MDT7727

Step-up DC/DC Converter

1.General Description

MDT7727 is a step-up DC/DC converter . It has low start-up voltage and a high output voltage accuracy with low ripple.

2. Features

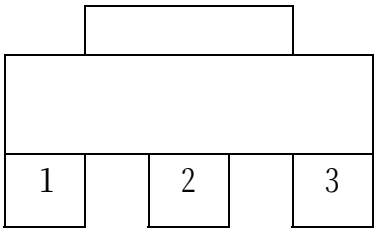
- High output voltage accuracy：+/- 2.5%
- Low start-up voltage: 0.75V (Typ.)
- High efficiency: 85% (Typ.)

3. Applications

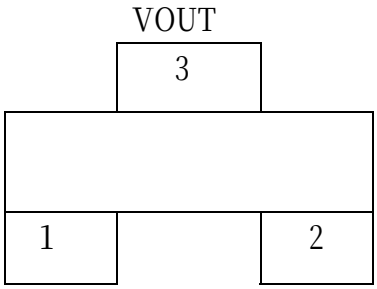
- Cellular phones, pagers, mcu
- Power failure detection
- Portable / Battery-Powered Equipment
- Palmtops
- RF Keyboard / Mouse

4. Pin Function Description

MDT7727ST



MDT7727ST23



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
MDT7727ST	SOT89
MDT7727ST23	SOT23

5. Electrical Characteristics

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	----------	2.6325	2.7	2.7675	V
Output Ripple	----------		±2.5	±3	%
Vin	----------			6	V
Vstart	Iout=1mA		0.75	0.8	V
	Iout=30mA		1.1	1.2	V
Vhold	Iout=1mA	0.7			V
	Iout=30mA	1			V
Iin	Without loading		20	25	uA
Supply Current IDD1	VIN=VOUT × 0.95 Measured at VOUT pin without external component		45	52	uA
Supply Current IDD2	VIN=VOUT+0.5V Measured at VOUT pin without external component		8	12	uA
Shutdown Current	VCE=0 , VIN=VOUT×0.95			0.5	uA
LX Leakage Current	VIN=6V			1	uA
Maximum Oscillator Frequency	VIN=VOUT0.95 Measured at ETR pin		200	230	kHz
Oscillator Duty Cycle	VIN=VOUT_0.95 Measured at ETR pin	70	75	80	%
Efficiency	L , SD , CL etc. connected		85		%

+2.7V Output Type

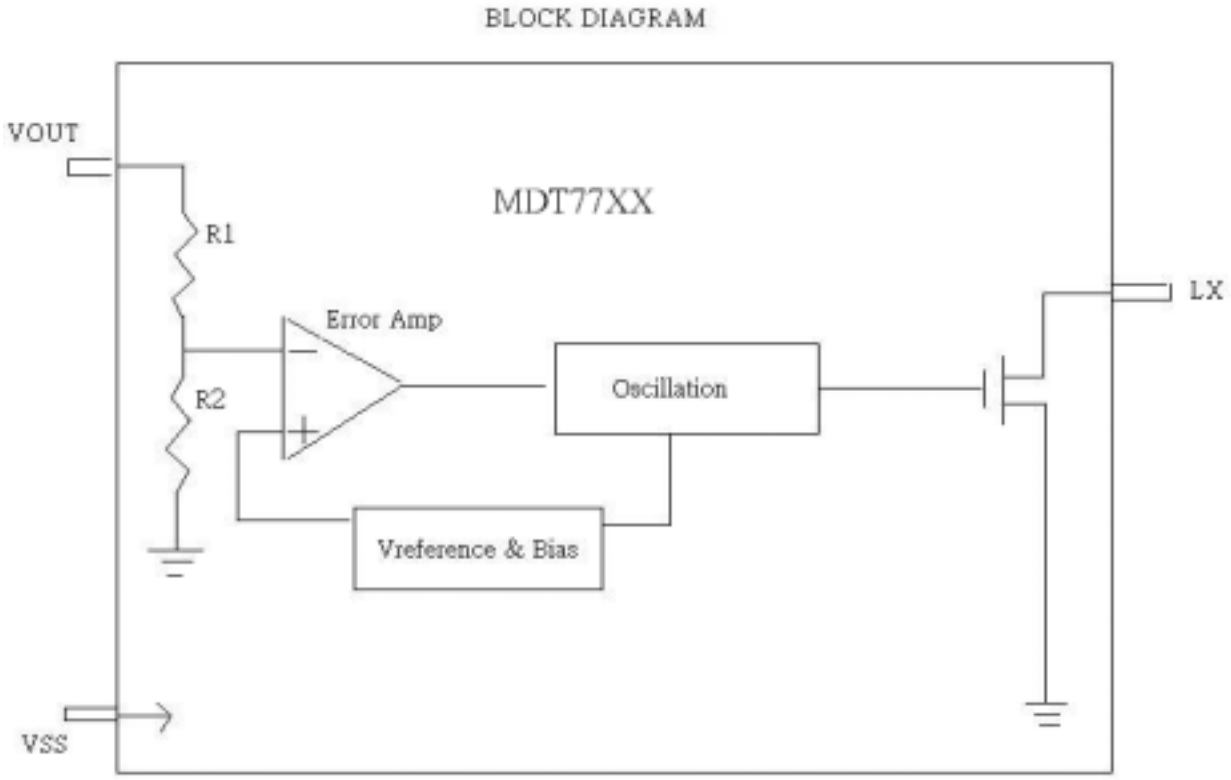
VIN=VOUT×0.6 ; IOUT=30mA ; Ta=25℃ (Unless otherwise specified)

Note:

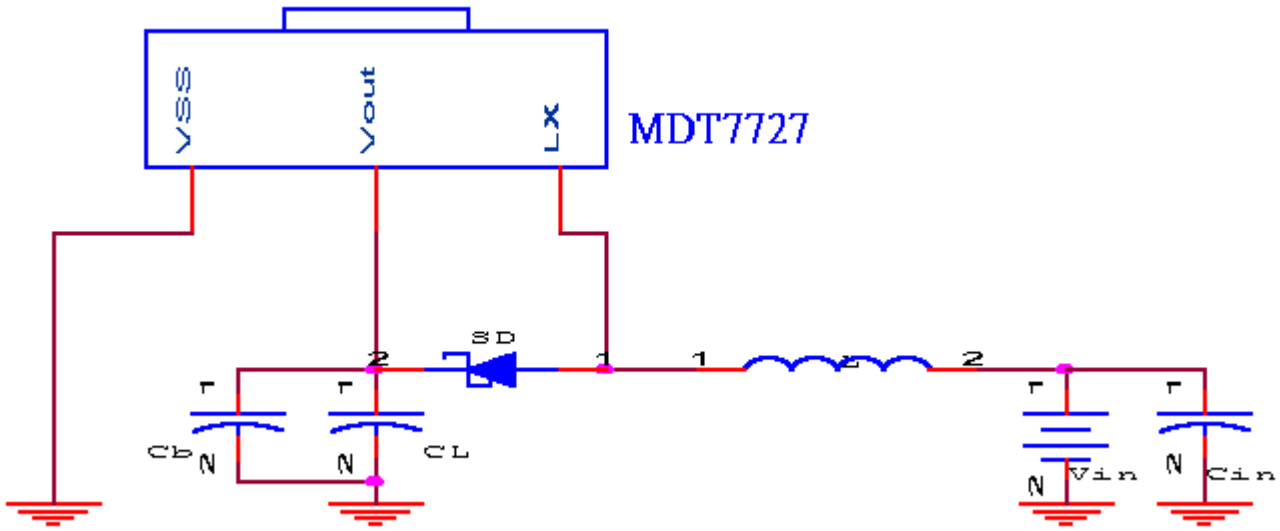
" Supply current 1 " is the supply current while the oscillator is continuously oscillating. In actual operation the oscillator periodically operates. The current actually provided by an external VIN source from VOUT pin.

" 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 VIN source from VOUT pin

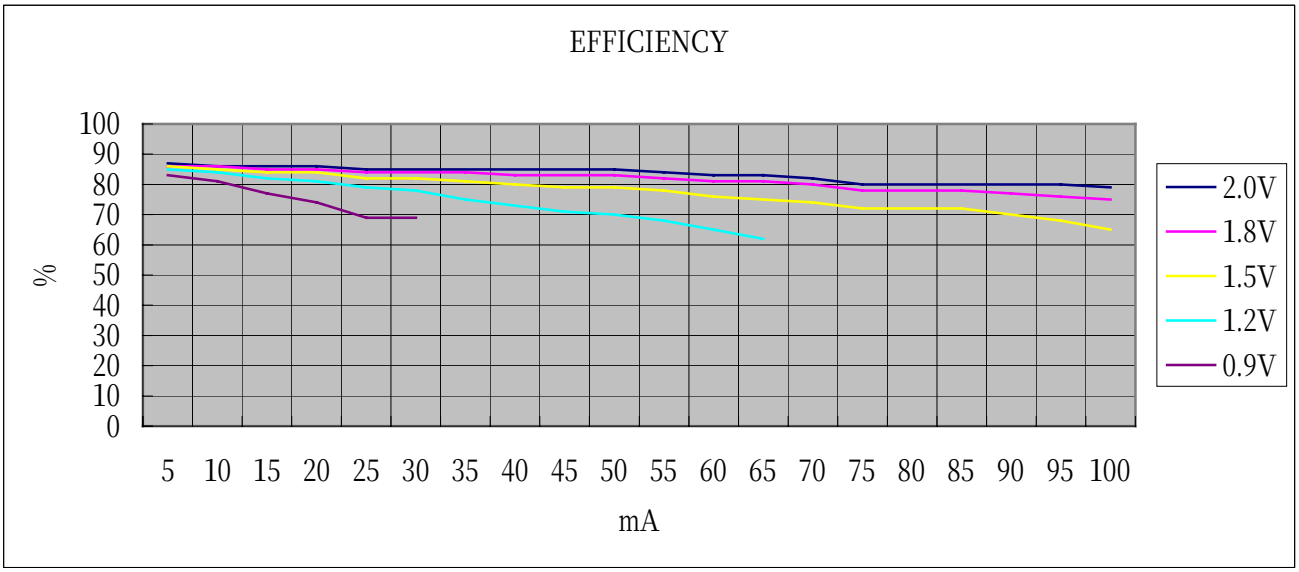
6.Application Circuit & Block Diagram



EXTERNAL COMPONENT : Cin=100uF ; CL=100uF ; Cb=0.1uF
L=100uH



7.TYPICAL PERFOMACE OF EFFICIENCY



8. OUTPUT VOLTAGE V.S LOADING