

# SWITCH CATALOG



# REFERENCE DOCUMENTS

## Rating, Cross Reference and Engineering Data

MIL Specifications				
MIL SPECIFICATION				
TEST REQUIREMENT	MILPRF-8805	MIL-PRF-22885	MIL-DTL-3950	MIL-DTL-8834
<b>1 .Strength of Terminal</b>	Solder - 9 lb. #4 Screw - 5 lb. #6 Screw - 30 lb. Leads - 15 lb.	Solder - 5 lb. #4 Screw - 5 lb. #6 Screw - 30 lb. Leads - 15 lb.	5 lb. solder lug. 25 lb. screw term. 5 lb. in. torque screw term. 15 lb. I.W.T.S. term.	5 lb. solder lug 25 lb. screw term. 5 lb. in. torque screw term. 5 lb. I.W.T.S. term.
<b>2. Strength of Actuating Lever Pivot and Stop</b>	10 lb.	25 lb.	25 lb. throughout range	25 lb. throughout range
<b>3. Strength of Mounting Means</b>	15 lb.-in.	15 lb.-in.	25 lb.-in. torque	65 lb.-in. torque 15/32 & over 15 lb.-in. torque under 15/32
<b>4. Dielectric (Sea Level) Indication</b>	1000V ac for one minute	1000V ac for one minute	1200V ac Group A 750V ac after electrical endurance toggle to terminal only. 500 microampere max. leakage 500V ac (65K ft.)	1800V ac Group A 500 microamperes max. leakage 500V ac (65K ft.)
<b>Dielectric (Altitude)</b>	500V ac above 10,000 ft.	400V ac above 10,000 ft.		
<b>5. Contact Voltage Drop</b>	Contact Resistance .025 Ohm New .040 Ohm After Mechanical Life	Contact Resistance .025 Ohm New .080 Ohm After Electrical Life	2.5 millivolt initial 5.0 millivolt after mechanical endurance I.W.T.S. 8.0 millivolt initial @2-6Vdc 0.1 amp.	1.0 millivolt initial @ 2-6V dc 0.1 amp.
<b>6. Temperature Rise</b>	50 deg. C max. at rated resistive load after life	50 deg. C max. at rated resistive load after life	50 deg. C rise @ rated res. after endurance test current	50 deg. C rise @ rated res. after endurance test current
<b>7. Short Circuit</b>	60 times rated resistive load	60 times rated resistive load	10 oper. make & carry 60 x rated resistive load @ lowest dc V	10 oper. make & carry 60 x rated resistive load @ lowest dc V
<b>8. Mechanical Life</b>	As specified at high and low temperature		20K operations -65 deg. C 20K operations +71 deg. C	20K operations -55 deg. C 20K operations +71 deg. C
<b>9. Electrical Endurance</b>	As specified	As specified	20K operations	20K operations
<b>10. Overload</b>	50 operations @ 150% rated resistive load	50 operations @ 150% rated resistive load	50 operations @ 150% rated resistive load	50 operations @ 150% rated resistive load
<b>11. A) Electrical Endurance at Altitude</b>	Sequence of test, ratings and environmental conditions are specified in MIL-S-8805	Sequence of test, ratings and environmental conditions are specified in MIL-S-22885	20K oper. resistive load @65K ft. rm temp 20K oper. ind. load @65K ft. rm. temp. Performed on separate test samples	20K oper. resistive load @65K ft. rm temp 20K oper. ind. load @65K ft. rm. temp. Performed on separate test samples
<b>B) Electrical Endurance at Sea Level</b>			20K operations resistive load @71 deg. C 20K operations ind. load @ rm. temp. Performed on separate test samples	20K operations resistive load @ rm. temp. 20K operations ind. load @ rm. temp. Performed on separate test samples
<b>12. Vibration</b>	See Detail Sheet	See Detail Sheet	Method 204 of MIL-STD-202. Test Condition A .06 D.A. or 10 G's 10-500 Hz 10 micro sec. max. chatter	Method 204 of MIL-STD-202. Test Condition D .06 D.A. or 20 G's 2000 Hz 10 micro sec. max. chatter
<b>13. Shock</b>	See Detail Sheet	See Detail Sheet	Pulse-Method 213 of MIL-STD-202, Test Condition B @ 75 G's 10 micro sec. max. chatter Pulse-Method 213 of MIL-STD-202,	Test Condition I @ 100G's 10 micro sec. max. chatter
<b>14. Salt Spray</b>	MIL-STD-202 Method 101	MIL-STD-202 Method 101	48 hours-Method 101 of MIL-STD-202, Test Condition B 10 operations @ lowest rated dc voltage	96 hours-Method 101 of MIL-STD-202, Test Condition A Env. 50 oper. @ rated resistive current and lowest rated dc V
<b>Test Upon Completion</b>	See Detail Sheet	See Detail Sheet		
<b>15. Moisture Resistance</b>	MIL-STD-202 Method 106, 100V dc potential between current carrying parts & panel	MIL-STD-202 Method 106, 100V dc potential between current carrying parts & panel	Method 106 of MIL-STD-202, 10 days, 100V dc potential between current carrying parts & panel	Method 106 of MIL-STD-202, 10 days, 100V dc potential between current carrying parts & panel, 0.1 A. max. leakage

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## Rating, Cross Reference and Engineering Data

MIL Specifications - Continued				
TEST REQUIREMENT	MIL SPECIFICATION			
	MIL-S-8805	MIL-S-22885	MIL-DTL-3950F	MIL-DTL-8834F
See Detail Sheet	See Detail Sheet	Method 110 of MIL-STD-202, Test Cond. B; 6 hrs @ 23 deg. C; 6 hrs @ 63 deg. C.	Method 110 of MIL-STD-202, Test Cond. B; 6 hours @ 23 deg. C, 6 hrs @ 63 deg. C.	
<b>17. Explosion</b>  MIL-STD-202 Method 109	MIL-STD-202 Method 109	No Requirement	Method 109 of MIL-STD-202. Max. rated dc inductive load toggle seal only.	
<b>18. Sealing</b>	See Detail Sheet	See Detail Sheet	1) Non destructive-submerge in H2O @ 2.0 +/- .5 in. of Hg for 5 minutes  2) Destructive-no leakage when sub-merged in sodium chloride solution at 2.0 +/- .5 in. of Hg for 4 hrs and sub merged at sea level for 16 hours	1) Lever seal - 20K operations at 6.5 lbs./in2 water pressure - seal only submerged 1/4" bushings only ③  2) Environmental seal: A-Non dest.-mass spectr. B-Destructive-submerge sw. in ethylene glycol, temp. range -18 deg. C to +71 deg. C, 20K oper. Sws. checked for contact V drop & dielectric
<b>19. A) Toggle Seal B) Bushing Seal</b>	---	---	No Requirement See Sealing	1 hr ea. lever pos. @-55 deg C Toggle ICE
<b>20. Temperature Operation</b>	See Detail Sheet	-55 deg. C to +85 deg. C	See Mechanical Life	See Mechanical Life
<b>21. Life Low Cur. Level</b>	See Detail Sheet	See Detail Sheet	40K operations @25 deg. C; Method 311 of MIL-STD-202	when specified 20K operations @71 deg. C; 5 millivolt, 5 microamp
<b>22. Fungus</b>	Non-nutrient materials only	Non-nutrient materials only	No Requirement	No Requirement
<b>23. Intermediate Current</b>	See Detail Sheet	27 +3 -OV dc & Relay M5757/10-033	20K operations @35-40 mA res. load. Lowest rated dc V and 71 deg. C amb.	See Life Low Cur. Level
<b>24. Thermal Shock</b>	MIL-STD-202 Method 107	MIL-STD-202 Method 107	Method 107 of MIL-STD-202, Test Condition B; 5 cycles @ -65 deg. C/ +125 deg. C	Method 107 of MIL-STD-202, Test Cond. A, 5 cycles @ -55 deg. C/+85 deg. C

③ Toggle seal - 5 operations under 0.5 inches of H2O above top of bushing