



LB8102

Preliminary

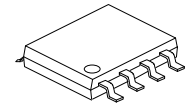
CMOS IC

DiSEqC SWITCH IC

DESCRIPTION

The integrated circuit UTC **LB8102** DiSEqC switch IC is specially designed for satellite multi-switch. It receives and decodes DiSEqC command, Tone Burst and output control for signal switch.

The UTC **LB8102** DiSEqC switch IC provides four-switch control. A 22KHz DiSEqC control signal input to UTC **LB8102** DiSEqC IC can select one of four switches. This feature is used as Satellite Position/Option Switch Control usually in LNB application. The built in decode process is fully compatible with DiSEqC protocol about committed switch.



SOP-8

FEATURES

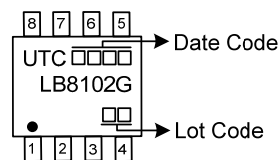
- * Single supply voltage 3.9V~5V.
- * Support DiSEqC 1.0/ 1.1 and Tone Burst command
- * Selectable 4x1 and 2x1 application.
- * Drives up to four switches.
- * Position and option switch command.
- * SOP8 surface mount package

ORDERING INFORMATION

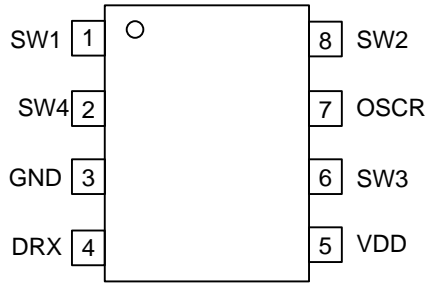
Ordering Number	Package	Packing
LB8102G-S08-R	SOP-8	Tape Reel

<p>LB8102G-S08-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free and Lead Free
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MARKING



■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	SW1	PORT 1/SA output (active high)
2	SW4	PORT 4 output (active high)
3	GND	Ground
4	DRX	DiSEqC data input
5	V _{DD}	V _{DD}
6	SW3	PORT 3 output (active high)
7	OSCR	OSC pin
8	SW2	PORT 2/SB output (active high)

■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-0.6~7	V
Supply Current	I_{CC}	100	mA
Driving Current	I_{omax}	5	mA
Power Dissipation ($T_{AMB}=25^{\circ}C$)	P_D	300	mW
Operating Temperature	T_{OPR}	-40 ~ +70	$^{\circ}C$
Storage Temperature	T_{STG}	-50 ~ +125	$^{\circ}C$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

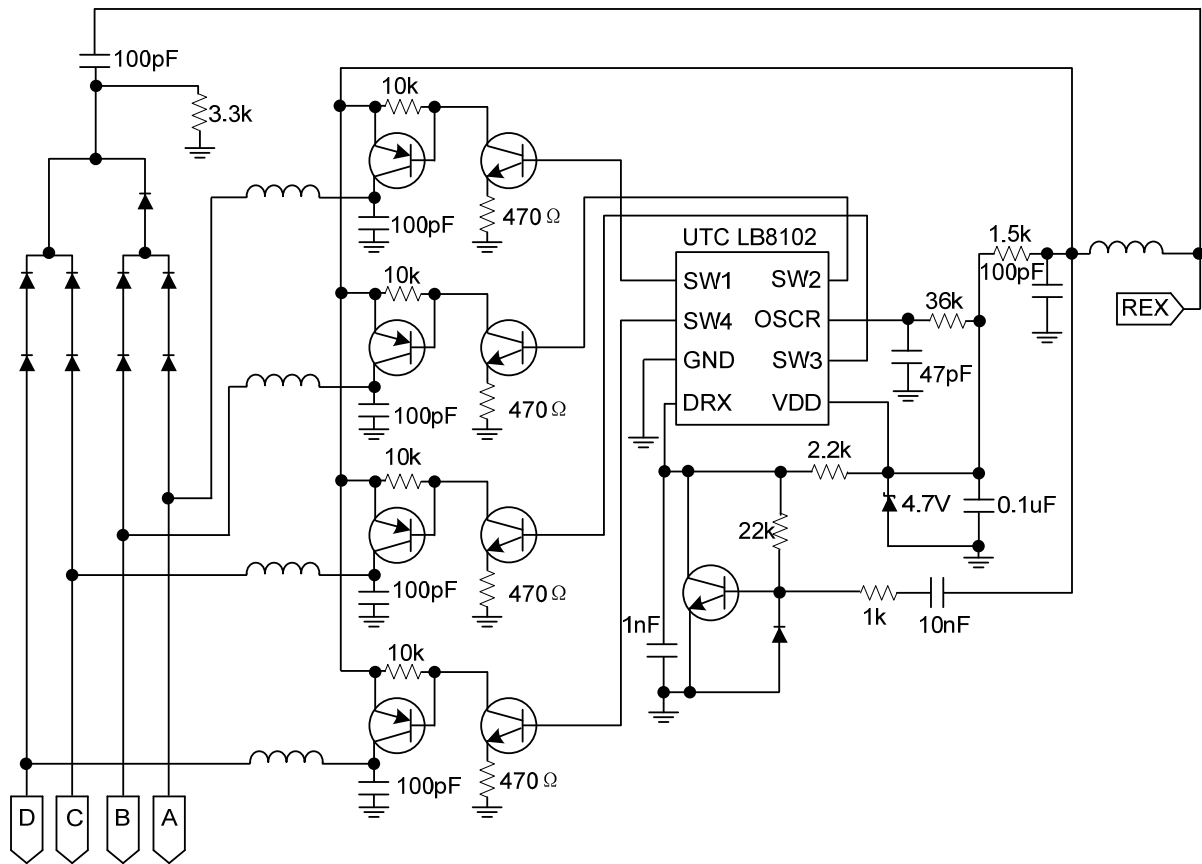
■ ELECTRICAL CHARACTERISTICS ($V_{DD}=5V$, $T_{AMB}=25^{\circ}C$, unless otherwise stated)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage	V_{DD}		3.9	5	5.5	V
Operating Current	I_{DD}	$V_{DD}=5V \pm 10\%$, $V_{SS}=0V$, $T=0 \sim 70^{\circ}C$ No Load	100	150	300	μA
Output Leakage Current	$I_{LEAKAGE}$	$V_{DD}=5V \pm 10\%$, $V_{SS}=0V$, $T=0 \sim 70^{\circ}C$			10	μA
Port 1/2/3/4 Output Voltage High	V_{SW_HIGH}	Port 1/2/3/4= -50 μA	$V_{DD}-1.0$	$V_{DD}-0.7$	V_{DD}	V
Port 1/2/3/4 Output Voltage Low	V_{SW_LOW}	Port 1/2/3/4=5mA	0	0.3	0.5	V
Osc Frequency	f_o	With $R_{osc}=36K$, $C_{osc}=47p$		350		KHz

■ DISEQC CONTROL SIGNAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
22 KHz Tone	f_{TONE}		17.6	22	26.4	KHz
22 KHz Duty Cycle	D_{TONE}	Over 0.7Vpp	40	50	60	%
PWK Baseband Timing	T_{PWK}	One-third bit timing for PWK (pulse width keying)	400	500	600	μs
DRX Signal Input Threshold	V_{DRXTH}	$V_{DD}=5V \pm 10\%$, $V_{SS}=0V$, $T=-40 \sim 70^{\circ}C$	0.35	0.45	0.55	V_{DD}
Noise Immunity	V_N	DC-1MHz noise present at DRX pin			0.5	V_{PP}
Switch Time	T_{SW}	Switch from end of DiSEqC satellite message (including parity) to when output is stable.			5	ms

■ TYPICAL APPLICATION CIRCUIT



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