

ORDERING INFORMATION		
Temp Range	Package	Part Number
-55 to 125°C	14-Pin CerDIP	DG200AAK
		DG200AAK/883, JM38510/12301BCA, 5962-9562901QCA
	10-Pin Metal Can	DG200AAA
		DG200AAA/883, JM38510/12301BIC
	14-Pin Sidebraz	JM38510/12301BCC

ABSOLUTE MAXIMUM RATINGS

$V+$ to $V-$ 44 V
 GND to $V-$ 25 V
 Digital Inputs^a, V_S , V_D ($V-$) -2 V to ($V+$) +2 V or 30 mA, whichever occurs first
 Current (Any Terminal) Continuous 30 mA
 Current S or D 100 mA
 (Pulsed at 1 ms, 10% Duty Cycle Max)
 Storage Temperature -65 to 150°C

Power Dissipation (Package)^b
 10-Pin Metal Can^c 450 mW
 14-Pin CerDIP^d 825 mW

Notes:

- Signals on S_X , D_X , or IN_X exceeding $V+$ or $V-$ will be clamped by internal diodes. Limit forward diode current to maximum current ratings.
- All leads welded or soldered to PC Board.
- Derate 6 mW/°C above 75°C
- Derate 11 mW/°C above 75°C

SCHEMATIC DIAGRAM (TYPICAL CHANNEL)

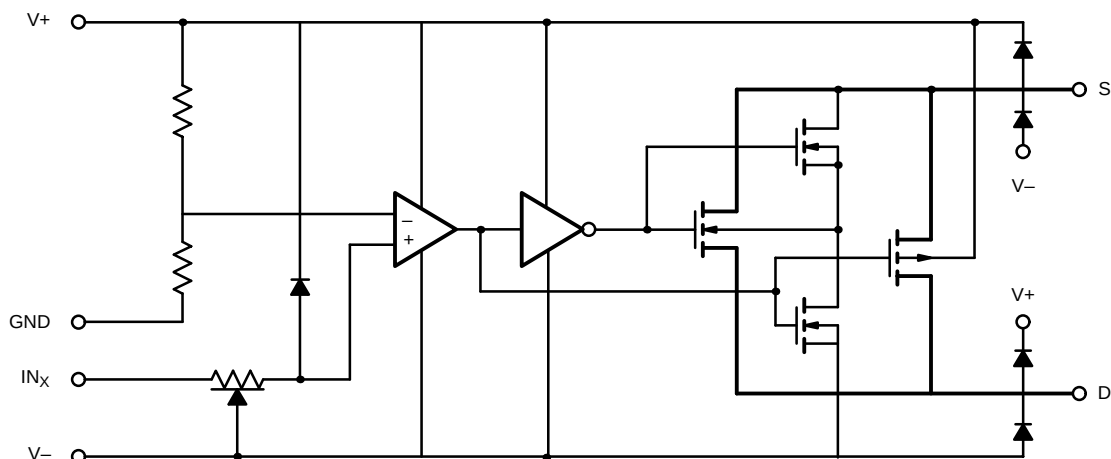


FIGURE 1.

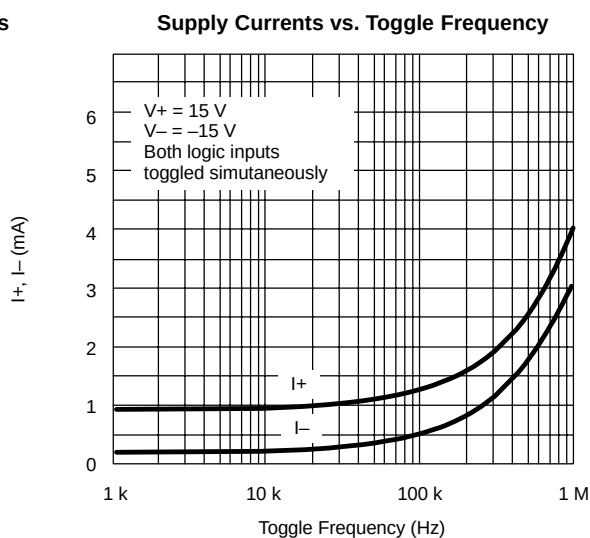
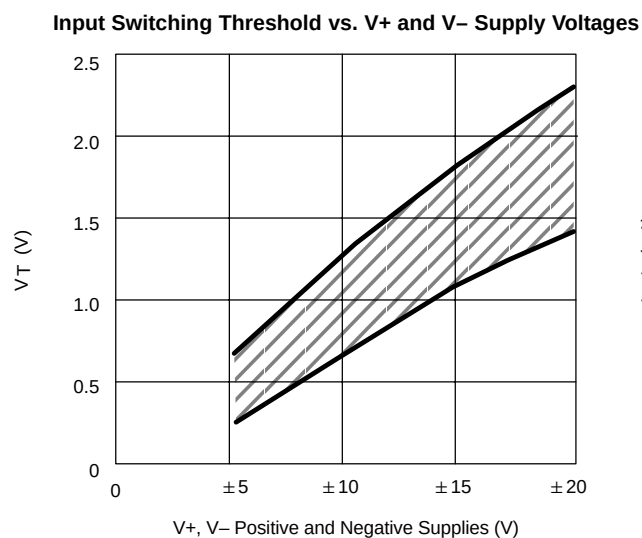
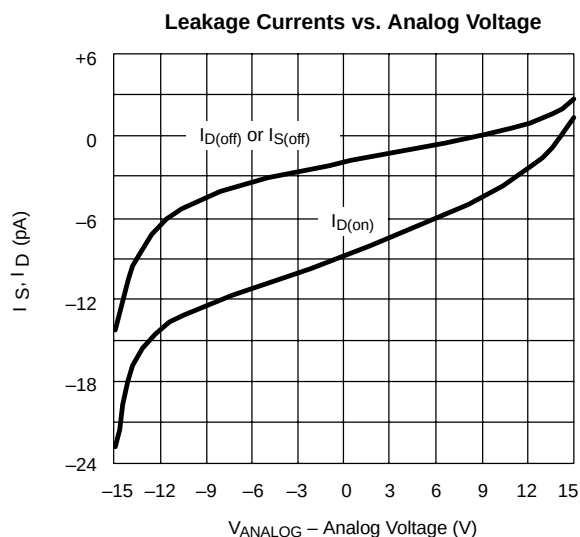
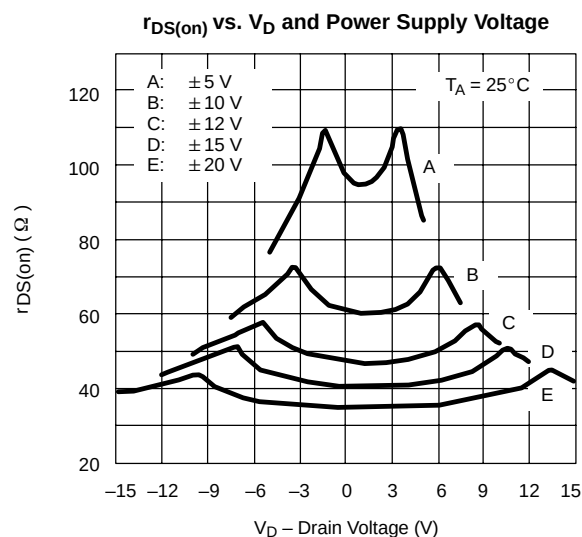


SPECIFICATIONS ^a								
Parameter	Symbol	Test Conditions Unless Otherwise Specified V ⁺ = 15 V, V [−] = −15 V V _{IN} = 2.4 V, 0.8 V ^f	Temp ^b	Limits −55 to 125°C			Unit	
				Min ^c	Typ ^d	Max ^c		
Analog Switch								
Analog Signal Range ^e	V _{ANALOG}		Full	−15		15	V	
Drain-Source On-Resistance	r _{DS(on)}	V _D = ± 10 V, I _S = −1 mA	Room Full		45	70 100	Ω	
Source Off Leakage Current	I _{S(off)}	V _S = ± 14 V, V _D = ∓ 14 V	Room Full	−2 −100	± 0.01	2 100	nA	
Drain Off Leakage Current	I _{D(off)}	V _D = ± 14 V, V _S = ∓ 14 V	Room Full	−2 −100	± 0.01	2 100		
Channel On Leakage Current ^f	I _{D(on)}	V _S = V _D = ± 14 V	Room Full	−2 −200	± 0.1	2 200		
Digital Control								
Input Current with Input Voltage High	I _{INH}	V _{IN} = 2.4 V	Room Full	−0.5 −1	0.0009		μA	
		V _{IN} = 15 V	Room Full		0.005	0.5 1		
Input Current with Input Voltage Low	I _{INL}	V _{IN} = 0 V	Room Full	−0.5 −1	−0.0015			
Dynamic Characteristics								
Turn-On Time	t _{ON}	See Switching Time Test Circuit		Room		440	1000	ns
Turn-Off Time	t _{OFF}			Room		340	425	
Charge Injection	Q	C _L = 1000 pF, V _g = 0 V R _g = 0 Ω		Room		−10		pC
Source-Off Capacitance	C _{S(off)}	f = 140 kHz V _{IN} = 5 V	V _S = 0 V	Room		9		pF
Drain-Off Capacitance	C _{D(off)}		V _D = 0 V	Room		9		
Channel-On Capacitance	C _{D(on)} + C _{S(on)}	V _D = V _S = 0 V, V _{IN} = 0 V		Room		25		
Off Isolation	OIRR	V _{IN} = 5 V, R _L = 75 Ω V _S = 2 V, f = 1 MHz		Room		75		dB
Crosstalk (Channel-to-Channel)	X _{TALK}			Room		90		
Power Supplies								
Positive Supply Current	I ⁺	Both Channels On or Off V _{IN} = 0 V and 2.4 V		Room		0.8	2	mA
Negative Supply Current	I [−]			Room	−1	−0.23		

Notes:

- Refer to PROCESS OPTION FLOWCHART.
- Room = 25°C, Full = as determined by the operating temperature suffix.
- The algebraic convention whereby the most negative value is a minimum and the most positive a maximum, is used in this data sheet.
- Typical values are for DESIGN AID ONLY, not guaranteed nor subject to production testing.
- Guaranteed by design, not subject to production test.
- V_{IN} = input voltage to perform proper function.

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)



TEST CIRCUITS

V_O is the steady state output with switch on. Feedthrough via gate capacitance may result in spikes at leading and trailing edge of output waveform.

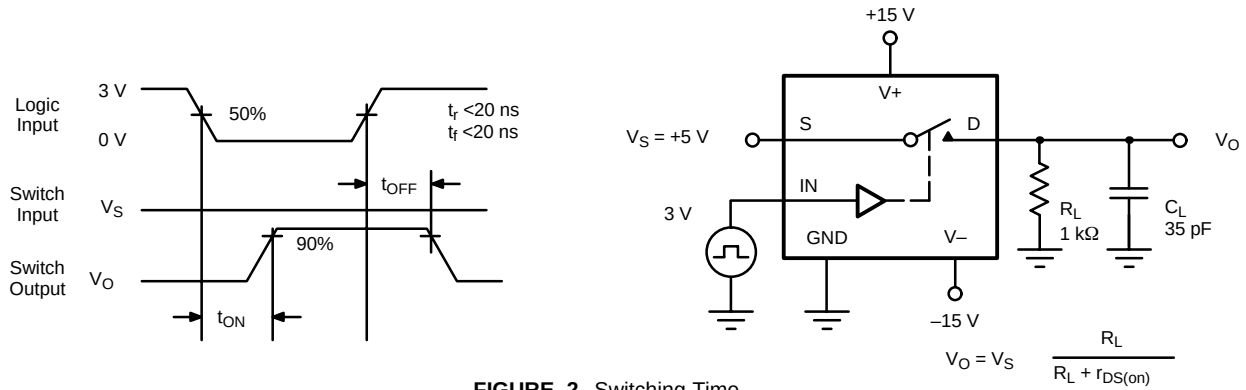


FIGURE 2. Switching Time

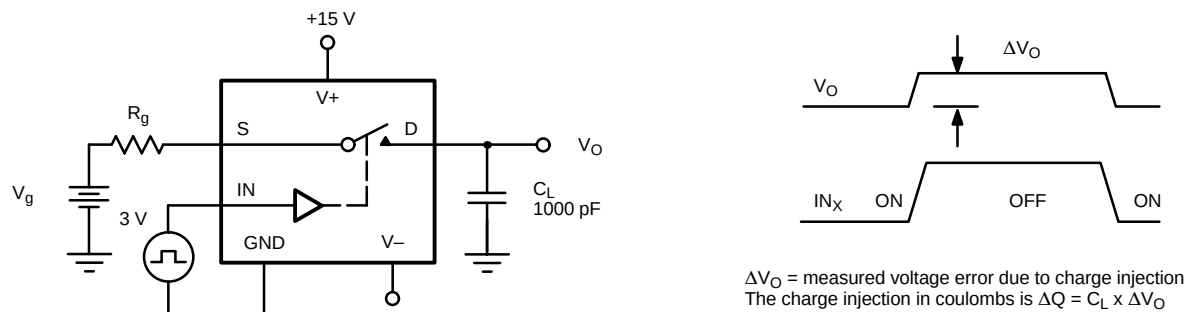


FIGURE 3. Charge Injection

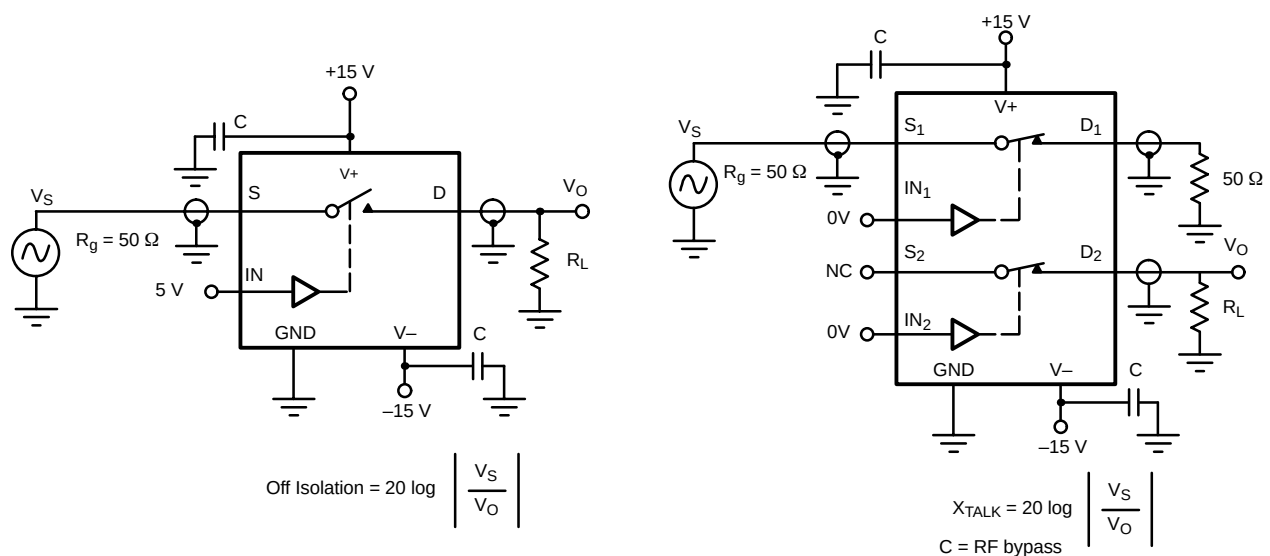


FIGURE 4. Off Isolation

FIGURE 5. Channel-to-Channel Crosstalk



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