

SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA

The FMSW6471 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across a wide frequency range of DC to 26.5 GHz and can handle up to 90 Watts of average power in a break before make condition. The design is rated for 5 million lifecycles and features a Latching Self Cut-Off Actuator that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. The output port is terminated in 50 ohms when switched in the isolation (off) state. Additional features include TTL control logic, suppression diodes which limit voltage spikes or reverse current, and indicators. Impressive typical performance includes 0.3 dB insertion loss and isolation greater than 80 dB. This switch requires +12Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports SMA female connectors and solder terminal pins for DC command control functions. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.

Electrical Specifications

Switch Type	SPDT, Terminated
Actuator Type	Latching
Switching Sequence	Break Before Make
Actuator Options	Self Cut Off, Indicators, TTL Logic
TTL Control	on: 2.4 to 5.5 Volts off: 0 to 0.8 Volts

Description	Min	Typ	Max	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts			420	mA
VSWR		1.4:1	1.5:1	
Insertion Loss		0.3	0.5	dB
Isolation	40	80		dB
Switching Time			20	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12	12 - 18	18 - 26.5		GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.7:1		
Insertion Loss, Max	0.15	0.25	0.35	0.6		dB
Isolation, Min	80	70	60	50		dB



Features:

- Single Pole Double Throw Electromechanical Relay Switch
- DC to 26.5 GHz Frequency Range
- Latching Actuator with Self Cut-Off
- TTL Logic Control
- Suppression Diodes
- Indicators
- 5M Lifecycle Rating
- Insertion Loss 0.3 dB typ
- Internally Terminated
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- +12 Volt DC Bias
- Solder Terminal Pins for DC Command Control
- SMA Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 90 Watt Average Power Handling
- 50 Ohm Design
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request
- Rugged Design meets MIL-STD-202 Test Conditions

Applications:

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications
- Enterprise

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Mechanical Specifications

Size

Length	1.85 in [46.99 mm]
Width/Diameter	2.25 in [57.15 mm]
Height	0.56 in [14.22 mm]
Finish	NICKEL
Package Type	Connectorized
Operating Life	5,000,000 Cycles

Connectors

RF Connector Type	SMA Female
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Environmental Specifications

Temperature

Operating Range	-25 to +65 deg C
Storage Range	-55 to +100 deg C

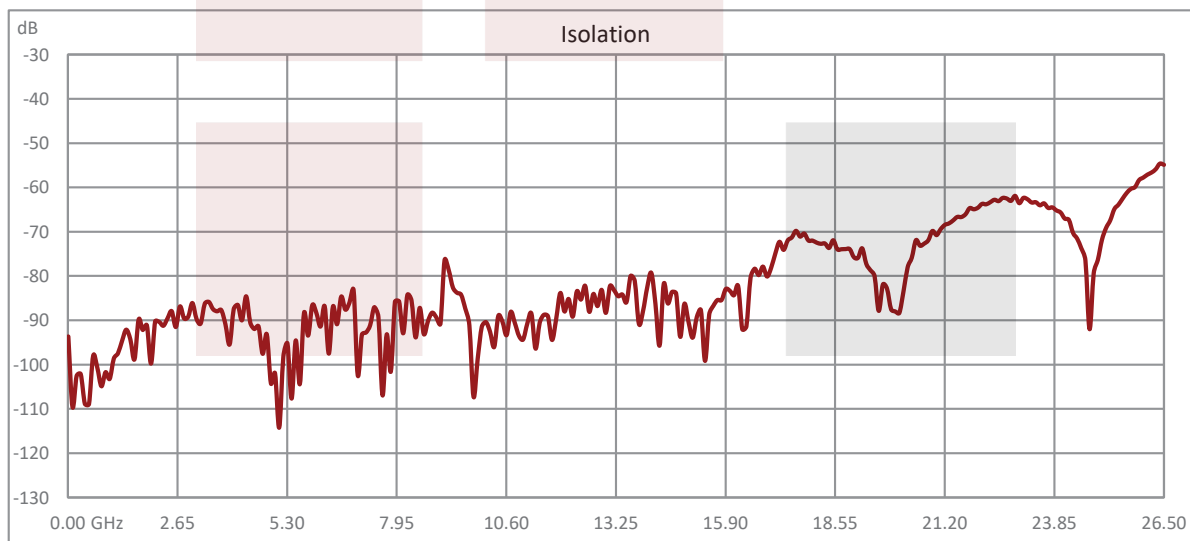
Humidity	Moisture resistant or immersion sealing available
Shock	MIL-STD-202 Method 213, Condition D, 500G (non oper)
Vibration	MIL-STD-202 Method 214, Condition D, 10G RMS (non oper)

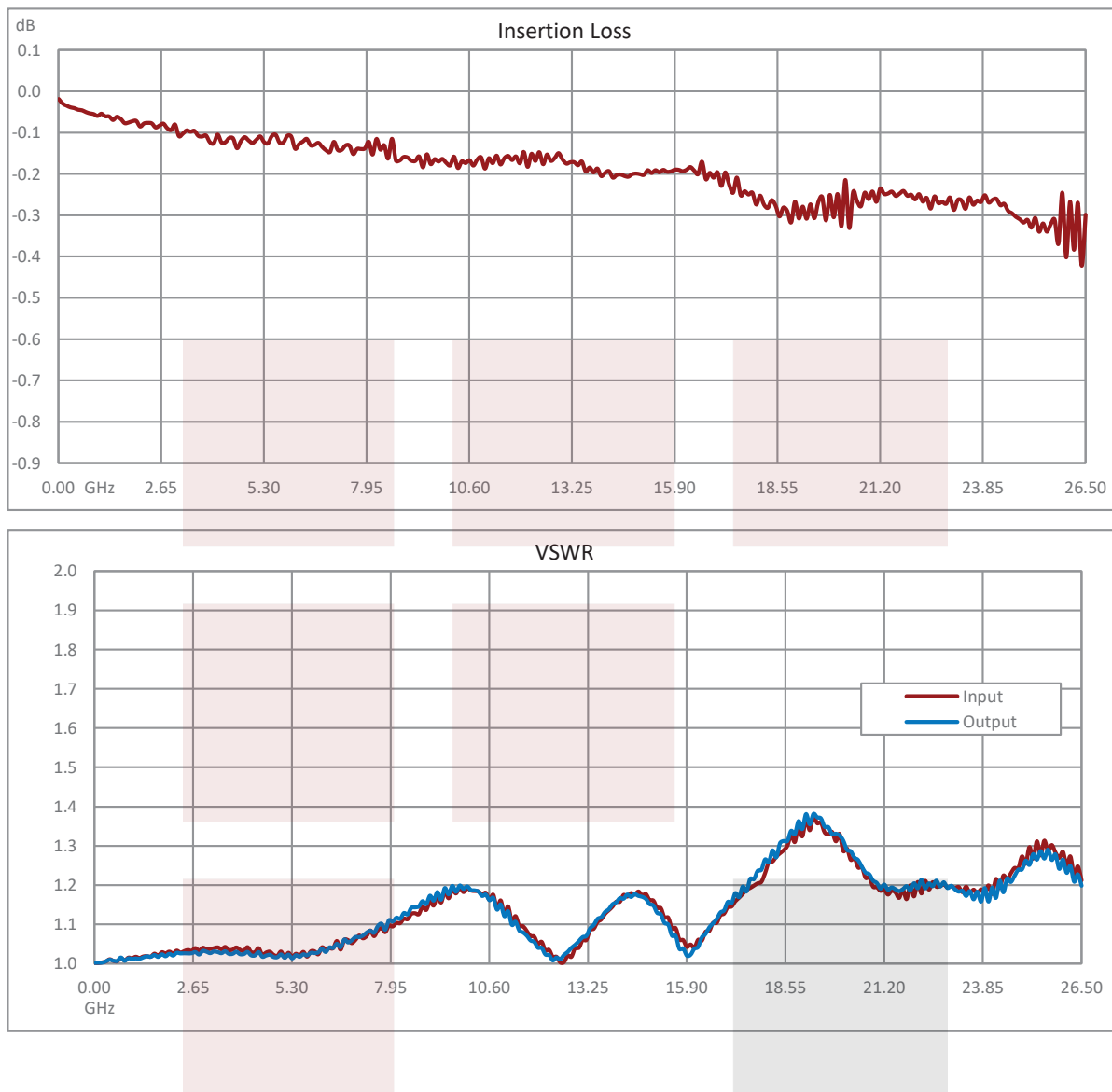
Compliance Certifications (see [product page](#) for current document)

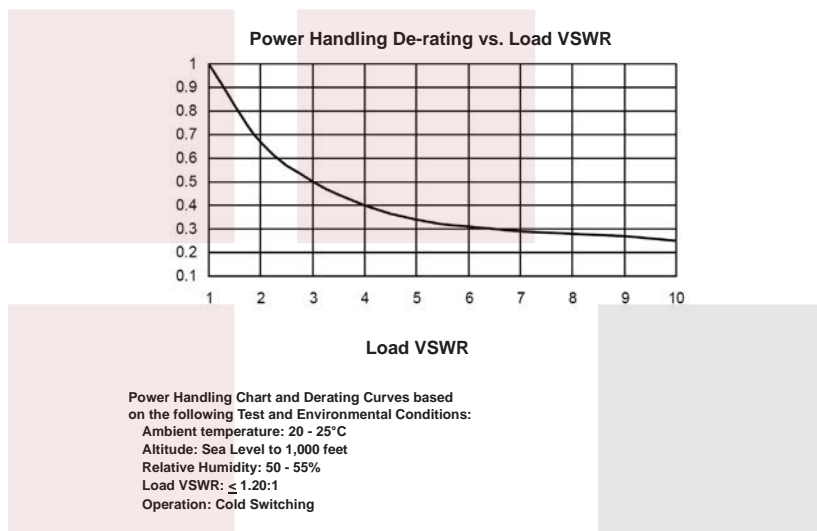
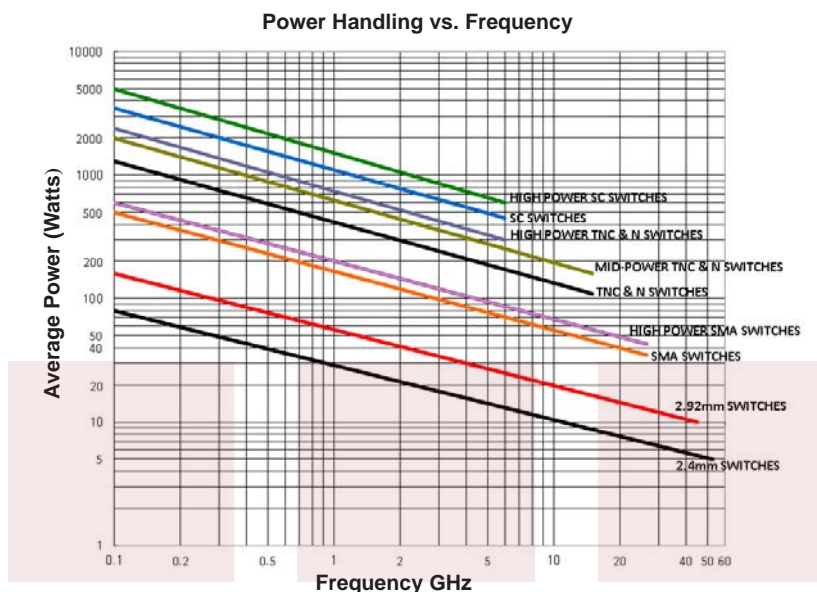
Plotted and Other Data

Notes:

Typical Performance Data





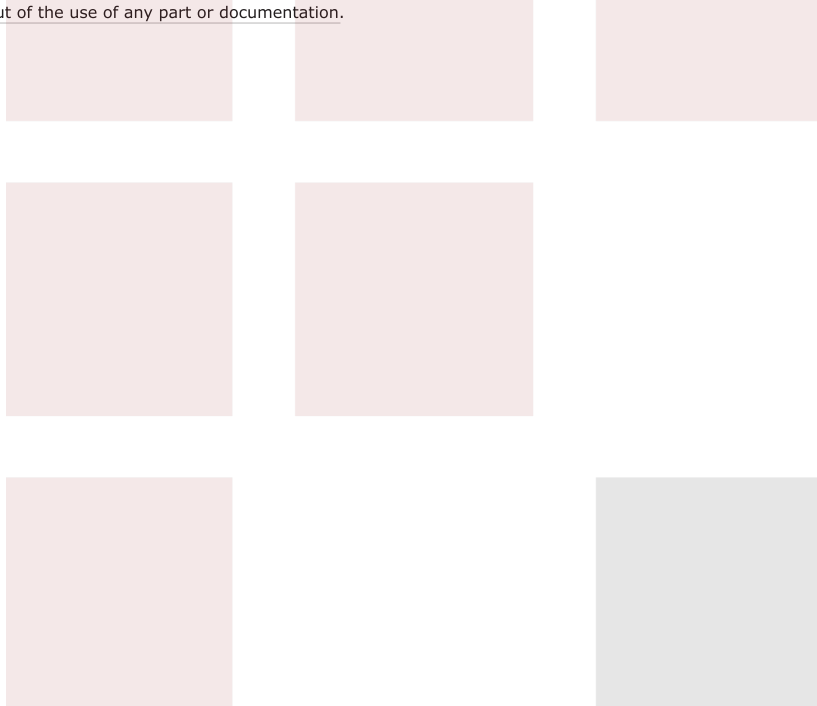


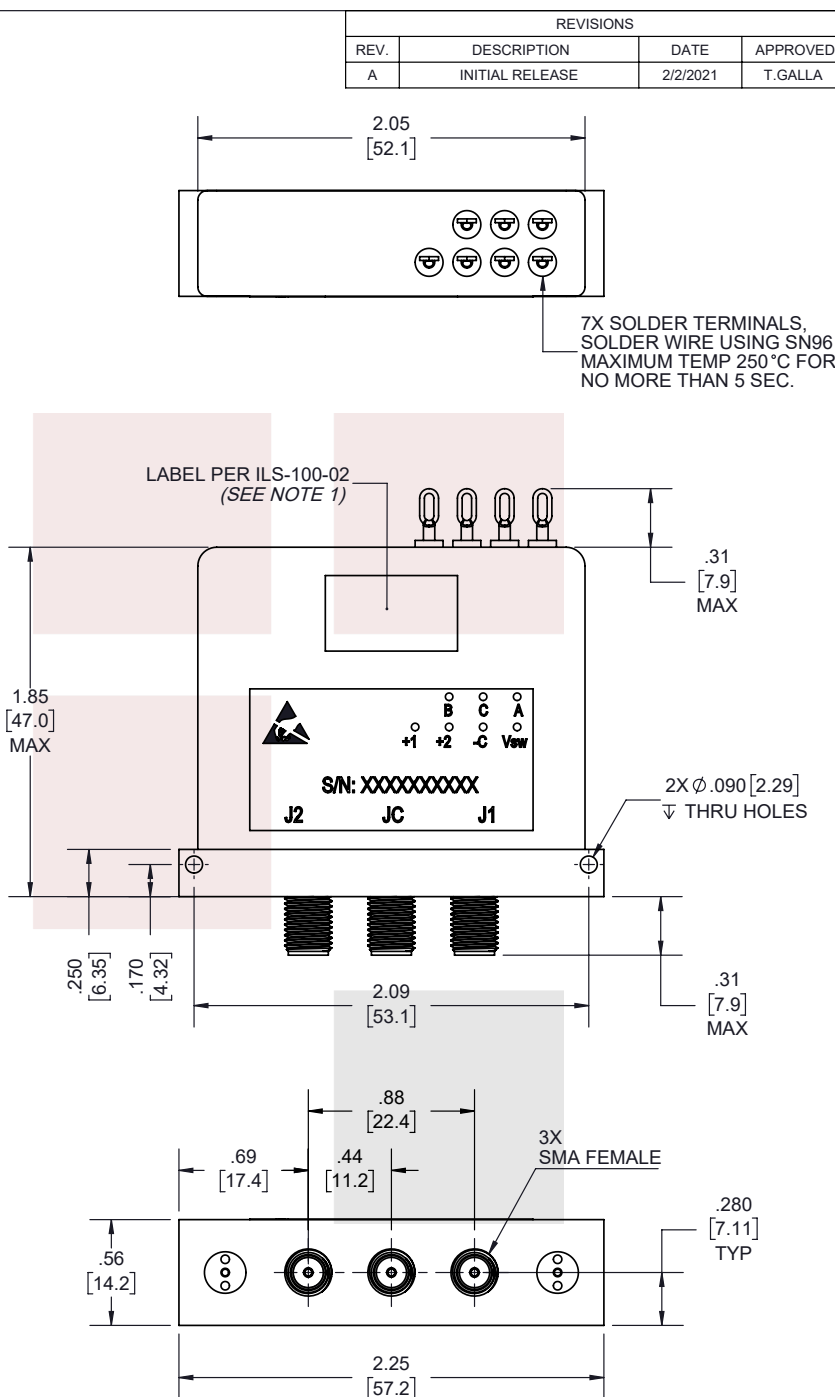
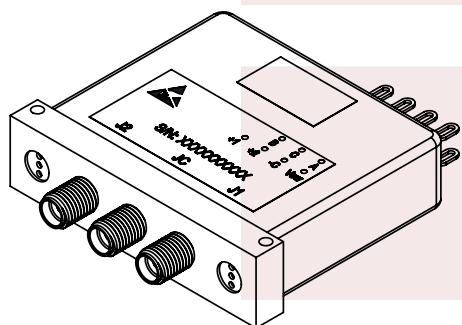
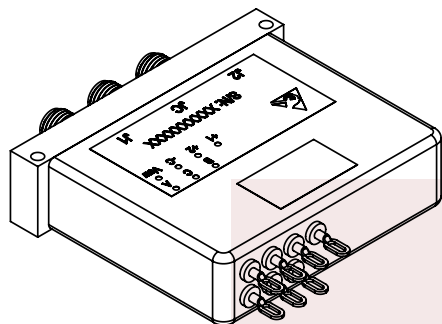
SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT E-M Relay Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA FMSW6471](#)

URL: <https://www.fairviewmicrowave.com/spdt-latching-33.5-ghz-terminated-electro-mechanical-relay-switch-indicators-12v-2.92mm-fmsw6471-p.aspx>

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NOTES:

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SPDT Latching Switch, Self Cut-Off, Terminated, DC to 26.5 GHz, 90W, 5M Lifecycles, 12V, Suppression Diodes, TTL, Indicators, SMA

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

.X = ± .2 [5.08]
XX = ± .02 [5.1]
XXX = ± .005 [13]

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305] = +1 [25] / -0
12 [305] < L ≤ 60 [1524] = +2 [51] / -0
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
300 [7620] < L = +5%L / -0

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION



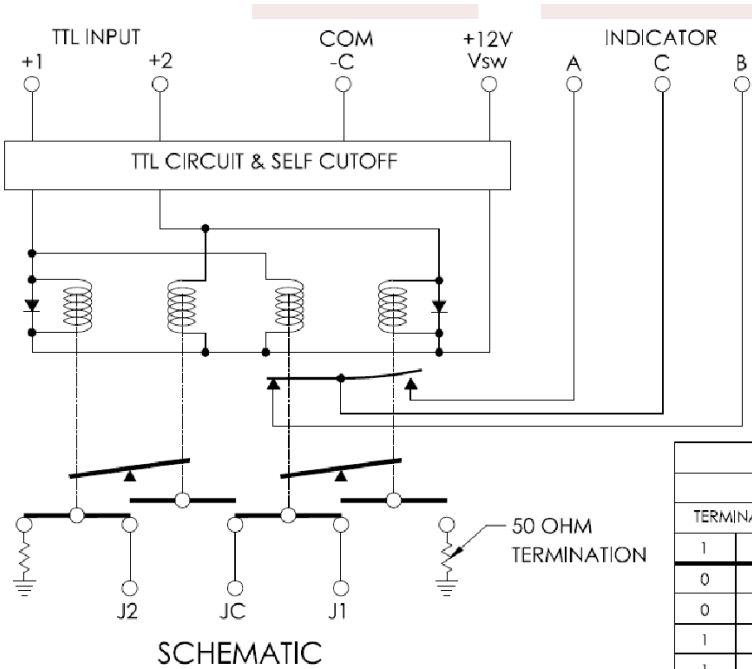
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SHEET 1 OF 2

SCALE N/A

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	3FKR5	K.DANG	FMSW6471	A

T-Rev.D



OPERATIONAL							
LOGIC TABLE							
TERMINALS		RF PORTS		INDICATOR		TERMINATION	
1	2	J1-JC	J2-JC	B-C	A-C	J2 TERMINATED	J1 TERMINATED
0	0	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
0	1	OFF	ON	OFF	ON	OFF	ON
1	0	ON	OFF	ON	OFF	ON	OFF
1	1	FORBIDDEN	FORBIDDEN	FORBIDDEN	FORBIDDEN	FORBIDDEN	FORBIDDEN

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TOLERANCES:		CABLE LENGTH (L) TOLERANCES:		THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED.	
.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0		SHEET 2 OF 2	
.XX = ±.02 [.51]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0		SCALE N/A	
.XXX = ±.005 [.13]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +4 [102] / -0		REV A	
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.					
SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	ITEM NO. FMSW6471		

T-Rev.D