

INCH-POUND

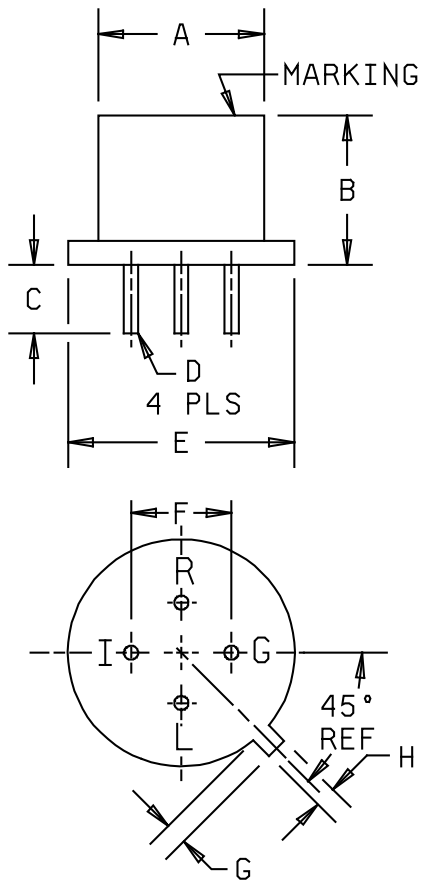
MIL-DTL-28837/7B  
 5 July 2012  
 SUPERSEDING  
 MIL-DTL-28837/7A  
 30 October 2001

DETAIL SPECIFICATION SHEET

MIXER STAGES, RADIO FREQUENCY, DOUBLE BALANCED, TO-5 CONFIGURATION

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-DTL-28837.



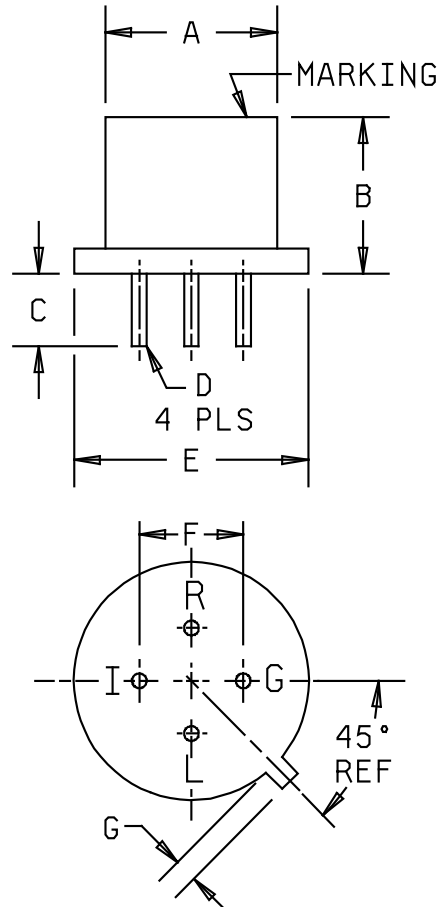
Ltr	Dimension			
	Inches		mm	
	Min	Max	Min	Max
A	.315	.345	8.00	8.76
B	---	.407	---	10.34
C	.140	---	3.56	---
D	.015 DIA	.019 DIA	0.38 DIA	0.48 DIA
E	.335	.370	8.51	9.40
F	.190	.210	4.83	5.33
G	---	.050	---	1.27
H	.026	.036	0.66	0.91

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.

FIGURE 1. Outline drawing for mixers PIN M28837/7-01N, M28837/7-02N, and M28837/7-02S.

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Ltr	Dimension			
	Inches		mm	
	Min	Max	Min	Max
A	.305	.335	7.75	8.51
B	---	.275	---	6.99
C	.140	---	3.56	---
D	.015 DIA	.019 DIA	0.38 DIA	0.48 DIA
E	.335	.370	8.51	9.40
F	.190	.210	4.83	5.33
G	---	.050	---	1.27

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.

FIGURE 2. Outline drawing for mixers PIN M28837/7-03N.

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REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figures 1 and 2.

Electrical characteristics:

Operating frequency range: See table I.

LO drive power: See table I.

Conversion loss (max): See table I.

Noise figure (SSB): See table I.

Isolation (minimum): See table I.

Maximum input power: See table I.

Conversion compression: See table I.

Desensitization: See table I.

Physical and environmental characteristics:

Weight: 2 grams maximum.

Temperature:

-01N, 03N = Operating: -54°C to +100°C.  
Nonoperating: -65°C to +100°C

-02N, 02S = Operating: -65°C to +100°C.  
Nonoperating: -65°C to +100°C

Shock: Test condition C.

Life: -01 = 100,000 hours minimum.

Seal: Hermetic.

Part or Identifying Number (PIN)

Space flight mixers shall be marked with "T", example M28837/7- 01 T

TABLE I. Electrical characteristics.

Dash no.	Operating frequency range (MHz)	LO input drive power in dBm <u>1/</u>	Maximum conversion loss (SSB) dB                      MHz	Noise figure (SSB) dB                      MHz	Isolation			
					Minimum			Frequency MHz
					LO-RF dB	LO-IF dB	RF-IF dB	
01N 01S	RF 10-500 LO 10-5000 IF DC-500	nominal +7 TV        +7	7.0 at: $f_L$ and $f_R$ 10-200 $f_I$ DC-200	7.0 at: $f_L$ and $f_R$ 10-200 $f_I$ 0.4-200	40	35	25	10-50 50-100 100-200 200-500
			8.0 at: $f_L$ and $f_R$ 200-350 $f_I$ DC-350	8.0 at: $f_L$ and $f_R$ 200-350 $f_I$ 0.4-350	35	30	20	
			9.0 at: $f_L$ and $f_R$ 350-500 $f_I$ DC-500	9.0 at: $f_L$ and $f_R$ 350-500 $f_I$ 0.4-500	30	25	15	
02N <u>2/</u> 02S	RF 350-500 LO 350-500 IF DC-500	nominal +7 TV        +7	9.0 at: $f_L$ and $f_R$ 350-500 $f_I$ DC-500	9.0 at: $f_L$ and $f_R$ 350-500 $f_I$ 0.4-500	25	15	10	350-500
03N 03S	RF 0.4-500 LO 0.4-500 IF DC-500	minimum +4 TV        +7 maximum +13	6.5 at: $f_L$ and $f_R$ 1-200 $f_I$ DC-200	6.5 at: $f_L$ and $f_R$ 2-200 $f_I$ 2-200	45	30	N/A	0.4-60
			7.5 at: $f_L$ and $f_R$ 0.4-500 $f_I$ DC-500	7.5 at: $f_L$ and $f_R$ 2-500 $f_I$ 2-500	30	20	N/A	60-500

1/ Unless otherwise specified, TV is the test value of the LO power for electrical characteristics.

2/ Use for reacquisition purposes only.

3/ With two in-phase signals applied to the LO and RF ports.

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Referenced documents. This specification sheet only references MIL-DTL-28837.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:

Army - CR  
Navy - EC  
Air Force - 85  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5895-2012-004)

Review activities:

Army - AR, MI  
Navy - AS, CG, MC, OS  
Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil/>.