PCN 15_0159

ADG5208/ADG5209 Data Sheet Changes

Rev. B to Rev. C

This document highlights the performance changes from the Rev. B to the Rev. C data sheet for the ADG5208 and ADG5209 Analog Multiplexers.

For full product information and changes to Typical Performance Characteristics plots please refer to the ADG5208/09 Rev. C data sheet.

1. HBM ESD

HBM ESD	Rev B	Rev C
I/O Port to Supplies	4kV	8kV
I/O Port to I/O Port	1kV	2kV
All other pins	4kV	8kV

2. Datasheet specification changes from Rev. B to Rev. C

Tables 1 to 4 outline a datasheet specification comparison of Rev. B to Rev. C material. The changed specifications are highlighted in red font.

SPECIFICATION CHANGES FROM Rev. B to Rev. C

Table 1. V_{DD} = +15 V ± 10%, V_{SS} = -15 V ± 10%, GND = 0 V, unless otherwise noted.

## ANALOG SWITCH Analog Signal Range 160	Parameter	25°C	Rev.B -40°C to	-40°C to		25°C	−40°C to	lev. C	-40°C to		Unit	Test Conditions/
Analog Signal Range		-50	+85°C	+125℃			+85°C		+125℃		Onic	Comments
160				Von to Ves					Von to Vec		V	
200 250 250 250 250 250 250 1 max 1.35 V N=1.35 V N=1.	, maiog signal nange	160		VDD (0 V33		160			100 00 133			$V_s = \pm 10 \text{ V}, I_s = -1 \text{ mA}$
On-Resistance Match 3.5 9 10 0 type V=10.5 V, k=−1r In 25 V k=−1r V=10.5 V, k=−1r	On Resistance, R _{ON}	200	250		280	200		250		280	Ωmax	$V_{DD} = +13.5 \text{ V, } V_{SS} =$
Between Channels, After Some Presentation State of the Property of the Pr	On-Resistance Match											
LEAKAGE CURRENTS			9		10			9		10	, ·	VS-110 V, IS- 1111A
Detail Companies	On-Resistance Flatness,											$V_S = \pm 10 \text{ V}, I_S = -1 \text{ mA}$
Common C	R _{FLAT (ON)}	50	65		70	50		65		70	Ω max	V +16 E V V
Source Off Leakage, b (Off) 5	LEAKAGE CURRENTS											
Drain Off Leakage, l ₀ (Off) 5 5 0.00 0.00 0.00 0.00 0.00 0.00 0.00	Source Off Leakage Is (Off)										nA typ	$V_S = \pm 10 \text{ V}, V_D = \pm 10 \text{ V}$
Drain Off Leakage, i₂-(Off) 5	Jource on Leakage, is (on)		±0.2	±0.4			±0.2		±0.4		nA max	
Channel On Leakage, s, s, c											nA tvp	$V_S = \pm 10 \text{ V}, V_D = \pm 10 \text{ V}$
Channel On Leakage, Io (On)	Drain Off Leakage, I _D (Off)		+0.4	+1 /			+0.4		+1 /		, ,	
E(On)	Character (On Lanks and L. (On)		±0.4	±1.∓			±0.∓		±1T			$\pm V_S = V_D = \pm 10 \text{ V}$
DiGITAL INPUTS											, ,	
Input Ligh Voltage, Vin; Input Low Voltage, Vin; Input Current, lx, or lines 0.002	· ·	±0.2	±0.5	±1.4		±0.2	±0.5		±1.4		nA max	
Input Low Voltage,					2					2	V min	
Digital Input Capacitance, C _N 3 3 3 3 3 5 5 5 5 5												
Digital Input Capacitance, C _N 3 3 3 3 3 3 3 5 5 5	Input Current, I _{INL} or I _{INH}	0.002				0.002						$V_{IN} = V_{GND} \text{ or } V_{DD}$
Dynamic Characteristics Transition Time, threads from 205 245 275 180 210 245 ns max ns typ ns typ 145 145 125 ns max 150 ns typ 145 145 165 180 185 210 230 ns max 150 150 ns max 150 15	Digital Input Capacitance Co.	3		±0.1		3			±0.1			
Transition Time, transfirm 170 205 245 275 180 210 245 ns may N = 10V N =											ргур	
to _N (EN) 145 185 220 245 150 185 215 ns may vs = 10V 125 ns ns max vs = 10V 125 ns ns max vs = 10V 125 ns may vs = 10V 125 ns may vs = 10V 125											, .	$R_L = 300 \Omega$, $C_L = 35 pF$
Cox (EN) 185 220 245 150 185 215 ns max ns max ns typ R₂ = 300 Ω, C₂ = 35 V₂ = 10 V ns typ R₂ = 300 Ω, C₂ = 35 120 Ns max ns typ R₂ = 300 Ω, C₂ = 35 120 Ns max ns typ R₂ = 300 Ω, C₂ = 35 120 Ns max ns typ R₂ = 300 Ω, C₂ = 35 120 Ns max ns typ R₂ = 300 Ω, C₂ = 35 125 Ns min ns typ R₂ = 300 Ω, C₂ = 30 125 Ns min ns typ R₂ = 300 Ω, C₂ = 30 <	Transition Time, changing		245		275			210		245		
torr (EN) 120 145 165 165 180 185 210 230 230 ns typ ns max ns typ ns min R _c = 300 Ω, C _c = 35 V _s = 10 V Break-Before-Make Time Delay, to 65 30 25 ns typ ns min N _S = 10 V Charge Injection, Q _N U 0.4 0.2 pC typ ns min V _S = 0 V, R _S = 0 Ω, C _c = 5 pF 1 MHz Off Isolation -90 -86 dB typ dB typ 1 MHz R _c = 50 Ω, C _c = 5 pF 1 MHz Channel-to-Channel Crosstalk -90 -80 MHz typ R _c = 50 Ω, C _c = 5 pF 1 MHz R _c = 50 Ω, C _c = 5 pF R _c = 50 Ω, C _c	t _{on} (EN)		220		245			185		215	, .	-
Break-Before-Make Time 145 185 180 185 210 230 ns max ns typ ns ms max ns typ ns ms my ns typ ns ms my ns typ ns ms min Ns max ns typ ns ms ms ns typ ns ms ms ns typ ns ms min Ns max ns typ ns ms ms ns typ ns ms min Ns max ns typ ns ms ms ns typ ns ms ms ns typ ns ms min Ns max ns typ ns ms ms ms ms typ ns ms ms ms typ ns ms ms ms ms typ ns ms ms ms ms typ ns ms ms ms ms ms typ ns ms ms ms ms ms ms typ ns ms	tore (FN)										, .	$R_L = 300 \Omega$, $C_L = 35 pF$
Delay, to 30 25 ns min V ₅₁ = V ₅₂ = 10 V V ₅ = 0 V, R = 0 Ω, C mode of the point of the po			165		180			210		230		
Charge Injection, Q _{NU} 0.4 0.2 pC typ V _S = 0 V, R _S = 0 Ω, C _L = 5 pF 1 MHz Off Isolation −90 −86 dB typ R _c = 50 Ω, C _L = 5 pF 1 MHz Channel-to-Channel Crosstalk −90 −80 dB typ R _c = 50 Ω, C _L = 5 pF 1 MHz −3 dB Bandwidth ADG5208 54 110 MHz typ R _c = 50 Ω, C _L = 5 pF 1 MHz ADG5209 133 240 MHz typ R _c = 50 Ω, C _L = 5 pF 1 MHz C _s (Off) 5.5 2.9 dB typ R _c = 50 Ω, C _L = 5 pF 1 MHz C _s (Off) 5.5 2.9 pF typ V _s = 0 V, F = 1 MHz C _s (Off) 5.5 2.9 pF typ V _s = 0 V, F = 1 MHz ADG5209 26 17 pF typ V _s = 0 V, F = 1 MHz ADG5209 31 21 pF typ V _s = 0 V, F = 1 MHz ADG5209 31 21 pF typ V _s = 0 V, F = 1 MHz POWER REQUIREMENTS 45 μA typ V _{OD} = +16.5 V, V _{Ss} = -16.5 V I _s 0.001 μA typ V _{OD} = +16.5 V <td></td> <td>05</td> <td></td> <td></td> <td>30</td> <td>55</td> <td></td> <td></td> <td></td> <td>25</td> <td>, .</td> <td>•</td>		05			30	55				25	, .	•
Off Isolation −90 −86 dB typ R _L = 50 Ω, C _L = 5 pF 1 MHz Channel+to-Channel Crosstalk −90 −80 dB typ R _L = 50 Ω, C _L = 5 pF 1 MHz −3 dB Bandwidth ADG5208 54 110 MHz typ ADG5209 133 240 MHz typ Insertion Loss −6.4 −6.4 dB typ R _L = 50 Ω, C _L = 5 pF 1 MHz C _s (Off) 5.5 2.9 pF typ V _S = 0 V, f = 1 MHz C _s (Off) 5.5 2.9 pF typ V _S = 0 V, f = 1 MHz ADG5208 52 34 pF typ V _S = 0 V, f = 1 MHz ADG5209 26 17 pF typ V _S = 0 V, f = 1 MHz ADG5208 58 37 pF typ V _S = 0 V, f = 1 MHz ADG5209 31 21 pF typ V _S = 0 V, f = 1 MHz POWER REQUIREMENTS 45 µA typ V _S = 0 V, f = 1 MHz I _S 70 55 70 55 70 Digital inputs = 0 V I _S 0.001 0.001 µA max V _S = 0 V V _S = 0 V V _S = 0 V V _S = 0	•	0.4				0.2						$V_S = 0 \text{ V}, R_S = 0 \Omega, C_L = 1$
Channel-to-Channel Crosstalk -90 -80 dB typ R _L = 50 Ω, C _L = 5 pF 1 MHz	Off Isolation	-90				-86					dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, $f =$
Crosstalk	Channel-to-Channel	00				00					-ID to	$R_L = 50 \Omega$, $C_L = 5 pF$, $f =$
ADG5208 54 110 MHz typ MHz typ <td< td=""><td></td><td>-90</td><td></td><td></td><td></td><td>-80</td><td></td><td></td><td></td><td></td><td>ав тур</td><td></td></td<>		-90				-80					ав тур	
ADG5209 133 240 MHz typ $R_L = 50 \Omega$, $C_L = 5 pF$ 1 MHz Insertion Loss -6.4 -6.4 dB typ $R_L = 50 \Omega$, $C_L = 5 pF$ 1 MHz C_S (Off) 5.5 2.9 pF typ $V_S = 0 V$, $f = 1$ MHz C_D (Off) 7 pF typ $V_S = 0 V$, $f = 1$ MHz ADG5208 52 34 pF typ $V_S = 0 V$, $f = 1$ MHz C_D (On), C_S (On) 37 pF typ $V_S = 0 V$, $f = 1$ MHz ADG5209 31 21 pF typ $V_S = 0 V$, $f = 1$ MHz POWER REQUIREMENTS 45 μ A typ $V_{DD} = +16.5 V$, $V_{SS} = -16.5 V$ I_{DD} 45 45 μ A typ $V_{DD} = +16.5 V$, V		E 4				110					MUstus	$R_L = 50 \Omega$, $C_L = 5 pF$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Insertion Loss	-6.4				-6.4					· ·	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	C _s (Off)	5.5				2.9					pF typ	
CD (On), Cs (On) ADG5208 58 37 pF typ Vs = 0 V, f = 1 MHz ADG5209 31 21 pF typ Vs = 0 V, f = 1 MHz POWER REQUIREMENTS 45 Land typ VDD = +16.5 V, Vss = -16.5 V IDD 45 45 Land typ VDD = +16.5 V, Vss = -16.5 V IDD 55 70 μA typ Digital inputs = 0 V VDD ISS 0.001 0.001 μA typ Digital inputs = 0 V VDD V DD VDD VDD VDD I DD VDD VDD VDD	ADG5208											*
ADG5208 58 37 $pF typ V_5 = 0 V, f = 1 MHz V_5 = 0 V, f = 1 MLz V_5 = 0$		26				17					pF typ	$V_S = 0 V, f = 1 MHz$
ADG5209 31 21 pF typ V _S = 0 V, f = 1 MHz POWER REQUIREMENTS I _{DD} 45 45 μA typ Digital inputs = 0 V V _{DD} I _{SS} 70 55 70 μA max Digital inputs = 0 V V _{DD} I _{SS} 0.001 0.001 μA typ Digital inputs = 0 V V _{DD}		58				37					nF typ	$V_{c} = 0 V_{c} f = 1 MHz$
$ \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$												$V_S = 0 \text{ V, } f = 1 \text{ MHz}$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	POWER REQUIREMENTS											$V_{DD} = +16.5 \text{ V}, V_{SS} = -16.5 \text{ V}$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		45				45					uA tvp	Digital inputs = 0 V or
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	lod				70					70		V _{DD}
Iss 0.001 0.001 µA typ VDD 1 1 µA max V min (V					70					70	,	Digital inputs = 0 V or
VminAV	lss	0.001				0.001						
					1					1	•	
V_{DD}/V_{SS} $\pm 9/\pm 22$ $\pm 9/\pm 22$ $\frac{V_{MM}}{max}$ $\frac{V_{MM}}{V_{DD}}$ $\frac{V_{MM}}{V_{DD}}$	V _{DD} /V _{SS}			±9/±22					±9/±22			GND = 0 V

¹ Guaranteed by design, not subject to production test.

Table 2. V_{DD} = +20V ± 10%, V_{SS} = -20 V ± 10%, GND = 0 V, unless otherwise noted.

ANALOG SWITCH Analog Signal Range On Resistance, Ron On-Resistance Match Between Channels, ARon On-Resistance Flatness,	140 160 3.5 8	200	V _{DD} to V _{SS}								
On Resistance, R _{ON} On-Resistance Match Between Channels, ΔR _{ON}	160 3.5	200	V _{DD} to V _{SS}								
On-Resistance Match Between Channels, ΔR _{ON}	160 3.5	200			140			V_{DD} to V_{SS}		V Ωtyp	$V_S = \pm 15 \text{ V, } I_S = -1 \text{ mA}$
Between Channels, ΔR _{ON}				230	160		200		230	Ωmax	$V_{DD} = +18 \text{ V}, V_{SS} = -18 \text{ V}$
·	8				3.5					Ω typ	$V_S = \pm 15 \text{ V}, I_S = -1 \text{ mA}$
OH-Desistance claimess	34	9		10	8 34		9		10	Ω max Ω typ	$V_S = \pm 15 \text{ V, } I_S = -1 \text{ mA}$
R _{FLAT} (ON)	45	55		60	45		55		60	Ω max	VS = ±13 V, IS = -1 IIIA
LEAKAGE CURRENTS											$V_{DD} = +22 \text{ V}, V_{SS} = -22 \text{ V}$
Source Off Leakage, I _s (Off) ±	-0.00				±0.00 5					nA typ	$V_S = \pm 15 \text{ V}, V_D = \pm 15 \text{ V}$
3	=0.1	±0.2	±0.4		±0.1	±0.2		±0.4		nA max	
	-0.00				±0.00					nA typ	$V_S = \pm 15 \text{ V}, V_D = \pm 15 \text{ V}$
Drain Off Leakage, I _D (Off) 5 ±	=0.1	±0.4	±1.4		5 ±0.1	±0.4		±1.4		nA max	·
	-0.01				±0.01					nA typ	$\pm V_S = V_D = \pm 15 \text{ V}$
ls (On)	-0.2	±0.5	±1.4		±0.2	±0.5		±1.4		nA max	
DIGITAL INPUTS	_0.2	10.5	11.4		10.2	±0.5		±1. 4		IIA IIIax	
Input High Voltage, V _{INH}				2					2	V min	
Input Low Voltage, V _{INL} Input Current, I _{INL} or I _{INH}	0.002			0.8	0.002				0.8	V max μΑ typ	$V_{IN} = V_{GND}$ or V_{DD}
input current, line or linh	0.002		±0.1		0.002			±0.1		μΑ typ μΑ max	VIN — VGND OI VDD
Digital Input Capacitance, C _{IN}	3				3					pF typ	
DYNAMIC CHARACTERISTICS ¹	160				140					ns typ	$R_L = 300 \Omega, C_L = 35 pF$
Transition Time, t _{TRANSITION}	195	225		255	170		195		220	ns max	$V_S = 10 \text{ V}$
t _{on} (EN)	145	300		225	120		170		105	ns typ	$R_L = 300 \Omega, C_L = 35 pF$
	170 120	200		225	140 160		170		195	ns max ns typ	$V_S = 10 \text{ V}$ $R_L = 300 \Omega$, $C_L = 35 \text{ pF}$
t _{OFF} (EN)	140	155		170	185		205		220	ns max	$V_S = 10 \text{ V}$
Break-Before-Make Time	55			30	45				20	ns typ	$R_L = 300 \Omega, C_L = 35 pF$ $V_{S1} = V_{S2} = 10 V$
Delay, t _D Charge Injection, Q _{NJ}	0.3			30	0.4				20	ns min pC typ	$V_{S} = 0 \text{ V}, R_{S} = 0 \Omega, C_{L} = 1$ nF
Off Isolation –	-90				-86					dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, $f = 1 MHz$
Channel-to-Channel _	-90				-80					dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, $f =$
Crosstalk –3 dB Bandwidth	30				00					ab typ	1 MHz $R_L = 50 \Omega$, $C_L = 5 pF$
ADG5208	60				121					MHz typ	nt = 30 12, Ct = 3 pi
ADG5209	130				255					MHz typ	D 500 C 5 - 5 (
Insertion Loss –	-5.6				-5.6					dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, $f = 1 MHz$; see
C₅ (Off) C₀ (Off)	5.5				2.8					pF typ	$V_S = 0$ V, $f = 1$ MHz
ADG5208	51				33					pF typ	$V_S = 0 V, f = 1 MHz$
ADG5209 C _D (On), C _s (On)	26				17					pF typ	$V_S = 0 V, f = 1 MHz$
ADG5208	57				36					pF typ	$V_S = 0 \text{ V, } f = 1 \text{ MHz}$
ADG5209	31				21					pF typ	$V_S = 0 \text{ V, } f = 1 \text{ MHz}$
POWER REQUIREMENTS											$V_{DD} = +22 \text{ V}, V_{SS} = -22 \text{ V}$ Digital inputs = 0 V or
loo	50				50					μA typ	V _{DD}
	70			110	70				110	μA max	Distribution of 27
Iss	0.001				0.001					μA typ	Digital inputs = 0 V or V _{DD}
				1					1	μA max	
V _{DD} /V _{SS}			±9/±22					±9/±22		V min/V max	GND = 0 V

¹ Guaranteed by design, not subject to production test.

Table 3. V_{DD} = +12V ± 10%, V_{SS} = 0V GND = 0 V, unless otherwise noted.

Davamatav	25°C	Rev.B -40°C to	−40°C to		25°C	Rev -40°C to	. C –40°	Cto	Ilmia	Test Conditions/
Parameter	25 C	+85°C	+125°C		25 C	+85°C	+125	°C	Unit	Comments
ANALOG SWITCH Analog Signal Range			0 V to V _{DD}				0 V to	V _{DD}	V	
3 3 3	350				350				Ωtyp	$V_S = 0 \text{ V to } 10V, I_S =$
On Resistance, Ron	500	610		700	500		0	700		-1 mA $V_{DD} = +10.8 \text{V}, V_{SS} = 0$
	500	610		700	500	61	U	700	Ω max	V
On-Resistance Match	5				5				Ωtyp	$V_S = 0 \text{ V to } 10V, I_S = -1$ mA
Between Channels, ΔR _{ON}	20	22		24	20	2	2	24	Ω max	V 0V4-10V1
On-Resistance Flatness,	160				160				Ω typ	$V_S = 0 \text{ V to } 10V, I_S = -1 \text{ mA}$
RFLAT (ON)	280	335		370	280	33	5	370	Ω max	V 12.2.V.V 0V
LEAKAGE CURRENTS	±0.00				±0.00					$V_{DD} = 13.2 \text{ V}, V_{SS} = 0 \text{V}$ $V_{S} = 1 \text{V}/10 \text{V}, V_{D} = +10$
Source Off Leakage, Is (Off)	5	.0.2	. 0. 4		5	.0.2	. 0. 4		nA typ	V/1V
	±0.1 ±0.00	±0.2	±0.4		±0.1 ±0.00	±0.2	±0.4		nA max	$V_s = 1V/10V, V_D = +10$
Drain Off Leakage, I _D (Off)	5				5	. 0. 4			nA typ	V/1V
	±0.1	±0.4	±1.4		±0.1	±0.4	±1.4		nA max	$\pm V_S = V_D = 1 \text{ V}/10 \text{V}$
Channel On Leakage, I_D (On), I_S (On)	±0.01	.0.5			±0.01	. 0. 5			nA typ	
DIGITAL INPUTS	±0.2	±0.5	±1.4		±0.2	±0.5	±1.4		nA max	
Input High Voltage, V _{INH}				2				2	V min	
Input Low Voltage, V _{INL} Input Current, I _{INL} or I _{INH}	0.002			8.0	0.002			0.8	V max μΑ typ	$V_{IN} = V_{GND}$ or V_{DD}
·	0.002		±0.1		0.002		±0.1		μA max	VIII — VGIND OI VDD
Digital Input Capacitance, C _{IN}	3				3				pF typ	
DYNAMIC										
CHARACTERISTICS ¹	210				200				ns tun	$R_L = 300 \Omega$, $C_L = 35 pF$
Transition Time, trransition	270	330		380	250	29	5	335	ns typ ns max	$V_S = 8 \text{ V}$
ton (EN)	215 275	345		400	180 225	28	10	320	ns typ	$R_L = 300 \Omega$, $C_L = 35 pF$ $V_S = 8 V$
t _{OFF} (EN)	115	343		400	165	20		320	ns max ns typ	$V_S = 0 V$ $R_L = 300 \Omega, C_L = 35 pF$
Break-Before-Make Time	140 135	160		175	200 95	22	!5	245	ns max	$V_S = 8 \text{ V}$ $R_L = 300 \Omega, C_L = 35 \text{ pF}$
Delay, t _D	133			70	93			50	ns typ ns min	$V_{S1} = V_{S2} = 8 \text{ V}$
Charge Injection, Q _{INJ}	0.3				0.2				pC typ	$V_S = 6 \text{ V}, R_S = 0 \Omega, C_L = 1 \text{ nF}$
Off Isolation	-90				-86				dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, f
Channel-to-Channel	-90				-00					= 1 MHz R _L = 50 Ω , C _L = 5 pF, f
Crosstalk	-90				-80				dB typ	= 1 MHz
−3 dB Bandwidth ADG5208	60				95				MHz typ	$R_L = 50 \Omega$, $C_L = 5 pF$
ADG5208 ADG5209	120				180				MHz typ	
Insertion Loss	-8.8				-8.9				dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, f = 1 MHz; see
C _s (Off)	6				3.3				pF typ	$V_s = 0 \text{ V, f} = 1 \text{ MHz}$
C _D (Off) ADG5208	56				38				nE typ	$V_{s} = 0 \text{ V, } f = 1 \text{ MHz}$
ADG5209	56 28				38 19				pF typ pF typ	$V_S = 0 \text{ V, } f = 1 \text{ MHz}$ $V_S = 0 \text{ V, } f = 1 \text{ MHz}$
C_D (On), C_S (On) ADG5208	63				41				pF typ	$V_S = 0 V, f = 1 MHz$
ADG5208 ADG5209	35				24				pr typ pF typ	$V_S = 0 \text{ V, } f = 1 \text{ MHz}$ $V_S = 0 \text{ V, } f = 1 \text{ MHz}$
POWER REQUIREMENTS										$V_{DD} = 13.2$
I _{DD}	40				40				μA typ	Digital inputs = 0 V or V _{DD}
	50			65	50			65	μA max	
V_{DD}			9/40				9/40		V min/V max	GND = 0 V, Vss=0V
Guaranteed by design not su		1	,							1

¹ Guaranteed by design, not subject to production test.

Table 4. V_{DD} = +36V ± 10%, V_{SS} = 0V GND = 0 V, unless otherwise noted.

		Rev.B				R	Rev. C				
Parameter	25°C	–40°C to +85°C	−40°C to +125°C		25°C	−40°C to +85°C)	-40°C to +125°C		Unit	Test Conditions/ Comments
ANALOG SWITCH			014. 14					014. 14			
Analog Signal Range	150		0 V to V _{DD}		150			0 V to V _{DD}		V Ωtyp	$V_S = \pm 10 \text{ V, } I_S = -1 \text{ mA}$
On Resistance, Ron	170	215		245	170		215		245	Ω max	$V_{DD} = +13.5 \text{ V, } V_{SS} =$
On Desistan as Matal		213		273			213		273		-13.5 V
On-Resistance Match Between Channels, ΔR _{ON}	3.5 8	9		10	3.5 8		9		10	Ω typ Ω max	$V_S = \pm 10 \text{ V}, I_S = -1 \text{ mA}$
On-Resistance Flatness,	35				35					Ω typ	$V_S = \pm 10 \text{ V}, I_S = -1 \text{ mA}$
R _{FLAT} (ON)	55	65		70	55		65		70	Ω max	1651111
LEAKAGE CURRENTS											$V_{DD} = +16.5 \text{ V}, V_{SS} = -16.5 \text{ V}$
Source Off Leakage, Is (Off)	±0.00 5				±0.00 5					nA typ	$V_S = \pm 10 \text{ V}, V_D = \pm 10 \text{ V}$
Source Off Leakage, 15 (Off)	±0.1	±0.2	±0.4		±0.1	±0.2		±0.4		nA max	
	±0.00				±0.00					nA typ	$V_S = \pm 10 \text{ V}, V_D = \pm 10 \text{ V}$
Drain Off Leakage, I _D (Off)	5 ±0.1	±0.4	±1.4		5 ±0.1	±0.4		±1.4		nA max	V3 - 210 V, VD - 210 V
		±0.4	±1. 4			±0.4		±1.4			$V_S = V_D = \pm 10 \text{ V};$
Channel On Leakage, I _D (On), I _S (On)	±0.01				±0.01					nA typ	,
	±0.2	±0.5	±1.4		±0.2	±0.5		±1.4		nA max	
DIGITAL INPUTS Input High Voltage, V _{INH}				2					2	V min	
Input Low Voltage, V _{INL}				0.8					0.8	V max	
Input Current, I _{INL} or I _{INH}	0.002		. 0.4		0.002					μA typ	$V_{IN} = V_{GND}$ or V_{DD}
Digital Input Capacitance,			±0.1					±0.1		μA max	
C _{IN}	3				3					pF typ	
DYNAMIC											
CHARACTERISTICS ¹	185				170					nc tun	$R_L = 300 \Omega$, $C_L = 35 pF$
Transition Time, t _{TRANSITION}	230	245		259	205		225		235	ns typ ns max	$V_S = 10 \text{ V}$
ton (EN)	170				150					ns typ	$R_L = 300 \Omega$, $C_L = 35 pF$
CON (E. V)	210 125	230		255	180 180		195		215	ns max	$V_S = 10 \text{ V}$ $R_L = 300 \Omega$, $C_L = 35 \text{ pF}$
t _{OFF} (EN)	180	180		180	225		225		230	ns typ ns max	$V_S = 10 \text{ V}$
Break-Before-Make Time	70				55					ns typ	$R_L = 300 \Omega$, $C_L = 35 pF$
Delay, t _D				35					25	ns min	$V_{S1} = V_{S2} = 10 \text{ V}$
Charge Injection, Q _{INJ}	0.4				0.3					pC typ	$V_S = 0 \text{ V}, R_S = 0 \Omega, C_L = 1 \text{ nF}$
Off Isolation	-90				-86					dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, f = 1 MHz
Channel-to-Channel	-90				-80					dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, f
Crosstalk –3 dB Bandwidth										, ,	= 1 MHz $R_L = 50 \Omega$, $C_L = 5 \text{ pF}$
ADG5208	65				105					MHz typ	71E 3011/CE 3 PI
ADG5209	130				195					MHz typ	D 500 C 5 - 5 6
Insertion Loss	-6				-6.2					dB typ	$R_L = 50 \Omega$, $C_L = 5 pF$, f = 1 MHz; see
C _S (Off) C _D (Off)	5.5				2.7					pF typ	$V_S = 0 V, f = 1 MHz$
ADG5208	51				32					pF typ	$V_S = 0 V, f = 1 MHz$
ADG5209	25				16					pF typ	$V_S = 0 V, f = 1 MHz$
C _D (On), C _S (On) ADG5208	57				35					pF typ	$V_S = 0 \text{ V, } f = 1 \text{ MHz}$
ADG5209	32				20					pF typ	$V_S = 0 \text{ V, } f = 1 \text{ MHz}$
POWER REQUIREMENTS											$V_{DD} = +16.5 \text{ V}, V_{SS} = -16.5 \text{ V}$
	80				80					μΑ typ	Digital inputs = 0 V or
loo	100			130	100				130	μA max	V_{DD}
$V_{ extsf{DD}}$	100		9/40	130	100			9/40	130	V min/V	GND = 0 V, Vss=0V
	<u> </u>	1								max	

Guaranteed by design, not subject to production test.