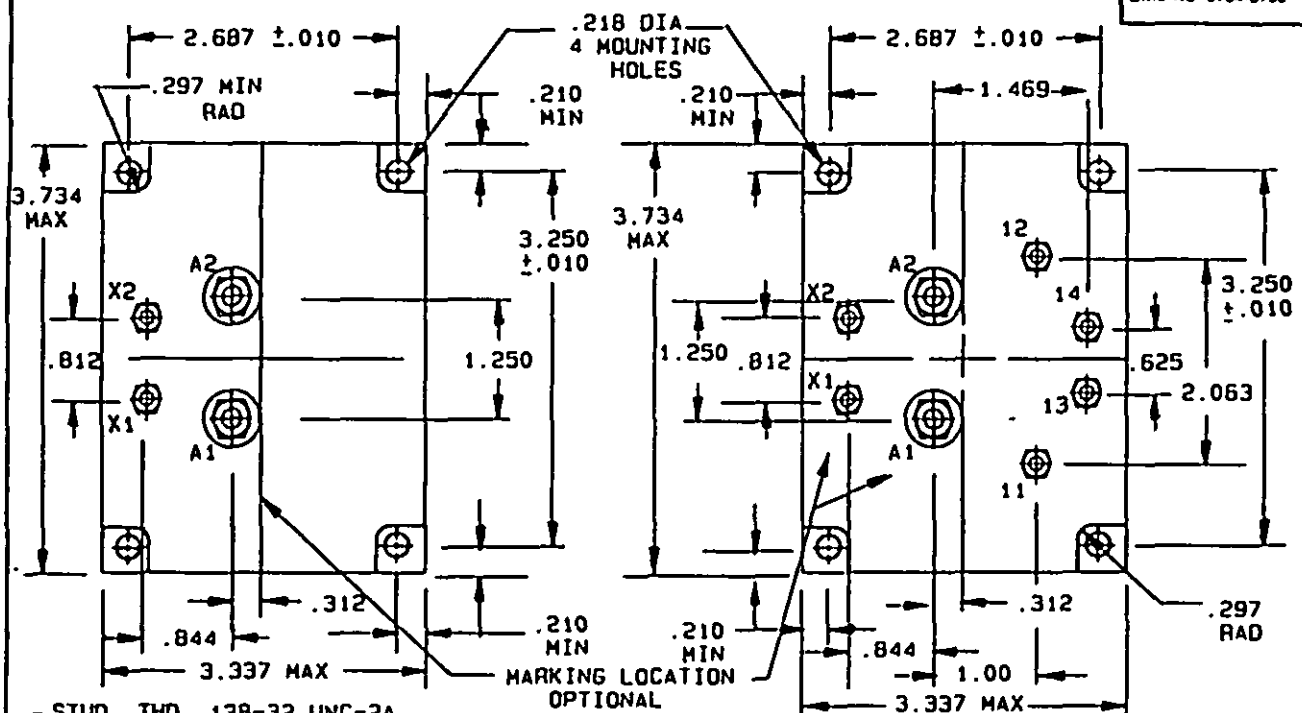


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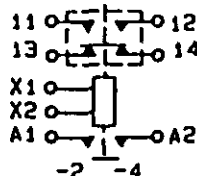
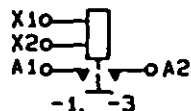
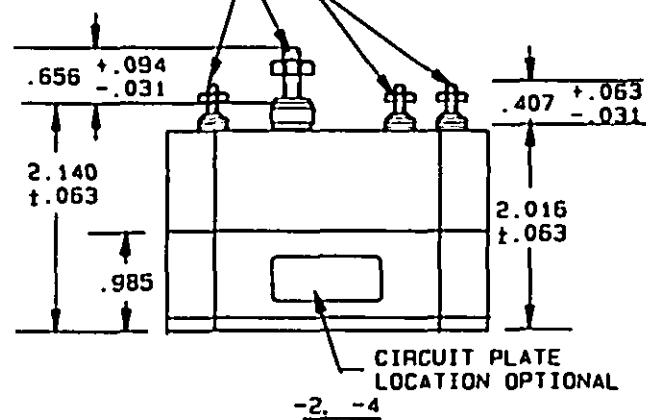
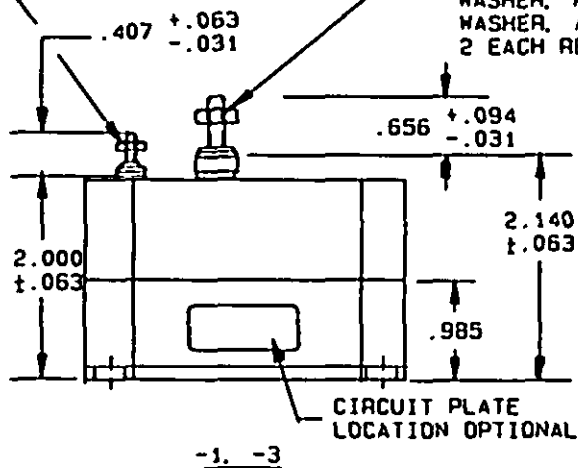
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STUD, THD .138-32 UNC-2A  
NUT, MS35649-265T, 2 REOD  
WASHER, MS35338-98, 2 REOD  
WASHER, AN 961-6T, 4 REOD

STUD, THD .250-28 UNF-2A  
NUT, MS35650-3255T  
WASHER, MS35338-101  
WASHER, AN 961-416T  
2 EACH REOD

STUD, THD .138-32 UNC-2A  
NUT, MS35649-265T, 6 REOD  
WASHER, MS35338-98, 6 REOD  
WASHER, AN 961-6T, 12 REOD



CIRCUITS

(J) ENTIRE STANDARD REVISED

PREPARING ACTIVITY: Air Force - 85 CUSTODIANS: ARMY - NAVY - AS AIR FORCE - DLA - REVIEW: USER: PROJECT NUMBER: 5945-0832-03 DISTRIBUTION STATEMENT	MILITARY SPECIFICATION SHEET TITLE RELAYS, ELECTROMAGNETIC, 100 AMPERES, 1PST, H.O. TYPE I, HERMETICALLY SEALED	SPECIFICATION SHEET NUMBER <b>MS27242J</b> 9 Oct 1990 SUPERSEDING MS27242H 6 January 1989 AMSC N/A ISC 5945
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Inches	mm	Inches	mm	Inches	mm
.010	0.25	.312	7.92	2.000	50.80
.031	0.79	.407	10.34	2.016	51.21
.063	1.60	.625	15.88	2.063	52.40
.094	2.39	.656	16.66	2.140	54.36
.138	3.51	.812	20.62	2.687	68.25
.210	5.33	.844	21.44	3.250	82.55
.218	5.54	.985	25.01	3.337	84.76
.250	6.35	1.250	31.75	3.734	94.84
.297	7.54	1.469	37.31		

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are  $\pm .031$  inch (0.79 mm).
4. Coil and auxiliary terminals may use additional washer for terminal seat.
5. Terminal covers and barriers may be required at power or auxiliary terminals.
6. In the event of a conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.
7. Referenced Government documents of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation form a part of this standard to the extent specified herein.
8. For detail information, see tables I through V.

TABLE I. Relay characteristics.

MS Part or Identifying Number MS27242-	Type	Coil type	Terminal type	Mounting or mating socket	Auxiliary contacts	Maximum weight in pounds <u>1/</u>
1	I	dc	Stud	Flange	None	1.20
2	I	dc	Stud	Flange	Yes	1.25
3	I	ac	Stud	Flange	None	1.25
4	I	ac	Stud	Flange	Yes	1.30

1/ Weights include covers and barriers.

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## MILITARY SPECIFICATION SHEET

TITLE  
RELAYS, ELECTROMAGNETIC,  
100 AMPERES, 1PST, N.O.  
TYPE I, HERMETICALLY  
SEALED

SPECIFICATION SHEET NUMBER

MS27242J

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MS27242H 6 January 1989

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TABLE II. Operating characteristics.

MS PIN MS27242-	Coil data										Time - (milliseconds - maximum)						
	Coil	Nominal		Maximum		Max pick-up voltage		Hold volt- age $\frac{3}{3}$	Drop- out voltage $\frac{3}{3}$	Operate $\frac{1}{1}$	Release $\frac{4}{4}$	Contact bounce $\frac{1}{1}$					
		Volts $\frac{2}{2}$	Freq. Hz	Res $\Omega$ ±15% -10	Volts	Amperes	Normal $\frac{3}{3}$					High temp test	Cont current test	Main		Aux	
														NO	NC	NO	NC
1	X1,X2	28	dc	51	29	.6	18	21	22.5	7.0	1.5	25	10	2	---	---	---
2	X1,X2	28	dc	51	29	.6	18	21	22.5	7.0	1.5	25	10	2	---	2	2
3	X1,X2	115	160/400	---	124	.2	90	100	104	40	10	25	50	2	---	---	---
4	X1,X2	115	160/400	---	124	.2	90	100	104	40	10	25	50	2	---	2	2

1/ With nominal coil voltage.

2/ Caution: Use of any coil voltage less than nominal coil voltage will compromise the operation of the relay.

3/ Over the temperature range.

4/ From nominal coil voltage.

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TABLE III. Rated contact load (amperes per pole) case grounded.

Type of load	Life operating cycles x 10 <sup>3</sup>	28 V dc				115 V ac, 1 phase				115/200 V ac 3 phase 1/				See appropriate notes
		Main		Aux		Main		Aux		Main		Aux		
		NO	NC	NO	NC	400 Hz	60 Hz	400 Hz	60 Hz	400 Hz	60 Hz	400 Hz	60 Hz	
Resistive	50	100	---	5	5	100	---	---	5	---	---	---	---	---
Inductive	10	100	---	5	5	100	---	---	5	---	---	---	---	---
Inductive														
Motor	50	100	---	---	---	---	---	---	---	---	---	---	---	---
Lamp	---	---	---	1	1	---	---	---	1	---	---	---	---	---
Transfer load														2/
Mechanical life reduced current	100	25	---	1.25	1.25	25	---	---	1.25	---	---	---	---	---
Intermediate current	50													
Applicable in accordance with MIL-R-6106														

Applicable in accordance with MIL-R-6106

1/ Absence of value indicates relay is not rated for 3 phase application.

2/ Transfer load indicates relay suitable for transfer between unsynchronized as power supplies at rating indicated.

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TABLE IV. Vibration level.

MS PIN MS27242-	5-10 Hz	10-55 Hz	55-250 Hz	250-500 Hz	500-1500 Hz
1	.08 DA	.06 DA	15 g	15 g	12 g
2	.08 DA	.06 DA	10 g	10 g	10 g
3	.08 DA	.06 DA	15 g	15 g	15 g
4	.08 DA	.06 DA	10 g	10 g	10 g

TABLE V. Qualification by similarity.

MS PIN MS27242-	Loads						Dynamics 1/			Environmental 2/		
	Type 1			Type 1 ER			A	X	Y	A	B	C
	A	B	C	D	E	F						
1	4						2			4		
2	4 2/						2			4		
3		1						1			1	
4		1 2/						1			1	

1/ All units must be tested, reference the amendment, appendix, MIL-R-6106, construction, internal.

2/ Test unit with auxiliary contacts, reference amendment, appendix, MIL-R-6106, construction, internal.

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Environmental characteristics

Temperature range	-70°C to +125°C
Maximum altitude rating	80,000 ft
Shock G-level	50 g's
Duration	6-9 ms
Maximum duration contact opening	2 ms
Vibration - sinusoidal	(See table IV)
Vibration - random	N/A
Acceleration	15 g's

Electrical characteristics

Minimum insulation resistance, initial	100 megohms
After life or environmental tests	50 megohms
Dielectric strength (sea level) (see table VI)	2-5 seconds

TABLE VI. Dielectric strength (sea level).

Dielectric strength	Initial		After life tests	
	28 V dc	115 V ac	28 V dc	115 V ac
Coil to case	1,250	1,500	1,000	1,125
Auxiliary contacts	1,250		1,000	
All other points	1,800		1,350	

Dielectric strength (altitude) (see table VII) 1 minute

TABLE VII. Dielectric strength (altitude).

Dielectric strength	28 V dc	115 V ac
Coil to case	500	500
Auxiliary contacts	500	500
All other points	700	700

Maximum contact drop initial	0.150 volts
After life test	0.175 volts
Overload current (NO)	800 amperes
Rupture current (NO)	1,000 amperes
Duty rating	Continuous
RFI specification	MIL-STD-461
(Applicable to coil circuits of ac operated relays)	

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