

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 _{EN} =2.4V Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
SWITCH							
Analog-Signal Range	V _{ANALOG}	NOTE 2	1,2,3	All	-15	15	V
Drain-Source ON Resistance	r _{DS(ON)}	I _S =-10mA, V _D =±10V	1,3 2	All		100 125	Ω
r _{DS(ON)} Matching Between Channels	Δr _{DS(ON)}	I _S =-10mA, V _D =±10V, NOTE 3	1	All		15	Ω
Source-OFF Leakage Current	I _{S(OFF)}	V _S =±10V, V _D =±10V, V _{EN} =0V	1 2	All	-0.5 -50	0.5 50	nA
Drain-OFF Leakage Current	I _{D(OFF)}	V _S =±10V, V _D =±10V, V _{EN} =0V	1 2 2	All 01 02	-1.0 -100 -50	1.0 100 50	nA
Drain-ON Leakage Current	I _{D(ON)} + I _{S(ON)}	V _S =±10V, V _D =±10V, sequence each switch on	1 2 2	All 01 02	-1.0 -100 -50	1.0 100 50	nA
INPUT							
Input Current/Voltage High	I _{AH}	V _A = 2.4V, 15V	1,2,3	All	-10	10	μA
Input Current/Voltage Low	I _{AL}	V _A =0V, V _{EN} = 0V, 2.4V	1,2,3	All	-10	10	μA
Standby Positive Supply Current	+I _{SBY}	V _A =0V, V _{EN} = 0V	1,2,3	All		75	μA
Standby Negative Supply Current	-I _{SBY}	V _A =0V, V _{EN} = 0V	1,2,3	All	-75		μA
SUPPLY							
Positive Supply Current	I ⁺	V _A =0V, V _{EN} = 2.4V	1,3 2	All		0.5 2.0	mA
Negative Supply Current	I ⁻	V _A =0V, V _{EN} = 2.4V	1,2,3	All	-0.5		mA
DYNAMIC							
Transition Time	t _{TRANS}	Figure 2	9,10,11	All		250	ns
Break Before Make Time	t _{OPEN}	Figure 4	9	All	10		ns
Enable Turn-On Time	t _{ON(EN)}	Figure 3	9,11 10	All		150 225	ns
Enable Turn-Off Time	t _{OFF(EN)}	Figure 3	9,10,11	All		150	ns

NOTE 2: Guaranteed by design.

NOTE 3: Δr_{DS(ON)}= Δr_{DS(ON)}max-Δr_{DS(ON)}min**FIGURE 2: TRANSITION TIME TEST CIRCUIT:** See Commercial Data Sheet**FIGURE 3: ENABLE SWITCHING TIME:** See Commercial Data Sheet**FIGURE 4: BREAK-BEFORE-MAKE INTERVAL:** See Commercial Data Sheet

ORDERING INFORMATION:

	SMD NUMBER	CIRCUIT FUNCTION	PKG CODE
DG408AK/883B	5962-9204201MEA	8-channel analog multiplexer	16 CERDIP
DG408AL/883B	5962-9204201MXC	8-channel analog multiplexer	16 FLATPACK
DG408AZ/883B	5962-9204201M2C	8-channel analog multiplexer	20 LCC
DG409AK/883B	5962-9204202MEA	Dual 4-channel analog multiplexer	16 CERDIP
DG409AL/883B	5962-9204202MXC	Dual 4-channel analog multiplexer	16 FLATPACK
DG409AZ/883B	5962-9204202M2C	Dual 4-channel analog multiplexer	20 LCC

TRUTH TABLES:**TERMINAL CONNECTION**

A2	A1	A0	EN	DG408A ON SWITCH	Terminal Number	DG408	DG408	DG409	DG409
X	X	X	L	None		J16 & F16	LCC20	J16 & F16	LCC20
L	L	L	H	1	1	A0	NC	A0	NC
L	L	H	H	2	2	EN	A0	EN	A0
L	H	L	H	3	3	V-	EN	V-	EN
L	H	H	H	4	4	S1	V-	S1a	V-
H	L	L	H	5	5	S2	S1	S2a	S1a
H	L	H	H	6	6	S3	NC	S3a	NC
H	H	L	H	7	7	S4	S2	S4a	S2a
H	H	H	H	8	8	D	S3	Da	S3a
					9	S8	S4	Db	S4a
				DG409A ON SWITCH	10	S7	D	S4b	DA
					11	S6	NC	S3b	NC
	X	X	X	None	12	S5	S8	S2b	DB
	L	L	H	1	13	V+	S7	S1b	S4b
	L	H	H	2	14	GND	S6	V+	S3b
	H	L	H	3	15	A2	S5	GND	S2b
	H	H	H	4	16	A1	NC	A1	NC
					17		V+		S1b
					18		GND		V+
					19		A2		GND
					20		A1		A1

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, 7, 8, 9, 10, 11
Group A Test Requirements Method 5005	1, 2, 3, 7**, 8**, 9, 10, 11
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.

** Subgroups 7 and 8 tests shall be sufficient to verify the truth table.