

FEATURES

- Series Regulator/Comparator
- Low Voltage Operation to 0.9 V
- Low (600 μ A) Current Consumption

APPLICATIONS

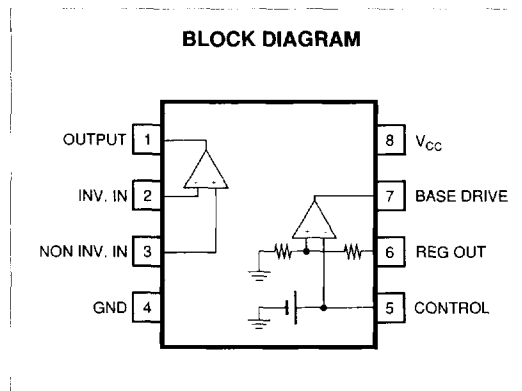
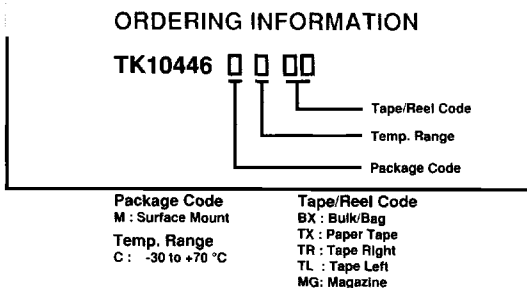
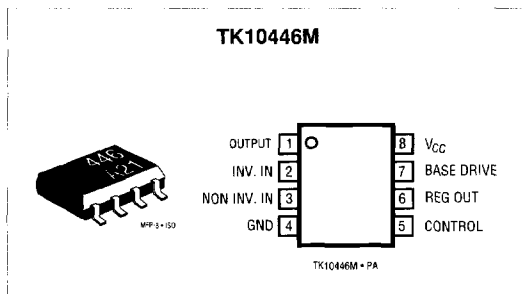
- Pagers
- Cordless Telephones
- Battery Operated Equipment

DESCRIPTION

The TK10446M is a low voltage, low power comparator/voltage regulator IC suitable for battery operated equipment using a single AA cell. The comparator can be configured as a low battery detector, or used independently as a comparator or amplifier. It is especially well suited for use as a data amplifier in pagers and cordless phones.

The TK10446M is available in an MFP8 surface mount package.

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TK10446

ABSOLUTE MAXIMUM RATINGS

Supply Voltage V_{CCMAX}	5.0 V	Operating Voltage Range	0.9 to 3.5 V
Power Dissipation (Note 1)	350 mW	Data Amplifier Max Operating Frequency	1.0 MHz
Storage Temperature Range	-55 to +150 °C	Junction Temperature	150 °C
Operating Temperature Range	-30 to +70 °C	Lead Soldering Temp. (10 sec.)	240 °C

ELECTRICAL CHARACTERISTICS

Test conditions: $V_{REG OUT} = 1.05 V$, $T_A = 25 °C$

SYMBOL	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CC}	Supply Current	No Input		0.6		mA
Regulator Section (Note 2)						
V_{OUT1}	Output Voltage 1	$V_{CC} = 1.1 V$, $I_{REG} = 10 mA$		0.98		V
V_{OUT2}	Output Voltage 2	$V_{CC} = 1.7 V$, $I_{REG} = 0 mA$		1.02		V
V_{OUT3}	Output Voltage 3	$V_{CC} = 0.9 V$, $I_{REG} = 1 mA$		0.88		V
Data Amplifier Section						
Z_{IN}	Input Impedance			100		k Ω
V_{OUT4}	Output Voltage 4	Pull up to +3 V output at 100 k Ω		2.5		V _{pp}
DR	Duty Ratio	$V_{IN} = 17 mV(rms)$, $f_{IN} = 1 kHz$		50		%

Note 1: Power dissipation must be derated at the rate of 3.3 mW/°C for operation at $T_A = 25 °C$ and above.

Note 2: ($V_{CC} = 1.35 V$, $I_{REG} = 0 mA$) Measured with the regulated output voltage V_{REG} adjusted to 1.0 V

TEST CIRCUIT

