

Reviewers: Navy - AS, EC  
Air Force 85, II

FED. SUP CLASS  
5945

1.500 MAX

1.812 MAX

.062

.047

.203

SILICONE RUBBER GASKET PER AMS 3332; THICKNESS .075, RECESSED .047 IN BRACKET

.334

LOCATING PIN .093 ± .005 DIA

16 PINS, .040 ± .001 DIA, GOLD PLATED, MIL-G-45204, TYPE II, CLASS I, UNDERPLATING, NICKEL 50 TO 150 MICROINCHES THICK.

1.062 MAX

1.844

2.187 MAX

.147 ± .005 DIA 2 MTG HOLES MATES WITH SOCKET MS25460

LOCATING PIN

.440 ± .005

.528 ± .005

.352 ± .005

.176 ± .005

.033 ± .005

.264

.143

.152 ± .005

.304 ± .005

.456 ± .005

.603 ± .005

PIN LAYOUT

+Y1

-Y2

D3

D1

C3

C1

B3

B1

A3

A1

+X1

-X2

CIRCUIT -D1 (NOTE 5)

Y1

Y2

D3

D1

C3

C1

B3

B1

A3

A1

X1

X2

CIRCUIT -A1 (NOTE 3)

+Y1

-Y2

D3

D1

C3

C1

B3

B1

A3

A1

X1

X2

CIRCUIT -AD1 (NOTES 3,5)

NOTES:

1. DIMENSIONS IN INCHES, UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS ± .010.
2. TERMINAL NUMBERS NEED NOT APPEAR ON RELAY HEADER PROVIDED THERE IS AFFIXED TO THE RELAY A SUITABLE LEGIBLE CIRCUIT DIAGRAM THAT PERMANENTLY AND POSITIVELY IDENTIFIES EACH TERMINAL LOCATION SPECIFIED HEREON.
3. THE USE OF DIODES ON AC RELAYS IS OPTIONAL. ACTUAL APPLICATION MUST BE SHOWN ON LABEL.
4. PINS TO BE PERPENDICULAR TO HEADER SURFACE WITHIN 1 DEGREE.
5. RELAY IS MAGNETICALLY LATCHED IN BOTH POSITIONS. CAUTION NOTE TO OBSERVE POLARITY MUST APPEAR ON RELAYS WITH DC COILS.
6. FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.
7. SHOCK, VIBRATION AND ACCELERATION REQUIREMENT APPLICABLE WITH COILS DE-ENERGIZED.

⑤ DENOTES CHANGE

MS PART NUMBER	TYPE	COIL	TERMINAL TYPE	MOUNTING OR MATING SOCKET	MAX WEIGHT IN POUNDS
MS25459-D1	I	DC	PLUG IN	MS25460	0.30
MS25459-A1	I	AC	PLUG IN	MS25460	0.32
MS25459-AD1	I	AC-DC	PLUG IN	MS25460	0.32

P.A. AIR FORCE 85	TITLE	MILITARY STANDARD MS 25459
Other Cust. NAVY - AS	RELAY, MAGNETIC LATCH, 5 AMP, 4 PDT, TYPE I (HERMETICALLY SEALED), SOCKET MOUNTED	
PROCUREMENT SPECIFICATION MIL-R-6106	SUPERSEDES:	SHEET 1 OF 2

This military standard is approved for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

Reviewers:  
Nav.-AS-EC  
Air Force 85,11

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OPERATING CHARACTERISTICS														FED. SUP CLASS 5945			
MS PART NO. MS25459-	COIL	COIL DATA										TIME-MILLISECONDS - MAX. $\frac{s}{s}$					
		Nominal			Max.		Max Pick-up Voltage			Drop Out Voltage 1/	Operate	Release	Bounce				
		Volts	Freq Hz	Res $\Omega$	Volts	Amp	Normal 1/	High Temp Test	Cont Current Test				Main		Aux		
													NO	NC	NO	NC	
D1	X1,X2 Y1,Y2	28	DC	—	29	0.17	18	18	19.8	N/A	25	N/A	2	2	—	—	
A1	X1,X2 Y1,Y2	115	400 4/	—	122	0.07	90	90	95	N/A	25	N/A	2	2	—	—	
AD1	X1,X2	115	400 4/	—	122	0.07	90	90	95	N/A	25	N/A	2	2	—	—	
	Y1,Y2	28	DC	—	29	0.17	18	18	19.8	N/A	25	N/A	2	2	—	—	

  

RATED CONTACT LOAD (AMPERES PER POLE)										CASE GROUNDED					
TYPE OF LOAD	LIFE OPERATING CYCLES x 10 <sup>3</sup>	28 VDC				115 VAC, 1 PHASE				115/200 VAC, 3 PHASE 2/				See Appropriate Notes	
		Main		Aux		Main		Aux		Main		Aux			
		NO	NC	NO	NC	400Hz	60Hz	400Hz	60Hz	400Hz	60Hz	400Hz	60Hz		
RESISTIVE	100	5	5	—	—	5	4	—	—						
INDUCTIVE	100														
INDUCTIVE	20	3	3	—	—	3	2	—	—						
MOTOR	100	1.5	1.5	—	—	1.5	1	—	—						
LAMP	100	0.8	0.8	—	—	0.8	0.6	—	—						
TRANSFER, LOAD														3/	
MECHANICAL LIFE REDUCED CURRENT	400	1.25	1.25	—	—	1.25	1	—	—						
MIN CURRENT		APPLICABLE PER SPECIFICATIONS													

  

ENVIRONMENTAL CHARACTERISTICS		ELECTRICAL CHARACTERISTICS	
TEMPERATURE RANGE	—70°C TO +125°C	INSULATION RESISTANCE, INITIAL	100 MEGOHMS
MAX ALTITUDE RATING	80,000 FT	AFTER LIFE OR ENVIRONMENTAL TESTS	50 MEGOHMS
SHOCK G - LEVEL	50 G	DIELECTRIC STRENGTH (SEA LEVEL)	
DURATION	11 ms	Initial	After Life Tests
MAX DURATION CONTACT OPENING	10 $\mu$ s	COIL TO CASE	1000 VRMS 1000 VRMS
VIBRATION - SINUSOIDAL		AUX CONTACTS	—
G - LEVEL	10 G	ALL OTHER POINTS	1000 VRMS 1000 VRMS
FREQUENCY RANGE	5 - 1500 Hz	DIELECTRIC STRENGTH (ALTITUDE) 5/	
ACCELERATION	15 G		80,000 FT
		COIL TO CASE	500 VRMS
		AUX CONTACTS	—
		ALL OTHER POINTS	500 VRMS
		MAX CONTACT DROP INITIAL	0.150 VOLTS
		AFTER LIFE TEST	0.175 VOLTS
		OVERLOAD CURRENT	20 AMP
		RUPTURE CURRENT	25 AMP
		DUTY RATING	CONTINUOUS
		RFI SPEC	MIL-STD-461
		(APPLICABLE TO COIL CIRCUITS OF AC OPERATED RELAYS)	

  

NOTES, APPLICATION

- 1/ OVER TEMPERATURE RANGE
- 2/ ABSENCE OF VALUE INDICATES RELAY IS NOT RATED FOR 3 PHASE APPLICATIONS
- 3/ TRANSFER LOAD INDICATES RELAY SUITABLE FOR TRANSFER BETWEEN UNSYNCHRONIZED AC POWER SUPPLIES AT RATING INDICATED.
- 4/ MS25459-A1 AND AD1 AC COILS MAY BE USED ON 60 Hz IF MAX. AMBIENT TEMPERATURE IS LIMITED TO 85 DEG C, MAX CURRENT WILL BE 0.077 AMP.
- 5/ WHEN MOUNTED IN MATING SOCKET
- 6/ WITH NOMINAL COIL VOLTAGE

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APPROVED 1 NOV 1960 REVISED (D) SEE SHTS 1 & 2 (E) FOR CHANGES SEE SHEET 1