PART NUMBERING SYSTEM

X A B C - D E FG H I J

(X) RELAY FAMILY

4/5	50 Ohm System
3	50 Ohm Matrix Mulipos.
7	70 Ohm System
R	50 Ohm, Reliant Switch

(A) CONFIGURATION

0	SPDT	A	SP10T
1	Transfer	B	SP11T
2	SPST	C	SP12T
3	SP3T	E	SP14T
4	SP4T	F	SP16T
5	SP5T		
6	SP6T		
7	SP7T		
8	SP8T		
9	SP9T		

(B) SIZE

1	Std. Case, normally SMA connectors (Radial)
2	Std. Case, normally N Connectors
3	Small Case, normally SMA (Multithrow)
4	Intermediate Cavity, SMA/TNC
5	Miniature Radial
6	Std. Case, normally N connectors (Radial)
7	Microminiature Radial
9	Microminiature Switch

(C) SPECIAL OPTIONS

A	High Power	K	26.5 GHz
B	Bypass (2-4)	L	Flange Mount Cavity
C	Special Mounting Bracket	M	Fast Switching
		N	Remove STD Mounting Bracket
D	Bypass (1-2)	P	Power Connector
E	Bypass (3-4)	R	Reverse Polarity
F	Bypass (1-3)	S	Seal, Enhanced Epoxy or Gasket
G	Make Before Break	T	-55°C to +85°C
H	HI-REL	U	5 Million Cycles
I	Immersion Seal	V	Laser Seal
J	"D" Type Connector	W	Low PIM
		Y	40 GHz

(D) ACTUATOR COIL TYPE

1	Manual
2	Failsafe, Position 1
3	Pulse Latching
4	Latching, Self Cutoff
5	Normally Open
6	Failsafe, Suppression Diodes
7	Pulse Latching, Suppression Diodes
8	Latching Reset, Suppression Diodes
9	Normally Open, Suppression Diodes

(J) SPECIAL OPTIONS

A	TTL HI, Commercial (2.4 - 5.5 Vdc)
B	TTL HI, Military (2.4 - 5.5 Vdc), JANTX
E	CMOS BCD Decoding Logic & MOSFET Driver, Commercial
G	RS-422
L	TTL Logic Low, Commercial (0.0 - 0.8 Vdc)
N	CANBUS
S	Single Line TTL
T	Ethernet
U	USB
TV	Thermal Vacuum

(I) TERMINATIONS

1	Short	5	50Ω, 5W
2	Open	7	50Ω, Term, Port 1
3	50 Ω	8	50Ω, SMA
4	75 Ω		

(H) AUXILIARY/INDICATOR CONTACTS

0	None
2	Mechanical SPST
3	Mechanical SPDT
5	Optical
6	Electronic

(FG) CONNECTORS

01	N
02	BNC
03	TNC
04	UHF
05	C
06	GPO*
07	BMA (OSP)
08	SMA
09	3.5mm (SMA Interface)
11	2.9mm (K)
12	SMB
14	TPS
19	Pins (PC Board Drop-in)
51	HN
53	SC
54	7/16
71	SMB (50 Dhm)
72	SMB (75 Dhm)
73	SMB (Mini 75 Dhm)

* GPO is a trademark of Gilbert Engineering

(E) ACTUATOR COIL VOLTAGE

0	Manual	7	20 Vdc
1	6 Vdc	8	24 Vdc
2	12 Vdc	9	15 Vdc
3	28 Vdc		
4	48 Vdc		
5	5 Vdc		

SPDT
COAXIAL SWITCH

DowKey® Microwave
CORPORATION
an MPG brand

SPDT

401 Failsafe | SMA, 2.9 mm (K)

- DC-18 GHz
- DC-26.5 GHz
- DC-40 GHz
- Low/Medium Power
- 1M/5M Life Cycles

RF Characteristics

Frequency GHz	VSWR (max)	Isolation dB (min)	Ins. Loss dB (max)
DC-1	1.10	85	0.10
1-4	1.15	80	0.15
4-8	1.20	70	0.20
8-12	1.30	65	0.30
12-18	1.35	60	0.35
*18-26.5	1.50	55	0.50
*26.5-40	1.90	55	0.80

* Performance varies depending on selected options

Specifications

Operating Voltage (across temperature range):
12 Vdc (11-14 Vdc)
24 Vdc (20-28 Vdc)
28 Vdc (24-32 Vdc)

Coil Current (max. @ nom. Vdc & 25°C)*:
12 Vdc 195 mA
24 Vdc 125 mA
28 Vdc 95 mA

Switching Time:
15 ms maximum

Operating Temperature:
-25°C to +65°C (Standard)
-55°C to +85°C (Extended "T" Option)

Mechanical Life Cycles*:
1,000,000 minimum
5,000,000 minimum ("U" Option)

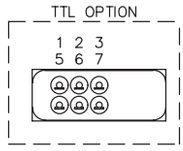
Vibration, Operating:
10G RMS, 20-2000 Hz

Mechanical Shock, Non-Operating:
30G, 1/2 Sine, 11 ms

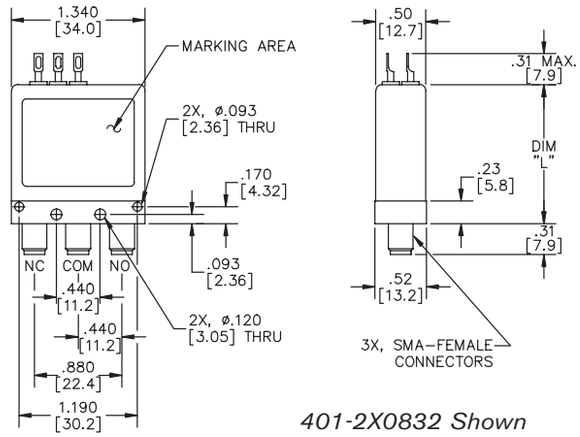
Nominal Weight*:
1.4 oz. (40 g.)

* Performance and weight varies depending on selected options. Values listed are for Standard 401 Failsafe model.

Mechanical



DIM "L" (MAX)	MODEL	ELEC. SCHEM.
1.40[35.6]	401-2X08	1
1.40[35.6]	401-2X0832	1
1.80[45.7]	401-2X0802A	2
1.80[45.7]	401-2X0832A	2



401-2X0832 Shown
For Electrical Schematic, see page # 1-4

Part Number Selector

401 | J | - | 2 | 2 | 08 | 02 | A | - | ROHS

Special Options
A = High Power
I = Immersion Seal
J = 'D' Connector
K = 26.5 GHz
S = Epoxy Seal
T = -55°C to + 85°C
U = 5M Life Cycles
Y = 40 GHz

Actuator
2 = Failsafe
6 = Failsafe with Suppression Diode

Coil Voltage
2 = 12 Vdc
3 = 28 Vdc
8 = 24 Vdc

Connectors
08 = SMA Female
11 = 2.9 mm (K)

Indicators
02 = No Indicators*
32 = Indicators

* Declared only with Circuit Options

Circuit Options
A = TTL High
L = TTL Low

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.

401 Latching | SMA, 2.9 mm (K)

SPDT

- DC-18 GHz
- DC-26.5 GHz
- DC-40 GHz
- Low/Medium Power
- 1M/5M Life Cycles

RF Characteristics

Frequency GHz	VSWR (max)	Isolation dB (min)	Ins. Loss dB (max)
DC-1	1.10	85	0.10
1-4	1.15	80	0.15
4-8	1.20	70	0.20
8-12	1.30	65	0.30
12-18	1.35	60	0.35
*18-26.5	1.50	55	0.50
*26.5-40	1.90	55	0.80

* Performance varies depending on selected options

Specifications

Operating Voltage (across temperature range):
12 Vdc (11-14 Vdc)
24 Vdc (20-28 Vdc)
28 Vdc (24-32 Vdc)

Coil Current (max. @ nom. Vdc & 25°C)*:
12 Vdc 230 mA
24 Vdc 135 mA
28 Vdc 115 mA

Switching Time:
15 ms maximum

Operating Temperature:
-25°C to +65°C (Standard)
-55°C to +85°C (Extended "T" Option)

Mechanical Life Cycles*:
1,000,000 minimum
5,000,000 minimum ("U" Option)

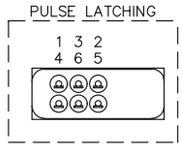
Vibration, Operating:
10G RMS, 20-2000 Hz

Mechanical Shock, Non-Operating:
30G, 1/2 Sine, 11 ms

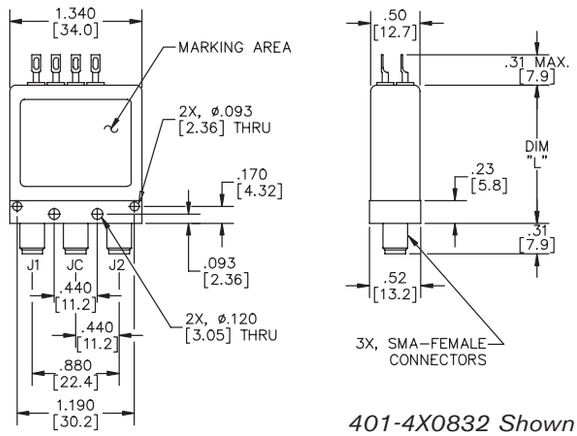
Nominal Weight*:
1.4 oz. (40 g.)

* Performance and weight varies depending on selected options. Values listed are for Standard 401 Latching model.

Mechanical



DIM "L" (MAX)	MODEL	ELEC. SCHEM.
1.40[35.6]	401-3X08	3
1.40[35.6]	401-3X0832	3
1.80[45.7]	401-4X08	4
1.80[45.7]	401-4X0832	4
1.80[45.7]	401-4X0802A	5
1.80[45.7]	401-4X0832A	5



401-4X0832 Shown

For Electrical Schematic, see page # 1-4

Part Number Selector

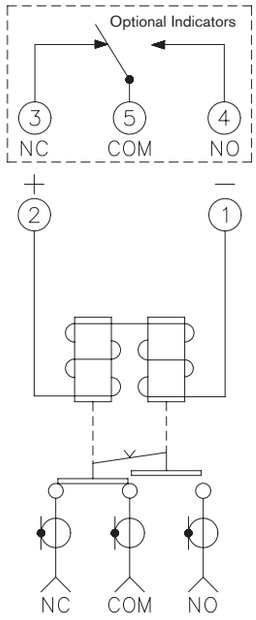
401 J - 4 2 08 02 A - ROHS

Special Options	Actuator	Coil Voltage	Connectors	Indicators	Circuit Options
A = High Power	3 = Pulse Latching	2 = 12 Vdc	08 = SMA Female	02 = No Indicators*	A = TTL High
I = Immersion Seal	4 = Latching Self Cutoff	3 = 28 Vdc	11 = 2.9 mm (K)	32 = Indicators	L = TTL Low
J = 'D' Connector	7 = Pulse Latching with Suppression Diode	8 = 24 Vdc			
K = 26.5 GHz					
S = Epoxy Seal					
T = -55°C to + 85°C					
U = 5M Life Cycles					
Y = 40 GHz					

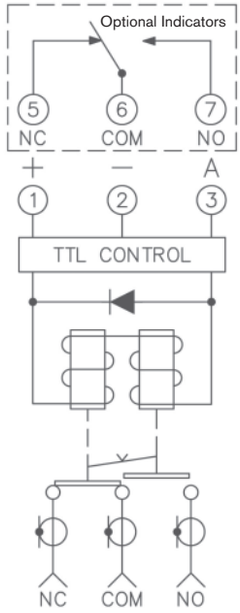
* Declared only with Circuit Options

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.

01 401 Failsafe



02 401 Failsafe TTL



03 Logic Truth Table

FAILSAFE TTL - SCH #2

LOGIC TRUTH TABLE		
RF PATH	INDICATOR PATH	LOGIC INPUT "A"
NC–COM	NC–COM	0
NO–COM	NO–COM	1

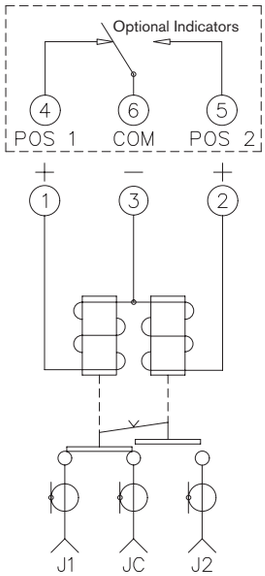
"0" = 0.0V–0.8V
"1" = 2.4V–5.5V

SELF CUTOFF TTL - SCH #6

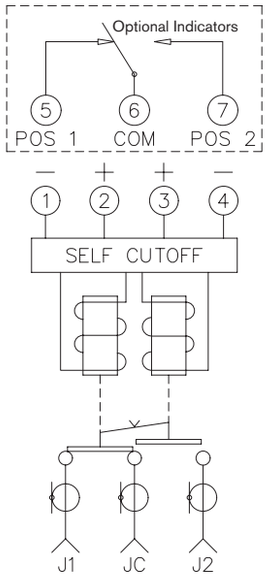
LOGIC TRUTH TABLE			
RF PATH	INDICATOR PATH	LOGIC INPUT "A"	LOGIC INPUT "B"
JC–J1	COM–1	1	0
JC–J2	COM–2	0	1

"0" = 0.0V–0.8V
"1" = 2.4V–5.5V

04 401 Pulse



05 401 Self Cutoff



06 401 Self Cutoff TTL