



TEST REPORT
ON
0.5 GHz to 18.0 GHz
MINIATURE
ABSORPTIVE
SP3T PIN DIODE SWITCH
AMC MODEL No:
MSNN-3DT-04T-DEC-SP
Serial Numbers: 3MS007153 through 3MS007155

DESIGNED
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March 16, 2004

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ISO9001 : 1994 CERTIFIED

Handwritten signatures and initials:
MS, DRH, JDT, WWS, SK, LC, SKM

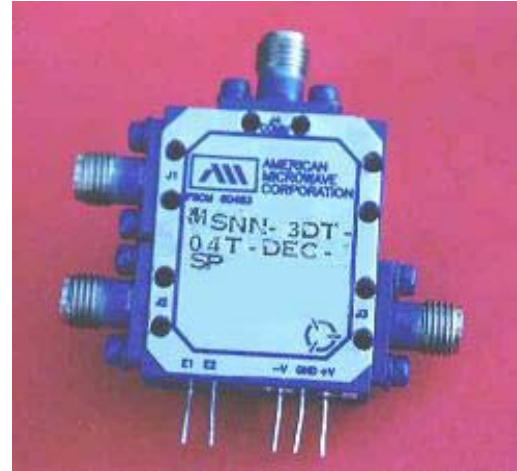
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SP3T, ABSORPTIVE, MINIATURE PIN DIODE SWITCH AMC MODEL No: MSNN-3DT-04T-DEC-SP

FEATURES:

- **MINIATURE**
- **BROADBAND**
- **ABSORPTIVE**



SPECIFICATIONS:

- **FREQUENCY** : 0.5 GHz to 18.0 GHz
- **INSERTION LOSS** : REFLECTIVE: 2.75 dB
ABSORPTIVE: 3.75 dB
- **ISOLATION** : 0.5 GHz to 2 GHz: 60 dB
2 GHz to 18 GHz: 70 dB
- **VSWR** : REFLECTIVE IN/OUT: 2.0:1
ABSORPTIVE IN/OUT: 2.0:1
ABSORPTIVE OUT/OFF: 2.0:1
- **SPEED** : RISE: 10 nS TYPICAL, 15 nS MAXIMUM
FALL: 10 nS TYPICAL, 15 nS MAXIMUM
DELAY ON: 75 nS TYPICAL, 100 nS MAXIMUM
DELAY OFF: 75 nS TYPICAL, 100 nS MAXIMUM
- **POWER INPUT** : (CW) +20 dBm (STANDARD),
+10 dBm (HIGH SPEED)
- **SURVIVAL POWER** : 1 WATT CW, 10 WATTS PEAK 1 USEC
- **CONTROL** : 2 BIT LOGIC
- **POWER SUPPLY** : +5V @ 150 mA MAXIMUM
-5V @ 75 mA MAXIMUM (REFLECTIVE)
100 mA MAXIMUM (ABSORPTIVE)
- **SIZE** : 1.2" (L) X 1.0" (W) X 0.4" (H)
- **WEIGHT** : 1.5 OZ. TYPICAL

PRODUCT FEATURE

AMC MODEL NO: MSNN-3DR/DT-04T-STANDARD

ZONE (REV.)	DESCRIPTION	DATE	APPROVED
	ORIGINAL RELEASE	10/03/00	

M/N=MODEL NUMBER
 O/N=OPTION NUMBER
 S/N=SERIAL NUMBER
 P/N=PART NUMBER

REVISIONS

1.00

0.50

0.39

0.06 TYP.

0.38 TYP.

0.32 TYP.

0.55 TYP.

0.40 TYP.

0.25

0.21 TYP.

0.22 TYP.

0.88 TYP.

0.34 TYP.

0.06 TYP.

0.08 TYP.

1.20

0.40

0.025 RF PIN 4 PLACES

REMOVABLE SMA (F)

4 PLACES

0.020 PINS

6 PLACES

0.20

0.30

0.40

0.60

0.80

0.125

0.11

ET E2 E3 -V GND +V

J1 J2 J3

AMERICAN MICROWAVE CORPORATION
 SOLID STATE SWITCH
 M/N: MSNN-3DR/DT-04T
 O/N: STANDARD
 S/N:
 P/N:

NOTE:
 DR=WITH DRIVER, REFLECTIVE
 DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

CONFIDENTIAL AND PROPRIETARY

AMERICAN MICROWAVE CORPORATION
 FREDERICK, MARYLAND

PRODUCT FEATURE
 MSNN-3DR/DT-04T-STANDARD
 REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE
 SOLID STATE SWITCH

APPROVALS

DATE

10/03/00

DESIGNED BY WSP & RPL

CHECKED

ISSUED

SIZE PFCM NO. A 60483

ENG NO. 100-4391-1

SCALE

SHEET 1 of 3

DESCRIPTION

AMC MODEL MSNN-3DR/DT-04T-STANDARD IS A SINGLE POLE THREE THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH LOW INSERTION LOSS, HIGH SPEED AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

SPECIFICATIONS:

- FREQUENCY: 0.5 GHz TO 18 GHz
- INSERTION LOSS: REFLECTIVE: 3.75dB
- ISOLATION: 0.5 GHz TO 2 GHz: 60dB
- 0.5 GHz TO 18 GHz: 70dB
- VSWR: REFLECTIVE IN/OUT: 2.0:1
- ABSORPTIVE IN/OUT: 2.0:1
- ABSORPTIVE OUT/OFF: 2.0:1
- SPEED: RISE: 10ns TYPICAL, 15ns MAX.
- FALL: 10ns TYPICAL, 15ns MAX.
- DELAY ON: 75ns TYPICAL, 100ns MAX.
- DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: (CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
- SURVIVAL POWER: 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: +5V @ 150 mA MAX.
- 5V @ 75mA MAX (REFLECTIVE)
- 100mA MAX (ABSORPTIVE/NON-REFLECTIVE)
- SIZE: 1.2" (L) X 1.0" (W) X 0.4" (H)
- WEIGHT: 1.5 OZ. TYPICAL

OPTIONS:

INDEPENDENT CONTROL WITH SOLDER PIN STANDARD

DEC-SP

10M18 2 BIT DECODER WITH SOLDER PIN

BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz

100M18 100 MHz TO 100 MHz (INSERTION LOSS INCREASES)

118 1 GHz TO 18 GHz (INSERTION LOSS INCREASES)

212 2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)

412 4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)

618 6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)

1218 12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)

100M20 100 MHz TO 20 GHz (INSERTION LOSS INCREASES)

220 2 GHz TO 20 GHz (INSERTION LOSS INCREASES)

1020 10 GHz TO 20 GHz (INSERTION LOSS INCREASES)

BY 1.0db AT 20 GHz

B01 -12V POWER SUPPLIES

B02 REVERSE LOGIC "1"=ON "0"=OFF

B03 DRIVERLESS, CURRENT CONTROLLED

B04 HIGH SPEED TURNON (OPTIONAL)

B05 HIGH POWER, SPECTRUM CLEAN, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH

B06 CUSTOM DESIGNED PRODUCT - SPECIFY INITIALS OF CUSTOMER

B07 LOW INSERTION LOSS VERSION

B08 HIGHER ISOLATION VERSION

B09

B10

ENVIRONMENTAL RATINGS:

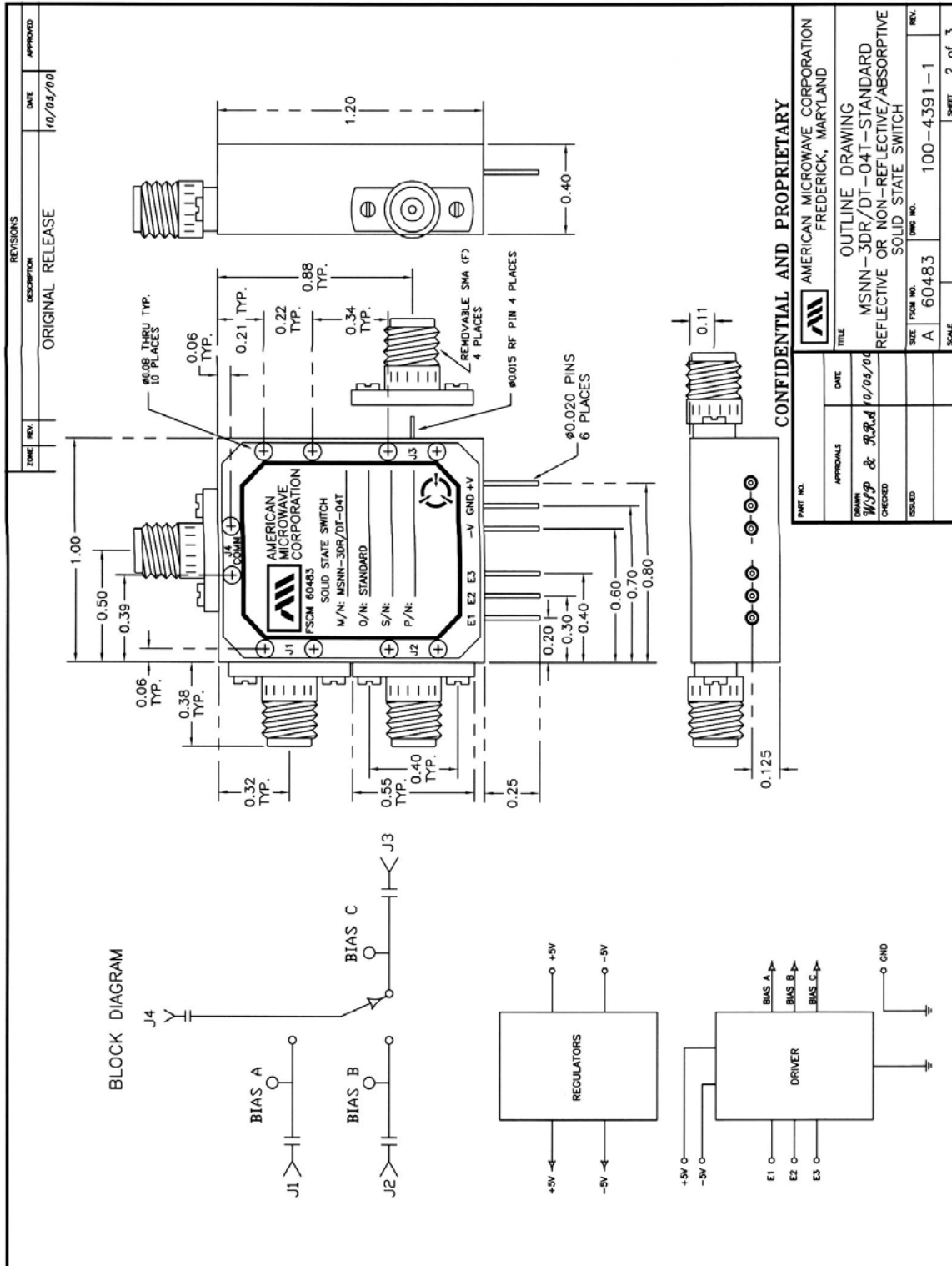
- TEMPERATURE: -55°C TO +85°C (OPERATING)
- 55°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 2040 COND. B
- MIL-STD-202F, METHOD 103C COND. B
- ALTITUDE: MIL-STD-202F, METHOD 1070 COND. A
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 103C COND. B

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

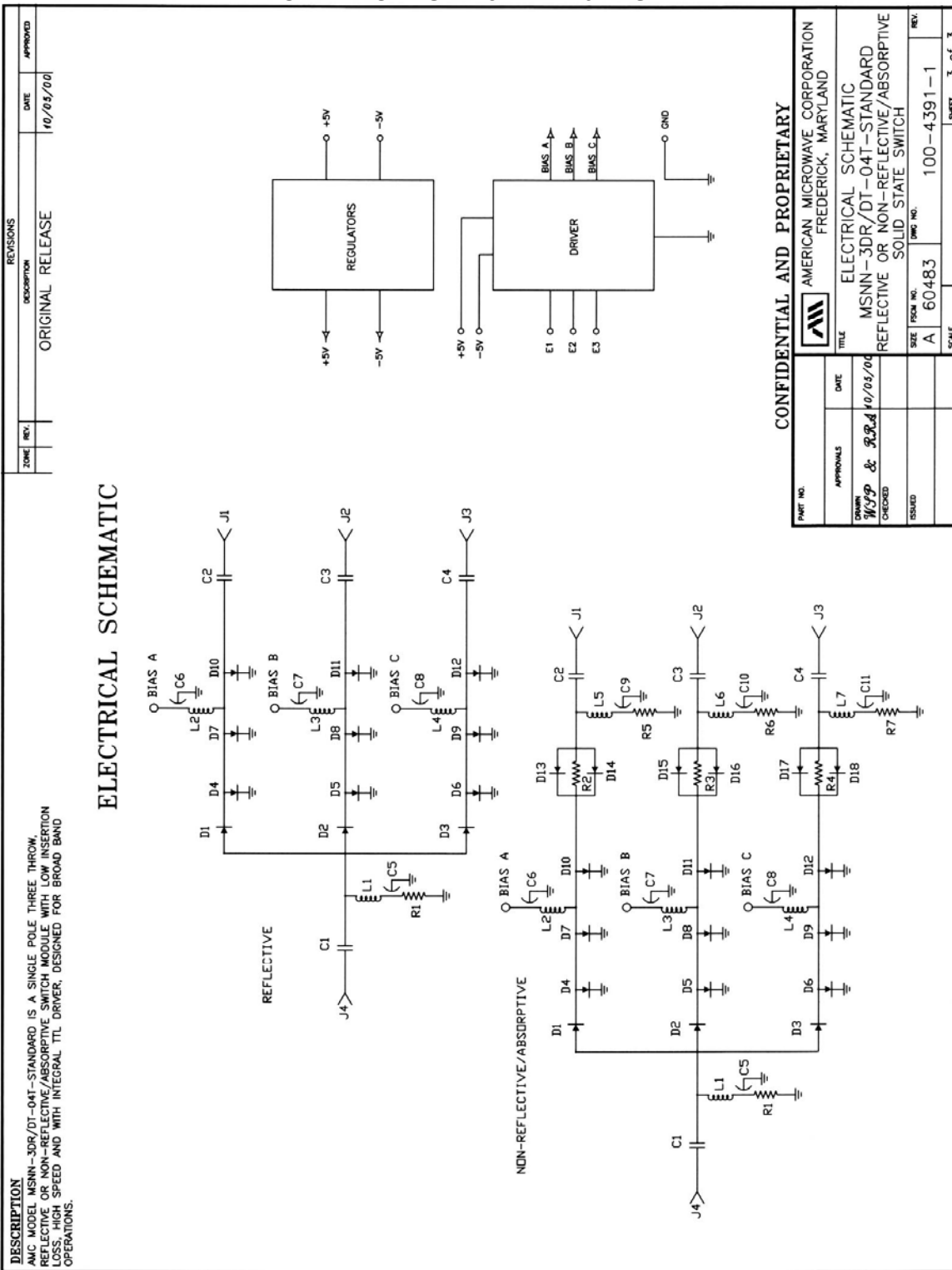
ALL DIMENSIONS ARE IN INCHES

TOLERANCES:
 X.XXX ±0.020
 X.XXX ±0.010

OUTLINE DRAWING
AMC MODEL NO: MSNN-3DR/DT-04T-STANDARD



ELECTRICAL SCHEMATIC
 AMC MODEL NO: MSNN-3DR/DT-04T-STANDARD

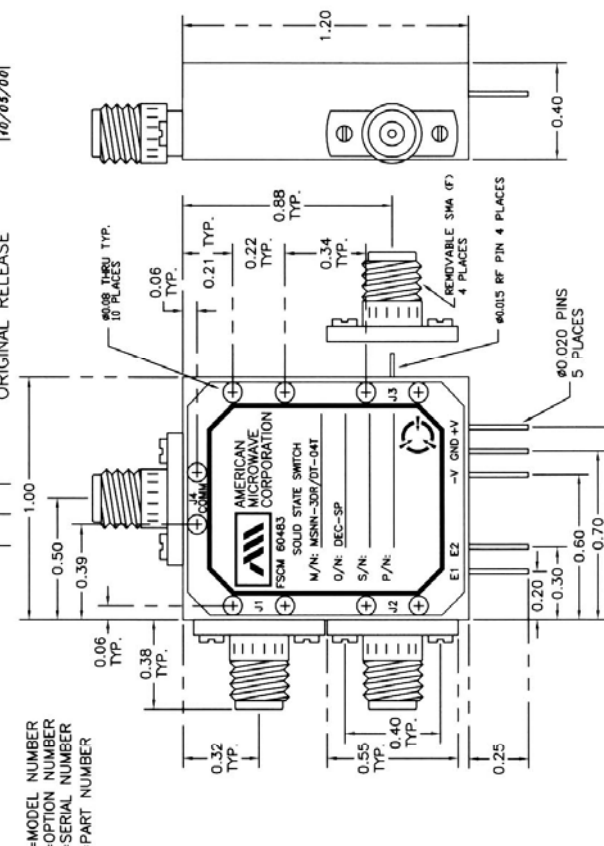


PRODUCT FEATURE

AMC MODEL NO: MSNN-3DR/DT-04T-DEC-SP

ZONE REV	DESCRIPTION	REVISIONS	DATE	APPROVED
	ORIGINAL RELEASE		10/05/00	

M/N=MODEL NUMBER
 O/N=OPTION NUMBER
 S/N=SERIAL NUMBER
 P/N=PART NUMBER



AMERICAN MICROWAVE CORPORATION
 FSCM 60483
 SOLID STATE SWITCH
 M/N: MSNN-3DR/DT-04T
 O/N: DEC-SP
 S/N:
 P/N:

NOTE:
 DR=WITH DRIVER, REFLECTIVE
 DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

CONFIDENTIAL AND PROPRIETARY

AMERICAN MICROWAVE CORPORATION
 FREDERICK, MARYLAND

PRODUCT FEATURE
 MSNN-3DR/DT-04T-DEC-SP
 REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE
 SOLID STATE SWITCH

DATE: 10/05/00
 CHECKED: WSP & RBA
 ISSUED: A 60483
 SIZE FROM NO. 100-4391-2
 SCALE: 1 of 3

ENVIRONMENTAL RATINGS:

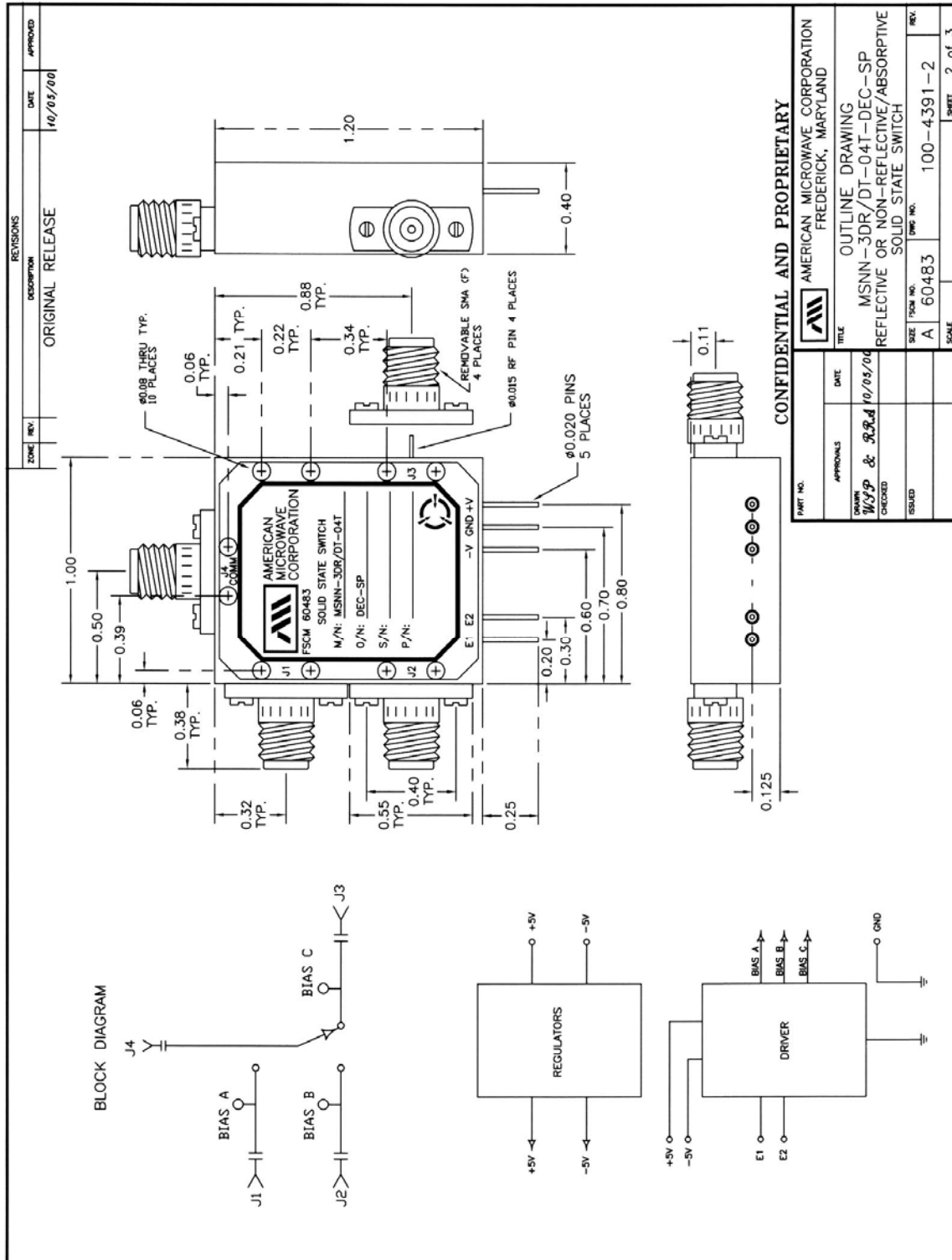
- TEMPERATURE: -55C TO +85C (OPERATING), -65C TO +125C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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OUTLINE DRAWING

AMC MODEL NO: MSNN-3DR/DT-04T-DEC-SP



REVISIONS		DATE	APPROVED
DESCRIPTION		10/05/00	
ORIGINAL RELEASE			
CONFIDENTIAL AND PROPRIETARY			
AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND			
TITLE OUTLINE DRAWING			
MSNN-3DR/DT-04T-DEC-SP			
REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE			
SOLID STATE SWITCH			
PART NO.	DATE	REV.	
APPROVALS	10/05/00		
DRAWN WJP & RBW			
CHECKED			
ISSUED			
SIZE	FSCM NO.	IMP. NO.	REV.
A	60483	100-4391-2	
SCALE			SHEET 2 of 3

FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

MSNN-3DT-04T-DEC-SP

Serial Numbers:

3MS007153 THRU 3MS007155

