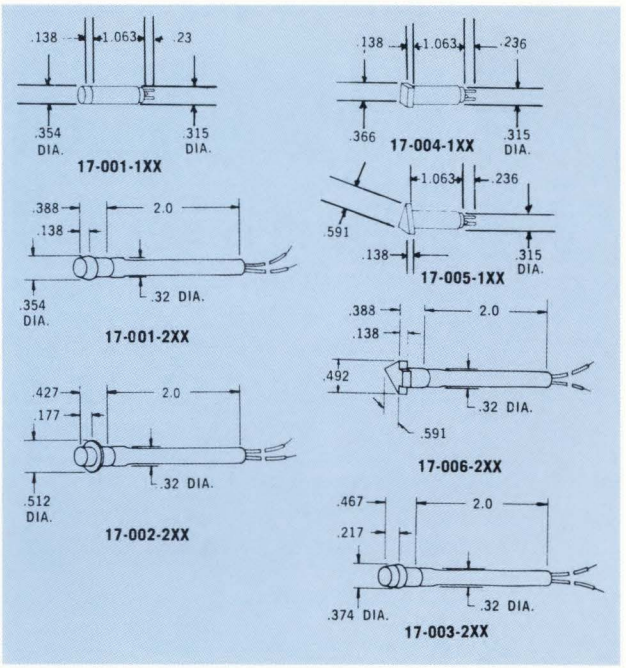
Made in U.S.A.

Econolite™ Panel Indicator Lights

17-00 series



- Long life
- High brilliance
- Temperature range to 100°C
- Mounts in .319-.325" dia. hole



how to order: 17-00X-XXX

LENS STYLE CODE

1 – Round lens
2 – Round lens & chrome flange
3 – Round lens & chrome flange
4 – Square lens
5 – Triangular lens
6 – Arrow lens

TERMINAL CODE

1 – Solder
2 – Wire (6" long)
3 – Pins for P.C. board

COLOR CODE

0 – White
2 – Red
4 – Amber
5 – Green (not w/neon)
8 – Clear

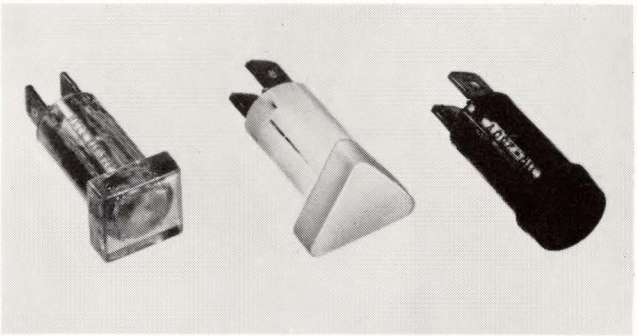
VOLTAGE CODE

0 – 110 V neon
1 – 220 V neon
2 – 4-6 V incandescent
3 – 18-28 V incandescent
4 – 8-12 V incandescent
6 – 380 V neon
7 – 110 V fluorescent*
8 – 220 V fluorescent*
9 – 380 V fluroescent*

* For green or clear lenses only.

Made in Europe

17-11 series



- U.L. Listed and CSA Certified (U.L. File No. E43668) (CSA File No. 39184)
- Chrome bezels available for round-faced versions
- Other lamp ratings, 240V neon versions, hot stamping

how to order: 17-11X-XXX

LENS STYLE CODE

1 – Round flat lens
2 – Round flat lens & chrome bezel
3 – Round flat lens & chrome ring
4 – Square lens
5 – Triangular lens
7 – Round concave lens
8 – Round concave lens & chrome bezel

TERMINAL CODE

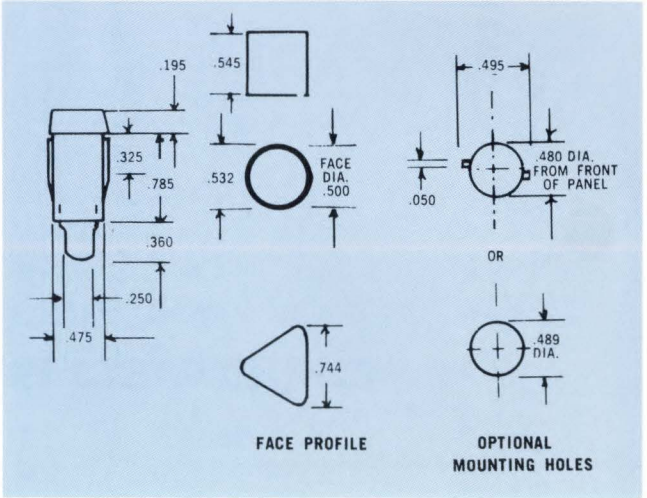
0 – ¼" wide slip-on
1 – Solder
2 – Wire (6" long)
6 – 3/16" wide slip-on
7 – P.C. solder (.11" slip-on)

COLOR CODE

0 – White
2 – Red
4 – Amber
5 – Green (not w/neon)
8 – Clear

VOLTAGE CODE

0 – 125 V neon, high intensity 5,000 hour life
1 – 250 V neon, medium intensity, 25,000 hour life
2 – 4-6.3 V incandescent** 600,000 - 3,000 hours life
3 – 18-28 V incandescent** 1,760,000 - 10,000 hours
4 – 9-14 V incandescent** 180,000 - 1,000 hours life
5 – 125 V neon, medium intensity, 25,000 hours life
6 – 380 V neon, medium intensity, 25,000 hours life
7 – 125 V fluorescent*
8 – 250 V fluorescent*
9 – 380 V fluorescent*



* For green or clear lenses only.
** Not U.L. Listed

Made in Europe

CHICAGO SWITCH, INC.

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