SCOPE: MONOLITHIC CMOS, ANALOG MULTIPLEXER

Device Type	Generic Number	SMD Number
01	DG508AA(x)/883B	7705201

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
MAXIM	SMD			
K	E	GDIP1-T16 or CDIP2-T16	16 LEAD CERDIP	J16
L	X	CDFP4-16	16 LEAD FLATPACK	F16
P	E	GDIP1-T16 or CDIP2-T16	16 LEAD Sidebraze	P16
Z	2	CQCC1-N20	20-Pin Ceramic LCC	L20

Absolute Maximum Ratings

Voltage Referenced to V^-

V^+ to V^- 44V
V^+ to GND ..... +22V
V^- to GND ..... -22V
Digital Inputs, VS or VD 1/..... (V^-) -3.0V to (V^+)
Analog Inputs Voltage ..... (V^-) -2.0V to (V^+)+2V
Analog Input, Overvoltage Range ..... (V^-) -3.0V to (V^+)

Lead Temperature (soldering, 10 seconds) ..... +300°C
Storage Temperature ..... -65°C to +150°C
Continuous Power Dissipation ..... T_A=+70°C
16 lead FLATPACK (derate 6.1mW/°C above +70°C) 485mW
16 lead CERDIP(derate 10.0mW/°C above +70°C) 800mW
16 lead Side Braze(derate 10.5mW/°C above +70°C) 842mW
20 lead LCC (derate 9.1mW/°C above +70°C) 727mW
Junction Temperature T_J ..... +150°C
Thermal Resistance, Junction to Case, ΘJC:
Case Outline 16 lead FLATPACK ..... 65°C/W
Case Outline 16 lead CERDIP..... 50°C/W
Case Outline 16 lead Side Braze..... 45°C/W
Case Outline 20 lead LCC ..... 20°C/W
Thermal Resistance, Junction to Ambient, ΘJA:
Case Outline 16 lead FLATPACK ..... 165°C/W
Case Outline 16 lead CERDIP..... 100°C/W
Case Outline 16 lead Side Braze..... 95°C/W
Case Outline 20 lead LCC ..... 110°C/W

Recommended Operating Conditions.

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

NOTE 1: Signals on S, D, IN exceeding V+ or V- will be clamped by internal diodes. Limit forward diode current to maximum current ratings.

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_{EN}=4.5V Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
SWITCH							
Input Leakage Current 2/	I_{IH}	Measure inputs sequentially, connect all unused inputs to GND	1,2,3	All		0.8	µA
Input Leakage Current 2/	I_{IL}	Measure inputs sequentially, connect all unused inputs to 5.0V	1,2,3	All		-0.8	µA
Switch ON Resistance	$r_{DS(ON1)}$	I_D =±1mA, V_S=±10V	1,3 2	All		400 500	Ω
Switch ON Resistance	$r_{DS(ON2)}$	V+=+10V, V-=±10V, I_D =±1mA, V_S=±7.5V	1,2,3	All		1000	Ω
Source-OFF Leakage Current	$\pm I_{S(OFF)}$	V_S =+/-10V, V_{EN}=0.8V, All unused inputs=±10V	1,2,3	All	-50	50	nA
Drain-OFF Leakage Current	$\pm I_{D(OFF)}$	V_D=±10V, V_{EN}=0.8V, All unused inputs=±10V	1,2,3	All	-250	250	nA
Drain-ON Leakage Current	$\pm I_{D(ON)}$	V_S =+/-10V, V_D=-/+10V, All unused inputs=±10V	1,2,3	All	-250	250	nA
INPUT							
Standby Positive Supply Current	$+I_{SBY}$	V_A=0V, V_{EN}=0V	1,2,3	All		3.5	mA
Standby Negative Supply Current	$-I_{SBY}$	V_A=0V, V_{EN}=0V	1,2,3	All	-3.5		mA
SUPPLY							
Positive Supply Current	I+	V_{EN}=5V, V_A=0V	1,2,3	All		12	mA
Negative Supply Current	I+	V_{EN}=5V, V_A=0V	1,2,3	All	-12		mA
DYNAMIC							
Capacitance: Address	C_A	V^+=V^-=0V, f=1MHz, NOTE 3	4	All		10	pF
Capacitance: Output Switch	C_{OS}	V^+=V^-=0V, f=1MHz, NOTE 3	4	All		45	pF
Capacitance: Input Switch	C_{IS}	V^+=V^-=0V, f=1MHz, NOTE 3	4	All		10	pF
Charge Transfer Error	V_{CTE}	V_S=GND, V_{GEN}=0V to 5V, f=500kHz, CL=100pF NOTE 3	4	All		10	mV
Single Channel Isolation	V_{ISO}	V_{GEN}=1Vp-p, f=200kHz NOTE 3	4	All	50		dB
Crosstalk Between Channels	V_{CT}	V_{GEN}=1Vp-p, f=200kHz NOTE 3	4	All	50		dB
Break Before Make Time Delay	t_D	Figure 3	9	All	5.0		ns
Propagation Delay: Address Inputs to I/O Channels	$t_{ON(A)}$ $t_{OFF(A)}$	Figure 1,2, R_L=1kΩ, CL=100pF	9,11 10	All		1000 1500	ns
Enable to I/O	$t_{ON(EN)}$ $t_{OFF(EN)}$	Figure1,2, R_L=1kΩ, CL=100pF	9,11 10	All		1000 1500	ns

NOTE 2: Input Current of one input mode.
NOTE 3: Guaranteed, if not tested, to the limits specified.

FIGURE 1: SWITCHING TIME TEST CIRCUIT: See Commercial Data Sheet
FIGURE 2: ENABLE TIME TEST CIRCUIT: See Commercial Data Sheet
FIGURE 3: BREAK-BEFORE-MAKE TEST CIRCUIT: See Commercial Data Sheet

ORDERING INFORMATION:	SMD NUMBER	PACKAGE CODE
DG508AAK/883B	7705201EA	16 CERDIP
DG508AAL/883B	7705201XC	16 FLATPACK
DG508AAP/883B	7705201EC	16 SIDE BRAZE
DG508AAZ/883B	77052012C	20 LCC

TRUTH TABLE

A2	A1	A0	EN	DG508A ON SWITCH
X	X	X	L	None
L	L	L	H	1
L	L	H	H	2
L	H	L	H	3
L	H	H	H	4
H	L	L	H	5
H	L	H	H	6
H	H	L	H	7
H	H	H	H	8

TERMINAL CONNECTION

TERMINAL NUMBER	DG508A	DG508A
	J16, P16 & F16	L20
1	A0	NC
2	EN	A0
3	V-	EN
4	IN1	V-
5	IN2	IN1
6	IN3	NC
7	IN4	IN2
8	OUT	IN3
9	IN8	IN4
10	IN7	OUT
11	IN6	NC
12	IN5	IN8
13	V+	IN7
14	GND	IN6
15	A2	IN5
16	A1	NC
17		V+
18		GND
19		A2
20		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, 4**
Group A Test Requirements Method 5005	1, 2, 3, 4**, 9, 10, 11***
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.
** Subgroup 4 (capacitance measurements) shall be measured only for the initial test and after process or design changes which may affect capacitance.
*** Subgroups 10 and 11, if not tested, shall be guaranteed to the specified limits in Table 1.

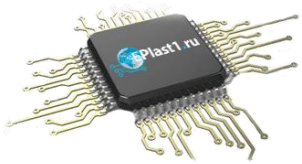
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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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