SCOPE: QUAD, SPST, CMOS, TTL-Compatible Analog Switches

Device Type:	**Generic Number:**
-01	**DG308AA(x)/883B**
-02	**DG309A(x)/883B**

Case Outline(s).

Outline Letter	Mil-Std-1835	Case Outline	Package Code
K	GDIP1-T16 or CDIP2-T16	16 LEAD CERDIP	J16

Absolute Maximum Ratings

V+ to V- 44V
V+ to GND 25V
Digital Input Overvoltage Range ..... (V^- -2V) to (V^+ +2V)
or 20mA (whichever comes first)
Current (any terminal except S or D) 30mA
Continuous Current, S or D 20mA
(Pulsed at 1ms, 10% duty cycle max) 70mA
Lead Temperature (soldering, 10 seconds) ..... +300°C
Storage Temperature ..... -65°C to +150°C

Continuous Power Dissipation ..... T_A=+70°C
16 lead CERDIP(derate 10mW/°C above +70°C) 800mW
Junction Temperature T_J ..... +150°C
Thermal Resistance, Junction to Case, ΘJC:
Case Outline 16 lead CERDIP..... 50°C/W
Thermal Resistance, Junction to Ambient, ΘJA:
Case Outline 16 lead CERDIP..... 100°C/W

Recommended Operating Conditions.
Ambient Operating Range (T_A) ..... -55°C to +125°C

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 $-55°C \le T_A \le +125°C$ V+=15V, V-=-15V, GND=0V, V_{INH}=11V, V_{INL}=3.5V Unless otherwise specified	GROUP A Subgroup	Device type	Limits Min	Limits Max	Units
Analog-Signal Range	V_{ANALOG}	V_S=±15V	1,2,3	All	-15	15	V
Drain-Source On Resistance	$r_{DS(ON)}$	I_S=1mA, V_D=±10V, V_{IN}=11V (DG308A), V_{IN}=3.5V (DG309)	1,3 2	All		100 150	Ω
Source-Off Leakage Current	$I_{S(OFF)}$	V_{IN}=3.5V, V_S=+14V, V_D=-14V	1 2	01	-1 -100	1 100	nA
Source-Off Leakage Current	$I_{S(OFF)}$	V_{IN}=11V, V_S=-14V, V_D=+14V	1 2	02	-1 -100	1 100	nA
Drain-Off Leakage Current	$I_{D(OFF)}$	V_{IN}=3.5V, V_S=+14V, V_D=-14V	1 2	01	-1 -100	1 100	nA
Drain-Off Leakage Current	$I_{D(OFF)}$	V_{IN}=11V, V_S=-14V, V_D=+14V	1 2	02	-1 -100	1 100	nA
Drain-On Leakage Current	$I_{D(ON)}$	V_{IN}=11V, V_S=V_D=+14V	1 2	01	-2 -200	2 200	nA
Drain-On Leakage Current	$I_{D(ON)}$	V_{IN}=3.5V, V_S=V_D=-14V	1 2	02	-2 -200	2 200	nA
Input Current with Voltage High	I_{INH}	V_{IN}=15V	1,2	All		1.0	µA
Input Current with Voltage Low	I_{INL}	V_{IN}=0V	1,2	All	-1.0		µA
Positive Supply Current	I+	All channels on or off V_{IN}=0V or 15V	1,3 2	All		10 100	µA
Negative Supply Current	I-	All channels on or off V_{IN}=0V or 15V	1,3 2	All	-10 -100		µA
DYNAMIC							
Turn-On Time	t_{ON}	Figure 1, NOTE 1	9 10,11	All		200 400	ns
Turn-Off Time	t_{OFF}	Figure 1, NOTE 1	9 10,11	All		150 350	ns

NOTE 1: Figure 1, See Commercial datasheet.

PIN CONFIGURATIONS:

	16-Pin CERDIP			**DG308A**	
1	IN1	9	IN3	**LOGIC**	**SWITCH**
2	D1	10	D3	**0**	**OFF**
3	S1	11	S3	**1**	**ON**
4	V-	12	NC		
5	GND	13	V+	**DG309**	
6	S4	14	S2	**LOGIC**	**SWITCH**
7	D4	15	D2	**0**	**ON**
8	IN4	16	IN2	**1**	**OFF**

ORDERING INFORMATION:

01	J16	DG308AAK/883B
02	J16	DG309AK/883B

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. T_A = +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. T_A = +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.