

MDT7733

Step-up DC/DC Converter

1. General Description

MDT7733 is a step-up DC/DC converter .
It has low start-up voltage and a high output voltage accuracy with low ripple.

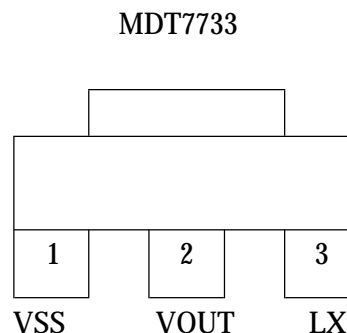
2. Features

- High output voltage accuracy : +/- 2.5%
- Low start-up voltage: 0.75V (Typ.)
- High efficiency: 85% (Typ.)

3. Applications

- Cellular phones, pagers, mcu
- Power failure detection
- Portable / Battery-Powered Equipment
- Palmtops
- RF Keyboard / Mouse

4. Pin Function Description



Pin Name	I/O	Function
VSS		Ground
LX	Open Drain	Switching pin
VOUT	Input	Output voltage monitor, IC internal power supply

ORDERING INFORMATION

Device	Package
MDT7733ST	SOT89

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5. Electrical Characteristics

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	-----	3.225	3.3	3.375	V
Output Ripple	-----		±2.5	±3	%
V _{in}	-----			6	V
V _{start}	I _{out} =1mA		0.75	0.8	V
	I _{out} =30mA		1.1	1.2	V
V _{hold}	I _{out} =1mA	0.7			V
	I _{out} =30mA	1			V
I _{in}	Without loading		20	25	uA
Supply Current IDD1	V _{IN} =V _{OUT} × 0.95 Measured at V _{OUT} pin without external component		45	52	uA
Supply Current IDD2	V _{IN} =V _{OUT} +0.5V Measured at V _{OUT} pin without external component		8	12	uA
Shutdown Current	V _{CE} =0 , V _{IN} =V _{OUT} ×0.95			0.5	uA
LX Leakage Current	V _{IN} =6V			1	uA
Maximum Oscillator Frequency	V _{IN} =V _{OUT} 0.95 Measured at ETR pin		200	230	kHz
Oscillator Duty Cycle	V _{IN} =V _{OUT} _0.95 Measured at ETR pin	70	75	80	%
Efficiency	L , SD , CL etc. connected		85		%

+3.3V Output Type

V_{IN}=V_{OUT}×0.6 ; I_{OUT}=30mA ; T_a=25°C (Unless otherwise specified)

Note:

" Supply current 1 " is the supply current while the oscillator is continuously oscillating. In actual operation the oscillator periodically operates. The current actually provided by an external V_{IN} source from V_{OUT} pin.

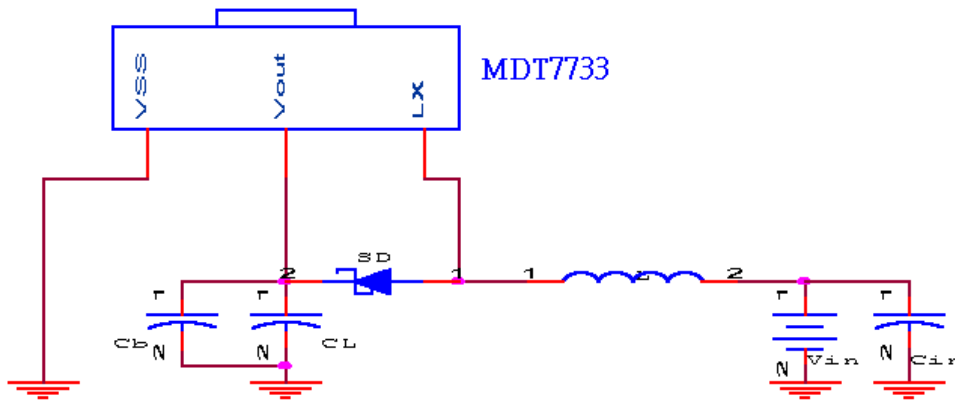
" Supply current 2 " is the supply current while the oscillator stop oscillating. In actual operation the oscillator periodically operates. The current actually provided by an external V_{IN} source from V_{OUT} pin

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6.Application Circuit

EXTERNAL COMPONENT : $C_{in}=100\mu F$; $C_L=100\mu F$; $C_b=0.1\mu F$
 $L=100\mu H$



7.TYPICAL PERFORMACE OF EFFICIENCY

