SCOPE: DUAL AND QUAD SPST NORMALLY OPEN RF/VIDEO SWITCHES

Device Type	Generic Number	Circuit Function
01	IH5341M(x)/883B	Dual SPST
02	IH5352M(x)/883B	Quad SPST

Case Outline(s). The case outlines shall be designated in Mil-Std-1835 and as follows:

Outline Letter	Mil-Std-1835	Case Outline	Package Code
JD	GDIP1-T14 or CDIP2-T14	14 LEAD CERDIP	J14
JE	GDIP1-T16 or CDIP2-T16	16 LEAD CERDIP	J16
TW	MACY1-X10	10 PIN CAN	10 TO 100

Absolute Maximum Ratings:

Supply voltages V^+ to V^- ..... ±17V
Current in Terminal 50mA
Analog Input Voltage ..... ±30V
Logic Control Voltage ..... V+ to V-
Voltage on V_L Pin ..... V+ to V-
Lead Temperature (soldering, 10 seconds) ..... +300°C
Storage Temperature ..... -65°C to +150°C

Continuous Power Dissipation ..... T_A=+70°C
10 lead Can (derate 6.7mW/°C above +70°C) 533mW
14 lead CERDIP (derate 9.1mW/°C above +70°C) 727mW
16 lead CERDIP (derate 10.0mW/°C above +70°C) 800mW
Junction Temperature T_J ..... +150°C
Thermal Resistance, Junction to Case, ΘJC:
Case Outline 10 lead Can ..... 45°C/W
Case Outline 14 lead CERDIP..... 55°C/W
Case Outline 16 lead CERDIP..... 50°C/W
Thermal Resistance, Junction to Ambient, ΘJA:
Case Outline 10 lead Can ..... 150°C/W
Case Outline 14 lead CERDIP..... 110°C/W
Case Outline 16 lead CERDIP..... 100°C/W

Recommended Operating Conditions

Ambient Operating Range (T_A) ..... -55°C to +125°C
Positive Supply Voltage (V^+) ..... +15V
Negative Supply Voltage (V^-) ..... -15V
V_{AL} (max) 0.8V
V_{AH} (min) 2.4V

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

TABLE 1. ELECTRICAL TESTS:

TEST	Symbol	CONDITIONS -55 °C <=T_A<= +125°C V^+=+15V, V^-=-15V, GND=0V V_{AH}=2.4V, V_{AL}=0.8V, V_L=5V Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
INPUT							
Input Logic Current High	I_{INH}	V_{IN}≥2.4V	1,3 2	All		±1 ±10	µA
Input Logic Current Low	I_{INL}	V_{IN}=0.0V	1,3 2	All		±1 ±10	µA
SWITCH							
Switch On Resistance	$r_{DS(ON)}$	I_S =10mA, V_D=±5V, V_{IN}=2.4V NOTE 2	1,3 2	All		75 100	Ω
Switch On Resistance	$r_{DS(ON)}$	I_S =10mA, V_D=±10V, V_{IN}=2.4V NOTE 2	1,3 2	All		125 175	Ω
Switch On Resistance	$r_{DS(ON)}$	I_S =10mA, V_D=±3V, V_{IN}=3V V-=-5V, V+=V_L=5V	1,3 2	All		250 350	Ω
Switch- OFF Leakage Current NOTES 1,2	$I_{S(OFF)}$ or $I_{D(OFF)}$	V_S or V_D=±5V, VIN=0.8V	1 2	All		±1 50	nA
		V_S or V_D=±14V, VIN=0.8V	1 2	All		±1 50	
Switch- ON Leakage Current	$I_{S(ON)}$ + $I_{D(ON)}$	V_S or V_D=±5V, VIN=2.4V	1 2	All		±1 100	nA
		V_S or V_D=±14V, VIN=2.4V	1 2	All		±1 100	
SUPPLY							
Positive Supply Quiescent Current	I+	V_{IN}=0V, 5V	1,3 2	01		1 10	µA
Positive Supply Quiescent Current	I+	V_{IN}=0V, 5V	1,3 2	02		2 20	µA
Negative Supply Quiescent Current	I-	V_{IN}=0V, 5V	1,3 2	01		1 10	µA
Negative Supply Quiescent Current	I-	V_{IN}=0V, 5V	1,3 2	02		2 20	µA
Logic Supply Quiescent Current	I_L	V_{IN}=0V, 5V	1,3 2	01		1 10	µA
Logic Supply Quiescent Current	I_L	V_{IN}=0V, 5V	1,3 2	02		2 20	µA
Input Logic Current	I_{IN}	V_{IN}>2.4V or <0V	1,3 2	All		1 10	µA

TEST	Symbol	CONDITIONS -55 °C <=T_A<= +125°C V^+=+15V, V^-=-15V, GND=0V V_{AH}=2.4V, V_{AL}=0.8V, V_L=5V Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
DYNAMIC							
Turn-On Time	t_{ON}	Figure 1	9	All		300	ns
Turn-Off Time	t_{OFF}	Figure 1	9	All		150	ns
OFF Isolation Rejection Ratio	OIRR	Figure 2, Note 3	9	All	70		dB
Cross Coupling Rejection Ratio	CCRR	Figure 3, Note 3	9	01 02	70 66		dB
Frequency where rDS(ON)=7xDC		Note 3	9	All	100		MHz

NOTE 1: Positive and negative voltages applied to opposite sides of switch, in both directions successively.
NOTE 2: The logic inputs are wither greater than or equal to 2.4V or less than or equal to 0.8V, as required for this test.
NOTE 3: All AC parameters are sample tested only. Test circuits should be buillt on copper clad ground plane board with correctly terminated coax leads.
Figure 1, 2, 3. Switching Time: See Commercial Data Sheet.

TERMINAL CONNECTIONS

TERMINAL NUMBER	01 IH5341	01 IH5341	02 IH5352
	J14	TO10	J16
1	V+	IN1	IN1
2	NC	S1	S1
3	D1	V+	IN2
4	GND	D1	S2
5	D2	GND	IN3
6	V-	D2	S3
7	NC	V-	IN4
8	NC	S2	S4
9	S2	IN2	VL
10	IN2	VL	D4
11	VL		V-
12	IN1		D3
13	NC		GND
14	S1		D2
15			V+
16			D1

ORDERING INFORMATION:	
IH5341MJD/883B	14 CDIP
IH5341MTW/883B	10 CAN
IH5352MJE/883B	16 CDIP

QUALITY ASSURANCE

Sampling and inspection procedures shall be in accordance with MIL-Prf-38535, Appendix A as specified in Mil-Std-883.

Screening shall be in accordance with Method 5004 of Mil-Std-883. Burn-in test Method 1015:

1. Test Condition, A, B, C, or D.
2. TA = +125°C minimum.
3. Interim and final electrical test requirements shall be specified in Table 2.

Quality conformance inspection shall be in accordance with Method 5005 of Mil-Std-883, including Groups A, B, C, and D inspection.

Group A inspection:

1. Tests as specified in Table 2.
2. Selected subgroups in Table 1, Method 5005 of Mil-Std-883 shall be omitted.

Group C and D inspections:

a. End-point electrical parameters shall be specified in Table 1.
b. Steady-state life test, Method 1005 of Mil-Std-883:
   1. Test condition A, B, C, D.
   2. TA = +125°C, minimum.
   3. Test duration, 1000 hours, except as permitted by Method 1005 of Mil-Std-883.

TABLE 2. ELECTRICAL TEST REQUIREMENTS

Mil-Std-883 Test Requirements	Subgroups per Method 5005, Table 1
Interim Electric Parameters Method 5004	1
Final Electrical Parameters Method 5005	1*, 2, 3, 9
Group A Test Requirements Method 5005	1, 2, 3, 9, 10**, 11**
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.

** Subgroups 10 and 11, if not tested, shall be guaranteed to the limits in Table 1.