TABLE 1. ELECTRICAL TESTS:

TEST	Symbol	CONDITIONS -55 °C <=T_A<= +125°C V^+=+15V, V^-=-15V, GND=0V V_{INH}=2.4V, V_{INL}=0.8V, V_L=5V Unless otherwise specified	Group A Subgroup	Device type	Limits Min 2/	Limits Max 2/	Units
SWITCH							
Analog-Signal Range	V_{ANALOG}	3/	1,2,3	All	-15	15	V
Drain-Source ON Resistance	$r_{DS(ON)}$	V^+=+13.5V, V^-=-13.5V, I_S=-10mA, V_D=±12.5V; V_{IN}=0.8V	1 2,3	01	2.5 2.5	35 45	Ω
		V_{IN}=2.4V	1 2,3	02	2.5 2.5	35 45	
		V_{IN}=0.8V, 2.4V 4/	1 2,3	03	2.5 2.5	35 45	
Source-OFF Leakage Current	$I_{S(OFF)}$	V^+=+16.5V, V^-=-16.5V, V_D=±15.5V, V_S=±15.5V; V_{IN}=2.4V	1 2,3	01	-0.25 -20	0.25 20	nA
		V_{IN}=0.8V	1 2,3	02	-0.25 -20	0.25 20	
		V_{IN}=0.8V, 2.4V 4/	1 2,3	03	-0.25 -20	0.25 20	
Drain-OFF Leakage Current	$I_{D(OFF)}$	V^+=+16.5V, V^-=-16.5V, V_D=±15.5V, V_S=±15.5V; V_{IN}=2.4V	1 2,3	01	-0.25 -20	0.25 20	nA
		V_{IN}=0.8V	1 2,3	02	-0.25 -20	0.25 20	
		V_{IN}=0.8V, 2.4V 4/	1 2,3	03	-0.75 -60	0.75 60	
Drain-ON Leakage Current	$I_{D(ON)}$	V^+=+16.5V, V^-=-16.5V, V_D=±15.5V, V_S=±15.5V; V_{IN}=0.8V	1 2,3	01	-0.4 -40	0.4 40	nA
		V_{IN}=2.4V	1 2,3	02	-0.4 -40	0.4 40	
		V_{IN}=0.8V, 2.4V 4/	1 2,3	03	-0.75 -60	0.75 60	
Input Current/Voltage High	I_{INH}	V_{IN}= 2.4V	1,2,3	All	-0.5	0.5	µA
Input Current/Voltage Low	I_{INL}	V_{IN}= 0.8V	1,2,3	All	-0.5	0.5	µA
Positive Supply Current	I+	V^+=+16.5V, V^-=-16.5V, V_{IN}=0V or 5V	1 2,3	All	-1.0 -5.0	1.0 5.0	µA
Negative Supply Current	I-	V^+=+16.5V, V^-=-16.5V, V_{IN}=0V or 5V	1 2,3	All	-1.0 -5.0	1.0 5.0	µA

TABLE 1. ELECTRICAL TESTS:

TEST	Symbol	CONDITIONS -55 °C <=T_A<= +125°C V^+=+15V, V^-=-15V, GND=0V V_{INH}=2.4V, V_{INL}=0.8V, V_L=5V Unless otherwise specified	Group A Subgroup	Device type	Limits Min 2/	Limits Max 2/	Units
Logic Supply Current	I_L	V^+ =+16.5V, V^-=-16.5V, V_{IN}=0V or 5V	1 2,3	All	-1.0 -5.0	1.0 5.0	µA
Ground Current	I_{GND}	V^+ =+16.5V, V^-=-16.5V, V_{IN}=0V or 5V	1 2,3	All	-1.0 -5.0	1.0 5.0	µA
Turn-Off Time	t_{OFF}	V_D=±10V, R_L=300Ω, CL=35pF, Figure 2	9 10,11	01,02		145 210	ns
Transition Time	t_{TRANS}	V_S=±10V, R_L=300Ω, CL=35pF, Figure 3	9 10,11	03		175 250	ns
Break-Before-Make Interval	t_D	V_{S1}=V_{S2}=±10V, R_L=300Ω, CL=35pF, Figure 4	9	03	5	150	ns
Charge Injection 3/	Q	V_{GEN}=0V, Figure 5	9	All		10	pC
Functional Tests	FT	Verify Truth Table	7,8	All			

NOTE 2: This data sheet uses the algebraic convention, where the most negative value is a minimum and the most positive value is a maximum.
NOTE 3: Guaranteed by design.
NOTE 4: V_{IN}=input voltage to perform proper function.

FIGURE 2: SWITCHING TIME TEST CIRCUIT for DG417/DG418: See Commercial Data Sheet
FIGURE 3: TRANSITION TIME for DG419: See Commercial Data Sheet
FIGURE 4: BREAK-BEFORE-MAKE INTERVAL for DG419: See Commercial Data Sheet
FIGURE 5: CHARGE INJECTION for DG417/DG418/DG419: See Commercial Data Sheet

TRUTH TABLES:

DG417	DG417	DG418	DG418	DG419	DG419	DG419
LOGIC	SWITCH	LOGIC	SWITCH	LOGIC	SWITCH 1	SWITCH 2
0	ON	0	OFF	0	ON	OFF
1	OFF	1	ON	1	OFF	ON

ORDERING INFORMATION:

Package	MAXIM PART	SMD NUMBER
8 pin CERDIP	DG417AK/883B	5962-9073701MPA
10 pin Flatpack	DG417AL/883B	5962-9073701MXC
8 pin CERDIP	DG418AK/883B	5962-9073702MPA
10 pin Flatpack	DG418AL/883B	5962-9073702MXC
8 pin CERDIP	DG419AK/883B	5962-9073703MPA
10 pin Flatpack	DG419AL/883B	5962-9073703MXC

TERMINAL CONNECTIONS:

	DG417/418	DG417/418	DG419	DG419
	J8	F10	J8	F10
1	S	S	D	D
2	NC	NC	S1	S1
3	GND	GND	GND	GND
4	V+	V+	V+	V+
5	V_L	NC	V_L	NC
6	IN	NC	IN	NC
7	V-	V_L	V-	V_L
8	D	IN	S2	IN
9		V-		V-
10		D		S2

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, 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.