

# DC/DC Converter



## AM101-73

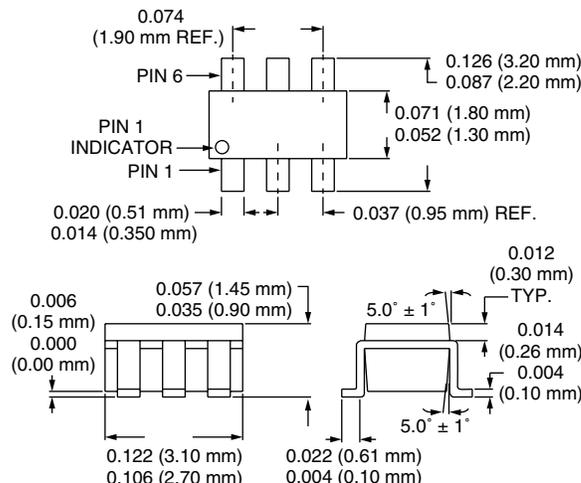
### Features

- Converts a Positive Voltage Into a Negative Voltage
- Ideal for Providing Gate Voltage Bias for GaAs Products
- Ultra Small SOT-6 Package
- Only Three Capacitors Required as Additional Components
- High Oscillating Frequency (600 kHz) Enables the Use of Low Cost Ceramic Components

### Description

The AM101-73 is a low cost, switched capacitor voltage converter. This CMOS based converter operates at a relatively high frequency, permitting the use of low cost ceramic capacitors. At supply voltages up to 3.1 V, the inverted output follows the input voltage, and from 3.1–5.5 V, the output regulates to -3.1 V. Applications include voltage conversion for FET/PHEMT power amplifier control circuits, FET/PHEMT switch control, and various other portable, mobile and wireless systems

### SOT-6



### Absolute Maximum Ratings

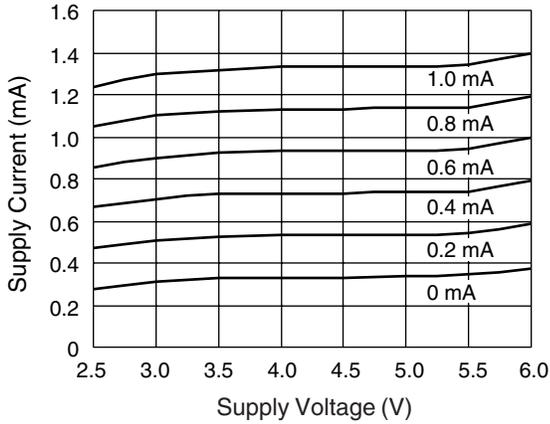
Characteristic	Value
Supply Voltage	7 V
Output Short Circuit Duration	10 Sec.
Operating Temperature	-40 to +100°C
Storage Temperature	-65 to +150°C

### Operating Characteristics at 25°C

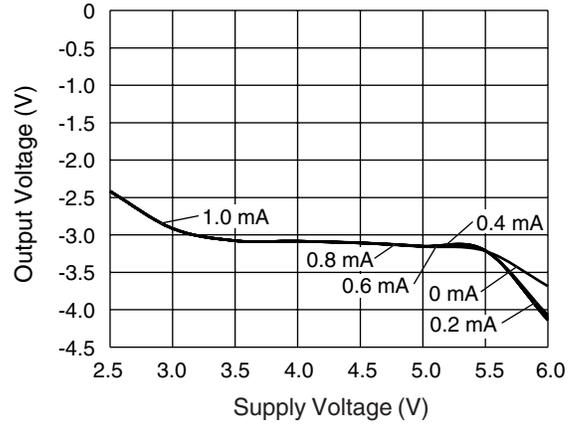
Parameter <sup>1</sup>	Condition	Frequency	Min.	Typ.	Max.	Unit
Supply Voltage ( $V_{GEN}$ )			2.5		6	V
Supply Current ( $I_{GEN}$ )	$V_{GEN} = 3.5 V$			350		$\mu A$
Output Voltage ( $V_{SS}$ )	$V_{GEN} = 3.5 V$ $I_{LOAD} = 0.5 mA$			-3.1		V
Oscillation Frequency ( $F_{OSC}$ )				600		kHz
Output Impedance ( $R_o$ )				50		$\Omega$
Current Efficiency				80		%
Voltage Conversion Efficiency	$V_{GEN} = 3.5 V$ $I_{LOAD} = 0.0 mA$			95		%

1. All measurements made in a 50  $\Omega$  system, unless otherwise specified.

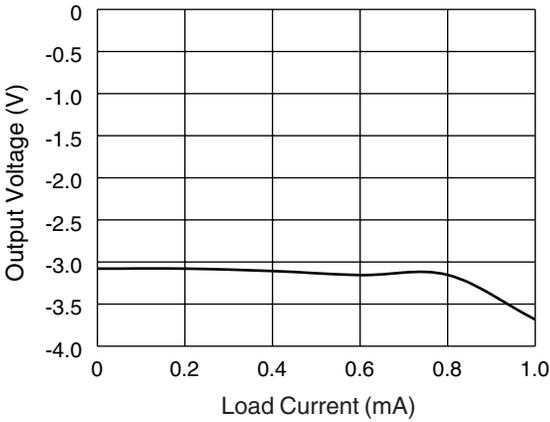
### Typical Performance Data



**Supply Current vs. Supply Voltage and Current Load**



**Output Voltage vs. Supply Voltage and Current Load**



**Output Voltage vs. Supply Voltage and Current Load  $V_{GEN} = 3.5$**

### Pin Configuration

Pin	Symbol	Function
1	GND	Connect to Ground.
2	$V_{SSOUT}$	Negative Output Voltage. A 10–22 nF capacitor required.
3	$V_{ENABLE}$	Charge Pump Enable Input. When set to $V_{GEN}$ , negative voltage generated, and when set to 0 V, negative voltage output is disabled.
4	$V_{GEN}$	Positive Input Voltage. A 10–22 nF capacitor required.
5	$C_A$	Charge Pump Capacitor Pin A. A 10–22 nF capacitor required from Pin 5 to Pin 6.
6	$C_B$	Charge Pump Capacitor Pin B. A 10–22 nF capacitor required from Pin 6 to Pin 5.

### Pin Out

