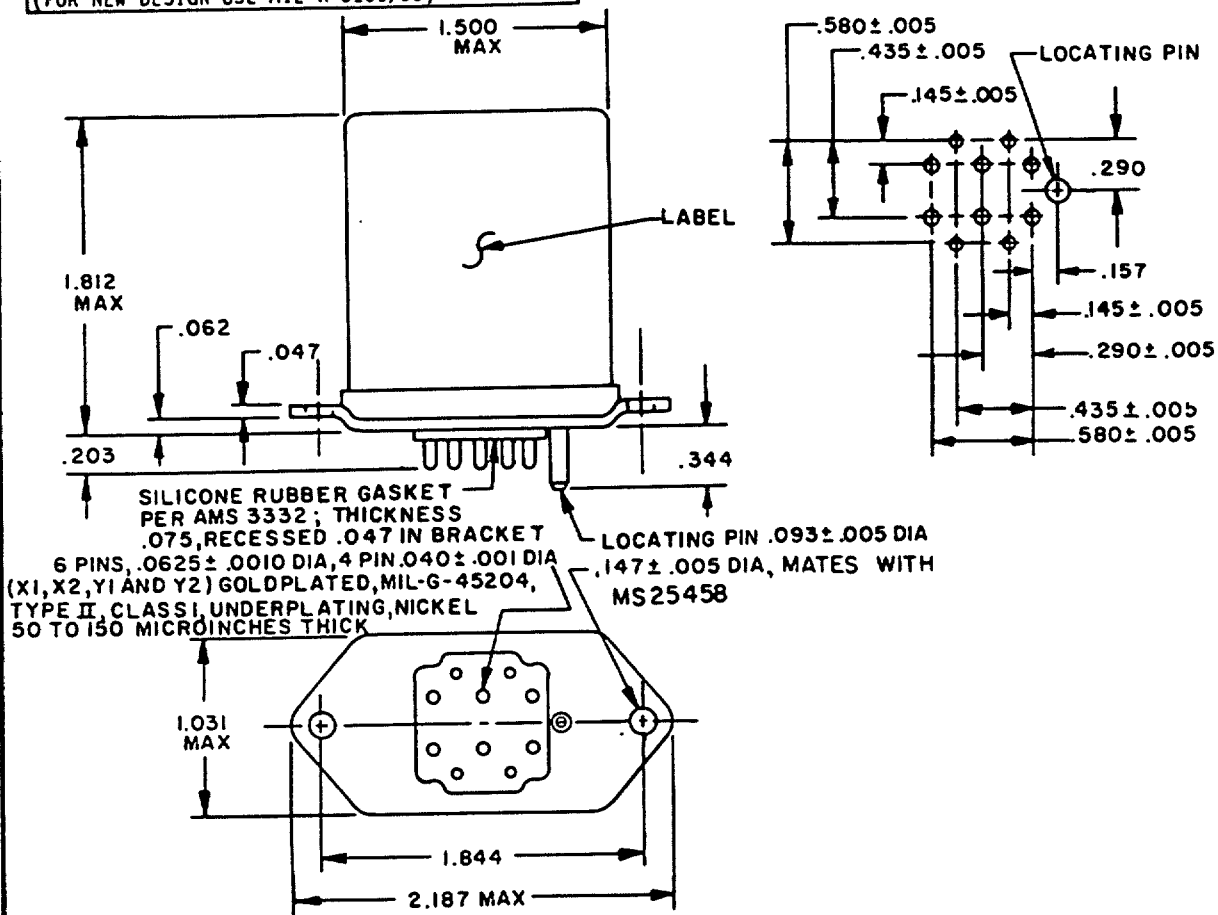
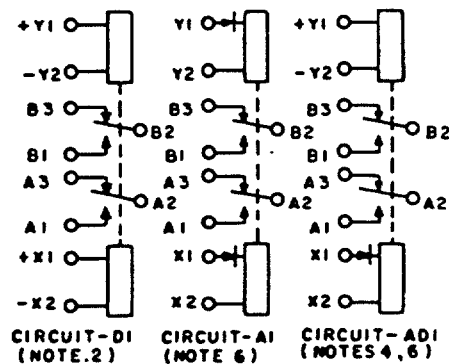


FED. SUP CLASS  
5945

INACTIVE FOR NEW DESIGN AFTER 5 JUN 87  
NO SUPERSEDING STANDARD.  
(FOR NEW DESIGN USE MIL-R-6106/50)



Inches	mm	Inches	mm
.001	0.03	.203	5.16
.005	0.13	.293	7.74
.040	1.02	.344	8.74
.047	1.19	.435	11.05
.062	1.57	.580	14.73
.0625	1.59	1.031	26.19
.093	2.36	1.500	39.10
.145	3.68	1.812	46.02
.147	3.73	1.844	46.84
.157	3.99	2.187	55.55



(F) ENTIRE STANDARD REVISED

P.A AF - 85

International  
interest

TITLE  
RELAYS, ELECTROMAGNETIC, 10 AMPERES, 2 PDT,  
TYPE I, MAGNETIC LATCH, SOCKET MOUNTED,  
HERMETICALLY SEALED

MILITARY STANDARD

Other Cust  
Navy - AS

MS25457

Procurement Specification  
MIL-R-6106

SUPERSEDES:

PAGE 1 OF 5

DD FORM 672  
1 MAY 73  
AMSC N/A

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DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

5945-0745-16

User activities: Army -  
Navy -  
Air Force -Review activities: Army - EC  
Navy -  
Air Force - 11

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REVISED (F) 5 JUN 87

APPROVED 1 Nov 1960

User activities: Army -  
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## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are  $\pm 0.010$  (0.25 mm).
4. Relay is magnetically latched in both positions. Caution note to observe polarity must appear on relays with dc coils.
5. Terminal numbers need not appear on relay headers provided there is affixed to the relay a suitable legible circuit diagram that permanently and positively identifies each terminal location specified herein.
6. The use of diodes on ac relays is optional. Actual application must be shown on label.
7. Shock, vibration, and acceleration requirements application with coils de-energized.
8. In the event of conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.
9. 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.

TABLE I. Dash numbers and characteristics.

Dash number MS 25457-	Type	Coil	Terminal type	Max weight in pounds
D1	I	dc	Plug in	0.30
A1	I	ac	Plug in	0.32
AD1	I	ac-dc	Plug in	0.32

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HERMETICALLY SEALED

MILITARY STANDARD

MS25457

Procurement Specification  
MIL-R-6106

SUPERSEDES:

PAGE 2 OF 5

DD FORM 672  
MAY 73  
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5945

TABLE II. Operating characteristics.

IMS part no.	Coil data										Time (milliseconds max)	
	Coil	Nominal		Max		Max pick-up voltage		Drop-out voltage	Operate 4/	Release 5/	Contact bounce	
		Volts 1/	Freq. 2/	Res $\Omega$	Volts	Amperes	Nominal 3/	High temp test	Cont current test			
D1	X1, X2 Y1, Y2	28	dc	N/A	29	0.17	18	18	19.8	N/A	2	2
A1	X1, X2 Y1, Y2	115	400 2/	N/A	122	0.07	90	90	95	N/A	2	2
AD1	X1, X2 Y1, Y2	115	400 2/	N/A	122	0.07	90	90	95	N/A	2	2
		28	dc	N/A	29	0.17	18	18	19.8	N/A	2	2

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

2/ MS25457-A1 and AD1 may be used on 60 Hz if maximum ambient temperature is

limited to +5°C (maximum coil current shall be 0.077 ampere).

3/ Over the temperature range.

4/ With nominal coil voltage.

5/ From nominal coil voltage.

P.A. AIR FORCE 85

Other Cust  
NAVY - AS

Procurement Specification  
MIL-R-6106

International  
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TITLE  
RELAYS, ELECTROMAGNETIC, 10 AMPERES, 2 PDT,  
TYPE I, MAGNETIC LATCH, SOCKET MOUNTED,  
HERMETICALLY SEALED

SUPERSEDES:

MILITARY STANDARD

MS25457

PAGE 3 OF 5

APPROVED 1 NOV 1960

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FED. SUP CLASS  
5945

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	Aux	
		NO	NC	NO	NC	400 Hz	60 Hz	400 Hz 60 Hz	
Resistive	100	10	10	10	6			10 6	
Inductive	100								
Inductive	20	6	6	10	4			10 4	
Motor	100	4	4	4	3			4 3	
Lamp	100	2	2	2	1.5			2 1.5	
Transfer load									2/
Mechanical life reduced current	400	12.5	12.5	2.5	2			2.5 2	
Intmd current		Applicable per specification							

1/ Absence of value indicates relay is not rated for 3-phase applications.  
 2/ Transfer load indicates relay suitable for transfer between unsynchronized  
 ac power supplies at rating indicated.

P.A.  
AIR FORCE 85  
Other Cust  
NAVY - AS

International  
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MILITARY STANDARD

MS25457

Procurement Specification  
MIL-R-6106

SUPERSEDES:

PAGE 4 OF 5

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FED. SUP CLASS  
5945

### Environmental characteristics

Temperature range -70°C to +125°C  
Max altitude rating 80,000 ft  
Shock G-level 50 G  
Duration 11 ms  
Max duration contact opening 10 μs  
Vibration - sinusoidal 10 μs  
G-level 10 G  
Frequency range 5 - 1500 Hz  
Acceleration 15 G

### Electrical characteristics

Insulation resistance, initial 100 megohms  
After life or environmental tests 50 megohms

Dielectric strength initial (sea level)  
Initial After life tests  
Coil to case 1,000 V rms 1,000 V rms  
Aux contacts  
All other points 1,500 V rms 1,125 V rms

Dielectric strength (altitude)  
(When mounted in mating socket)  
Coil to case 80,000 ft  
Aux contacts 500 V rms  
All other points 500 V rms

Max contact drop initial 0.150 volt  
After life test 0.175 volt  
Overload current 40 amperes dc,  
60 amperes ac  
Rupture current 50 amperes dc,  
80 amperes ac  
Duty rating Continuous  
RFI specification MIL-STD-461  
(Applicable to coil circuits of ac operated relays)

### Quality conformance inspection

Performance of groups B and C tests are not applicable.

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PAGE 5 OF 5

DD FORM 672  
1 MAY 73

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