

NKK[®]

SERIES JF

DOME CONTACT/LOW PROFILE/WASHABLE

DISTINCTIVE FEATURES

Low profile dimensions from PCB to top of switch.

Wide choice of body shapes and colors.

Minimal operating force and short stroke permit light touch operation.

Dome contact gives crisp tactile and audible feedback to positively indicate circuit transfer and assures high reliability and long life.

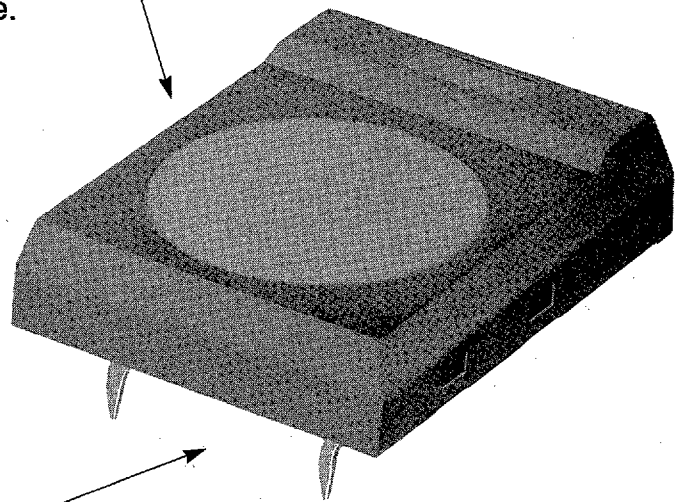
Totally sealed contact mechanism permits wave soldering and washing.

Space saving body dimensions provide for compact, side-by-side mounting on a standard grid.

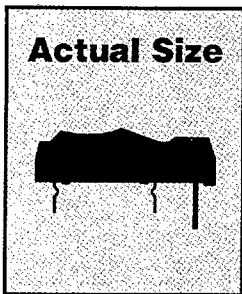
Terminal spacing conforms to standard .100" PCB grid.

Single-pole, single-throw contacts with strapped terminals allow X-Y coding on a single-sided PC board and simplify external circuit arrangement.

Crimped terminals provide a spring type action to ensure secure mounting and prevent dislodging during wave soldering.



Actual Size



NKK® SERIES JF KEYPAD SWITCHES

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GENERAL SPECIFICATIONS

Electrical Capacity: (Resistive Load)	50mA @ 24V DC
Contact Resistance:	50 milliohms maximum
Insulation Resistance:	500 megohms minimum @ 250V DC
Dielectric Strength:	250V AC minimum
Mechanical Life:	500,000 operations minimum
Electrical Life:	500,000 operations minimum
Total Travel:	0.4mm (.016") for flush actuator & 0.8mm (.031") for sculptured actuator
Ambient Temp Range:	-25°C through +70°C (-13°F through +158°F) for illuminated models -25°C through +85°C (-13°F through +185°F) for nonilluminated models
Nominal Operating Force:	200 grams with sculptured actuator; 350 grams with flush actuator
Contact Bounce:	0.1 millisecond maximum

Keypads

MATERIALS & FINISHES

Actuator	Polyamide
Case	Glass fiber reinforced polyamide
Seal	Nitrile butadiene rubber
Base	Glass fiber reinforced polyester
Movable Contact	Phosphor bronze with silver plating
Stationary Contacts	Brass with silver plating
Terminals	Brass with silver plating

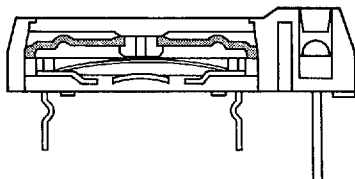
APPLICATIONS

These tact switches are designed for compact mounting and offer flexibility in panel design. JF switches are ideal for use in today's wide array of miniaturized equipment: medical measuring instruments and devices for measuring thickness, water quality, etc.; communication equipment; automated office machines; consumer electronics; video switchers, AV special effects equipment, and monitoring camera system controllers.

These single pole single throw, momentary devices are available in both illuminated and nonilluminated versions. Inscriptions are available upon request to the factory. They are styled with a black housing in contrast to the colored, round or square actuators. Spot illuminated models are offered with red, yellow, or green LEDs and with isolated lamp circuits. Actuators are available in a choice of five colors.

PROCESS SEALED & SPLASHPROOF

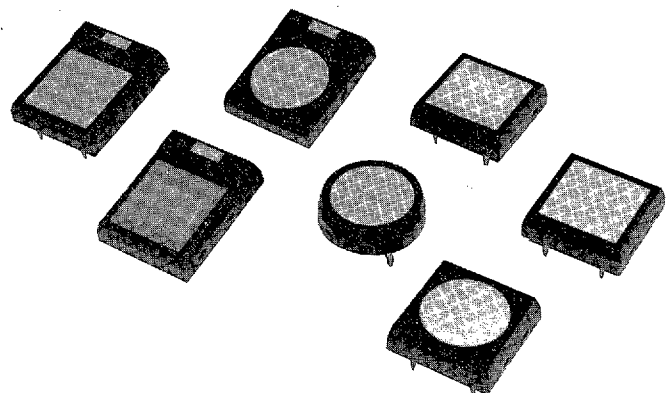
The contact mechanism is surrounded by a rubber seal which permits the switches to be subjected to time- and money-saving automated soldering methods. They can also be safely cleaned of flux using alcohol based cleaning solvents. (Other solvents are not recommended.) Switches should not be operated or have any pressure on the actuators during washing.



MODEL VARIATIONS

Illuminated

Nonilluminated



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TYPICAL SWITCH ORDERING EXAMPLE

JF **15** **S** **P** **2** **C** —

POLE & CIRCUIT			
15	SPST	OFF	(ON)
() = Momentary			

HOUSING SHAPES	
Nonilluminated	
S	Square
C	Round (w/round actuator only)
Illuminated	
R	Rectangular

ACTUATOR TYPES	
1	Square
2	Round
3	Sculptured
See following detail page for housing/actuator combinations	

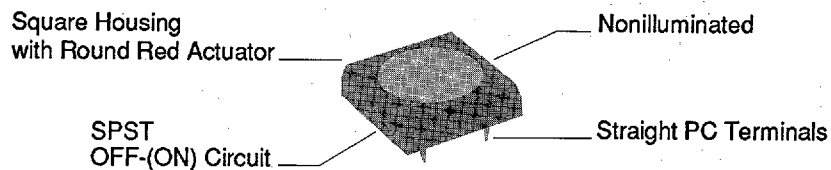
LED COLORS	
C	Red
E	Yellow
F	Green

ACTUATOR COLORS	
C	Red
D	Orange
F	Green
G	Blue
H	Gray

PC TERMINALS	
P	Straight

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE (JF15SP2C):

SERIES JF KEYPAD



Keypads

DOME CONTACT/LOW PROFILE/WASHABLE

POLE AND CIRCUIT		ACTUATOR POSITION & TERMINAL NUMBERS	
POLE & THROW	MODEL	() = Momentary	
		Normal	Down
SPST	JF15	OFF	(ON)
SCHEMATIC			
Terminal numbers are actually on switch. LED circuit is isolated & requires external switch.			

TERMINALS

P Straight PC Terminals

Nonilluminated

Illuminated
(w/isolated lamp circuit)

Dimensions appear in the following drawings.
Soldering time & temperature: 5 seconds @ 270°C.

HOUSING & ACTUATOR TYPES

NONILLUMINATED		ILLUMINATED
S Square Housing 1 Square Actuator 2 Round Actuator 3 Sculptured Actuator	C Round Housing 2 Round Actuator	R Rectangular Housing 1 Square Actuator 2 Round Actuator 3 Sculptured Actuator
Actuator Colors: C Red D Orange F Green G Blue H Gray LED Colors: C Red E Yellow F Green Contact the factory about legends.		

LED SPECIFICATIONS

LEDs are supplied as an integral part of illuminated devices and are not available separately. LED polarity markings are on the bottom of the switch, The electrical specifications shown are determined at a basic temperature of 25°C. If the source voltage exceeds the rated voltage, a ballast resistor is required. The resistor value can be calculated by using the formula at the end of this catalog.

		Red	Yellow	Green
Forward Peak Current	I_{FM}	40mA	40mA	40mA
Continuous Forward Current	I_F	30mA	30mA	30mA
Forward Voltage	V_F	1.7V	2.2V	2.2V
Reverse Peak Voltage	V_{RM}	4V	4V	4V
Current Reduction Rate Above 25°C	ΔI_F	0.67mA/°C	0.67mA/°C	0.67mA/°C

Illuminated/with Sculptured Actuator

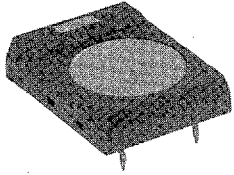
JF15RP3C-C Model Shown

Keypads

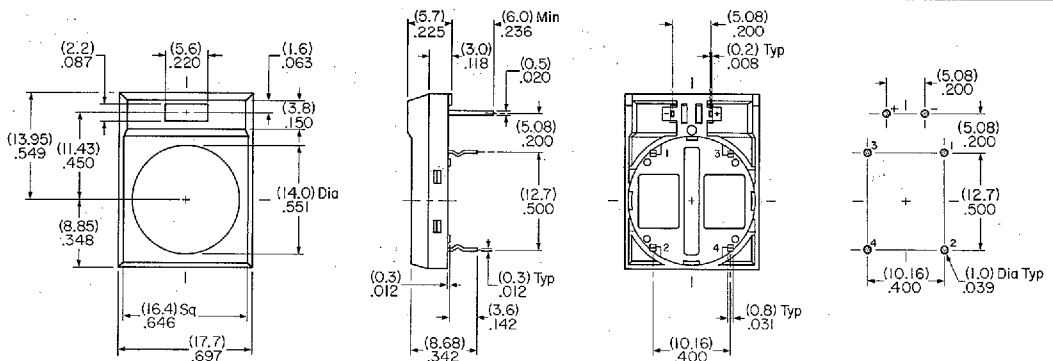
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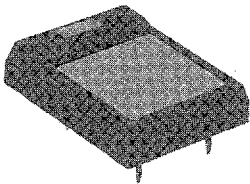
Illuminated/with Round Actuator



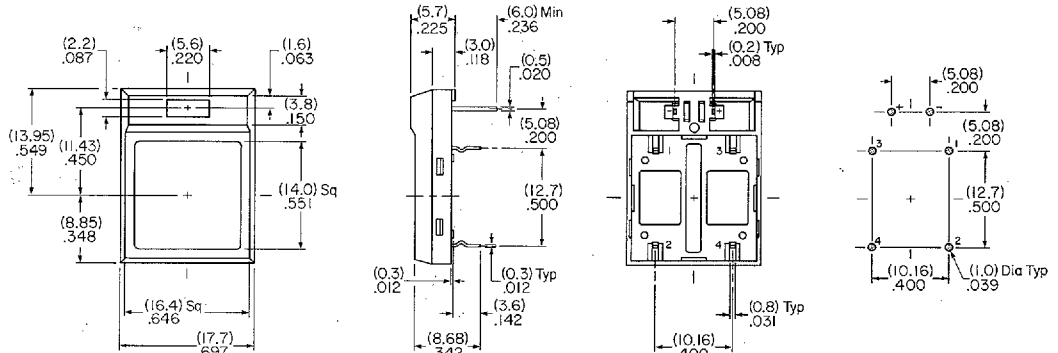
JF15RP2C-C Model Shown



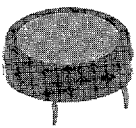
Illuminated/with Square Actuator



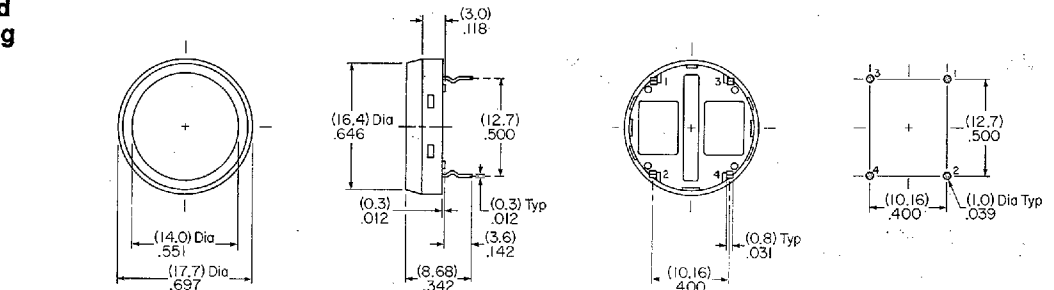
JF15RP1C-C Model Shown



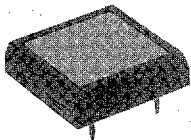
Nonilluminated/with Round Actuator in Round Housing



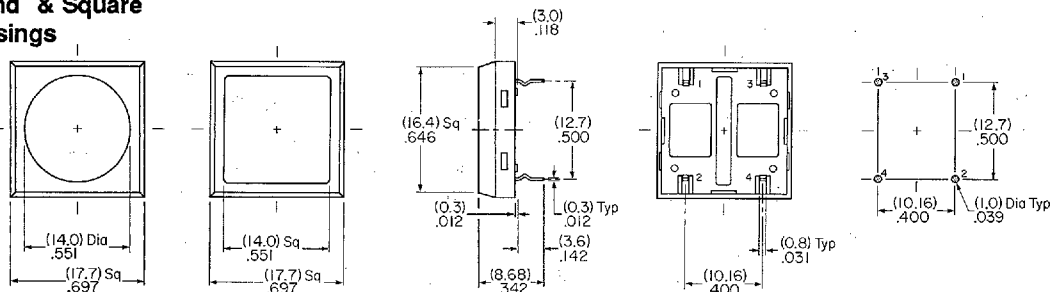
JF15CP2C Model Shown



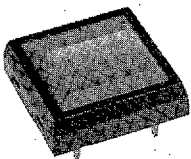
Nonilluminated/with Round & Square Actuators in Square Housings



JF15SP1C Model Shown



Nonilluminated/with Sculptured Actuator



JF15SP3C Model Shown

