

LOW VOLTAGE 4Ω SPDT SWITCH

- HIGH SPEED:
 $t_{PD} = 0.3 \text{ ns}$ (TYP.) at $V_{CC} = 5V$
 $t_{PD} = 0.4 \text{ ns}$ (TYP.) at $V_{CC} = 3.0V$
- LOW POWER DISSIPATION:
 $I_{CC} = 1 \mu A$ (MAX.) at $T_A = 85^\circ C$
- LOW "ON" RESISTANCE:
 $R_{ON} = 4\Omega$ (MAX. $T_a=25^\circ C$) AT $V_{CC} = 5V$
 $R_{ON} = 6\Omega$ (TYP.) AT $V_{CC} = 3.0V$
- WIDE OPERATING VOLTAGE RANGE:
 V_{CC} (OPR) = 1.8V to 5.5V SINGLE SUPPLY

DESCRIPTION

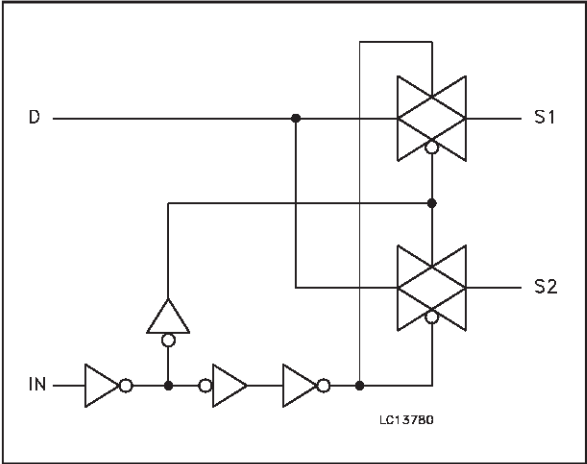
The STG719 is an high speed SPDT CMOS SWITCH frabricated in silicon gate C²MOS technology. It is designed to operate from 1.8V to 5.5V, making this device ideal for portable applications. It offers 4Ω ON-Resistance Max at



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PACKAGE	TUBE	T & R
SOT23-6L		STG719FTR

5V 25°C. Additional key features are fast switching speed ($t_{ON}=7ns$, $t_{OFF}=4.5ns$) and Low Power Consumption ($<0.01\mu W$ Typ.). ESD immunity is higher than 1000V per Method 3015.7 of MIL-STD-883B. It's available in the commercial temperature range.

LOGIC DIAGRAM



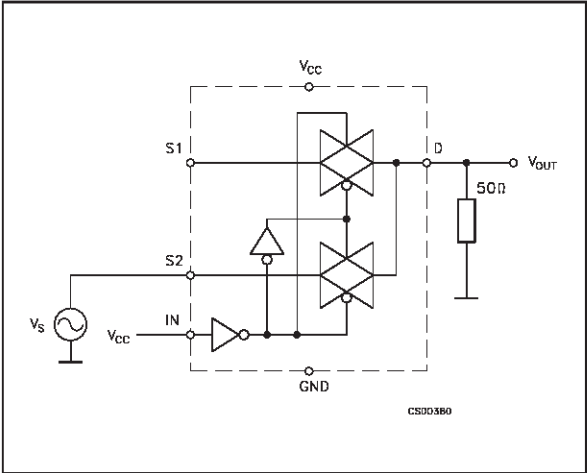
DC SPECIFICATIONS

Symbol	Parameter	Test Conditions		Value					Unit	
		V _{CC} (V)		T _A = 25 °C			-40 to 85 °C			
				Min.	Typ.	Max.	Min.	Max.		
V _{IHC}	High Level Control Input Voltage	3.0 ^(*)		2.0			2.0		V	
		5.0 ^(**)		2.4			2.4			
V _{ILC}	Low Level Control Input Voltage	3.0 ^(*)				0.4		0.4	V	
		5.0 ^(**)				0.8		0.8		
R _{ON}	ON Resistance	3.0 ^(*)	V _S = 0 to V _{CC} I _S = 10 mA		6	7		10		

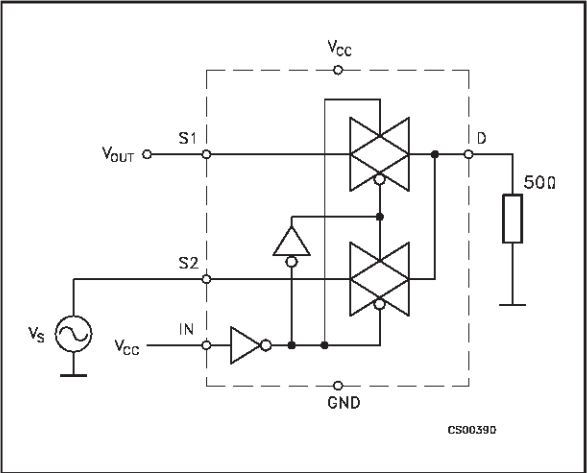
ANALOG SWITCH CHARACTERISTICS (C_L = 5 pF, R_L = 50Ω, GND = 0 V, T_A = 25°C)

Symbol	Parameter	Test Condition		Value	Unit
		V _{CC} (V)			
f _{MAX}	Frequency Response (Switch ON)	3.0 ^(*)	Bandwidth at -3dB	200	MHz
		5.0 ^(**)		200	
OIRR	OFF Isolation (Switch OFF)	3.0 ^(*)	f _{IN} = 10MHz sine wave	-40	dB
		3.0 ^(*)	f _{IN} = 1MHz sine wave	-74	
		5.0 ^(**)	f _{IN} = 10MHz sine wave	-40	
		5.0 ^(**)	f _{IN} = 1MHz sine wave	-74	
	Crosstalk (Between Channels)	3.0 ^(*)	f _{IN} = 10MHz sine wave	-39	dB
		3.0 ^(*)	f _{IN} = 1MHz sine wave	-52	
		5.			

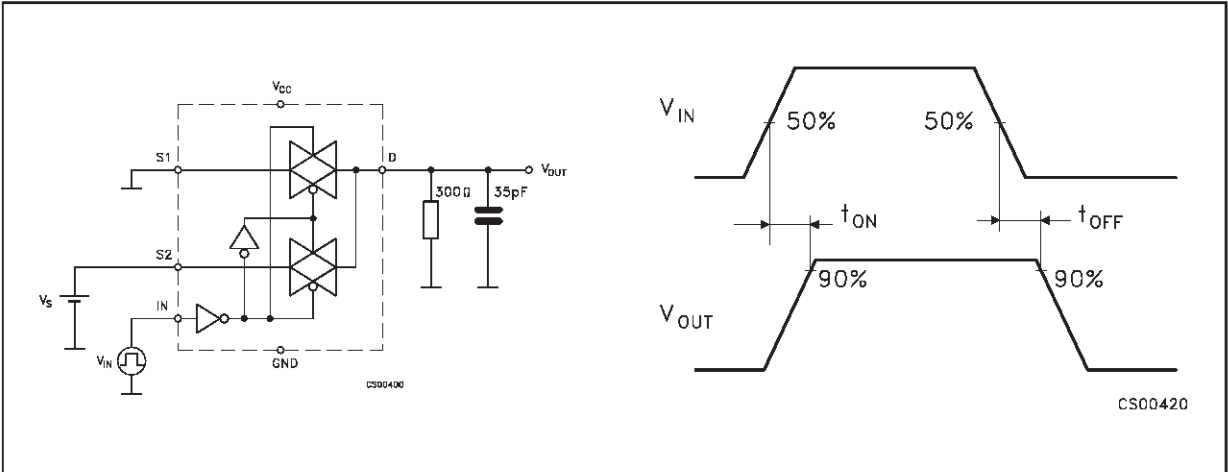
BANDWIDTH



CHANNEL TO CHANNEL CROSSTALK

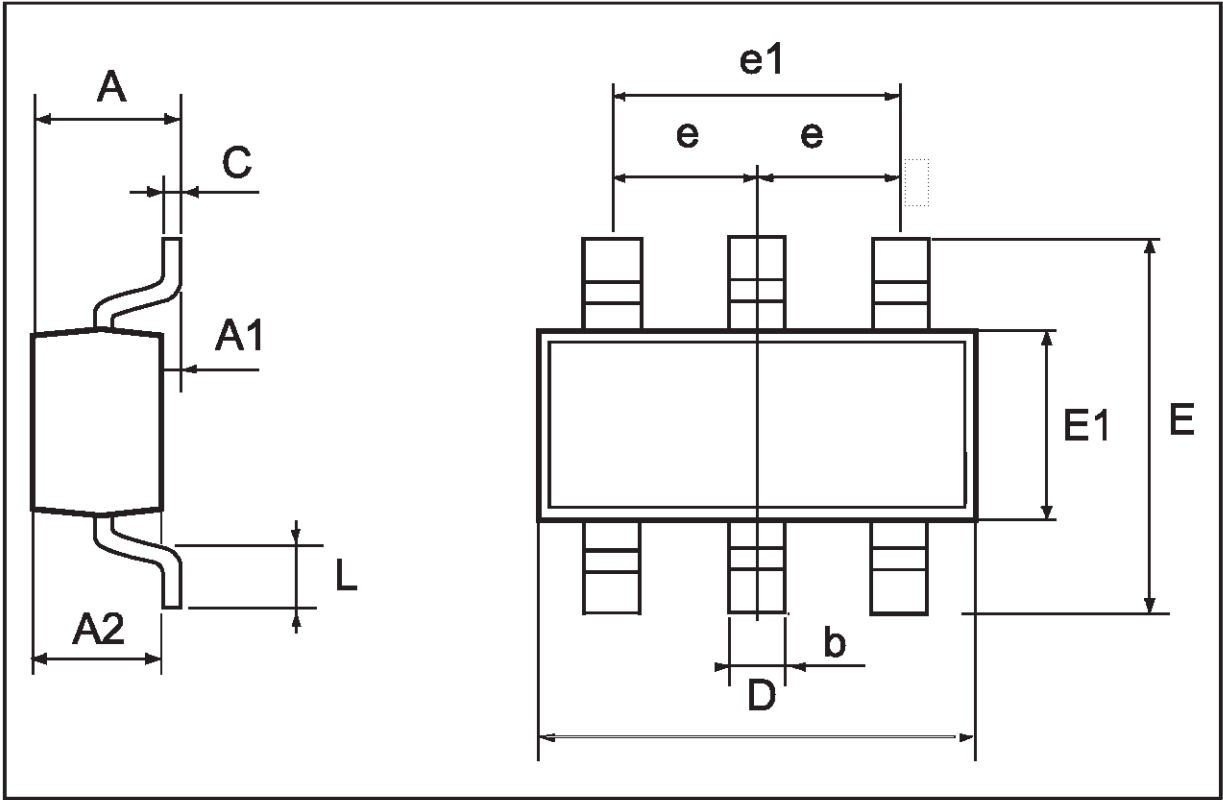


SWITCHING TIMES



SOT23-6L MECHANICAL DATA

DIM.	mm			mils		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	0.90		1.45	35.4		57.1
A1	0.00		0.15	0.0		5.9
A2	0.90		1.30	35.4		51.2
b	0.35		0.50	13.7		19.7
C	0.09		0.20	3.5		7.8
D	2.80		3.00	110.2		118.1
E	2.60		3.00	102.3		118.1
E1	1.50		1.75	59.0		68.8
L	0.35		0.55	13.7		21.6
e		0.95			37.4	
e1		1.9			74.8	



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