

FCC ID: OYK-TX027145-1002

Technical Description:

The brief circuit description is listed as follows:

- Q2 and associated circuit act as Modulator and Amplifier.
- Q3 and associated circuit act as Buffer Amplifier.
- Q1, X1 and associated circuit act as 27.145 MHz Oscillator.
- U2 acts as Encoder and MCU.
- VR2 to VR2 and SW3 act as Control Keys.
- SW2 acts as Channel Switch.
- U1 and associated circuit act as Voltage Regulator.

Antenna Used:

Telescope-type antenna (with unique antenna connector)

1 General Description

The XXX8P25 is an 8-bit microprocessor designed and developed with low-power and high-speed CMOS technology. The device has an on-chip 2K×13-bit Electrical One Time Programmable Read Only Memory (OTP-ROM). It provides a protection bit to prevent intrusion of user's code. Three Code option words are also available to meet user's requirements.

With its enhanced OTP-ROM feature, the XXX8P25 provides a convenient way of developing and verifying user's programs. Moreover, this OTP device offers the advantages of easy and effective program updates, using development and programming tools. User can avail of the ELAN Writer to easily program his development code.

2 Features

- CPU configuration
 - 2K×13 bits on-chip ROM
 - 80×8 bits on-chip registers (SRAM)
 - 8-level stacks for subroutine nesting
 - Less than 1.9 mA at 5V/4MHz
 - Typically 15 μA, at 3V/32kHz
 - Typically 1 μA, during Sleep mode
- I/O port configuration
 - 3 bidirectional I/O ports : P5, P6, P7
 - 17 I/O pins
 - Wake-up port : P5
 - 8 Programmable pull-down I/O pins
 - 8 programmable pull-high I/O pins
 - 8 programmable open-drain I/O pins
 - External interrupt : P60
- Operating voltage range
 - Operating voltage: 2.3V~5.5V (Commercial)
 - Operating voltage: 2.5V~5.5V (Industrial)
- Operating temperature range
 - Operating temperature: 0°C ~70°C (Commercial)
 - Operating temperature: -40°C ~85°C (Industrial)
- Operating frequency range
 - Crystal mode:
DC~20MHz/2clks @ 5V, DC~100ns inst. cycle @ 5V
DC~8MHz/2clks @ 3V, DC~250ns inst. cycle @ 3V
 - ERC mode:
DC~16MHz/2clks @ 5V, DC~125ns inst. cycle @ 5V
DC~8MHz/2clks @ 3V, DC~250ns inst. cycle @ 3V
 - IRC mode:
Oscillation mode : 4MHz, 8MHz, 1MHz, 455kHz
- All the four main frequencies can be trimmed by programming with four calibrated bits in the ICE259N Simulator. OTP is auto trimmed by ELAN Writer.
- Peripheral configuration
 - 8-bit real time clock/counter (TCC) with selective signal sources, trigger edges, and overflow interrupt
 - 8-bit real time clock/counter (TCCA, TCCC) and 16-bit real time clock/counter (TCCB) with selective signal sources, trigger edges, and overflow interrupt
 - 4-bit channel Analog-to-Digital Converter with 12-bit resolution in Vref mode
 - Easily implemented IR (Infrared remote control) application circuit
 - One pair of comparators or OP
- Six available interrupts:
 - TCC, TCCA, TCCB, TCCC overflow interrupt
 - Input-port status changed interrupt (wake-up from sleep mode)
 - External interrupt
 - ADC completion interrupt
 - Comparators status change interrupt
 - IR/PWM interrupt
- Special features
 - Programmable free running watchdog timer (4.5ms : 18ms)
 - Power saving Sleep mode
 - Selectable Oscillation mode
 - Power-on voltage detector (2.0V ± 0.1V)

Internal RC Frequency	Drift Rate			
	Temperature (-40°C~85°C)	Voltage (2.3V~5.5V)	Process	Total
4 MHz	±10%	±5%	±4%	±19%
8 MHz	±10%	±6%	±4%	±20%
1 MHz	±10%	±5%	±4%	±19%
455kHz	±10%	±5%	±4%	±19%

INTRODUCTION

The **xxx3619 Series** are a group of positive voltage regulators manufactured by CMOS technologies with high ripple rejection, extremely low power consumption and low dropout voltage, which provide large output currents even when the difference of the input-output voltage is small. Each of the xxx3619 series consists of a high-precision voltage reference, an error correction circuit, and a current limited output driver. Thus the series are very suitable for the battery-powered equipments, such as Portable/Palm computers, Portable consumer equipments, industry equipments and so on, which want to prolong the using life of the battery.

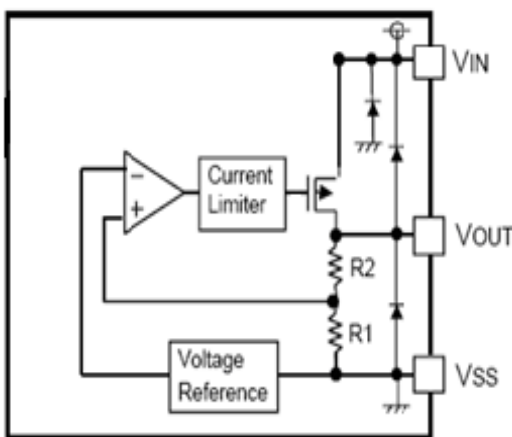
FEATURE

- Maximum Output Current: 300mA (Typ.)
- Output Voltage Range: 0.9V~5.0V,
(selectable in 0.1V steps)
- High Accuracy: $\pm 2\%$ (Typ.)
- Dropout Voltage: 150mV@100mA (3.0V Typ.)
- Excellent Line Regulation: 0.1%/V
- Built-in Current Limiter
- Built-in Short Circuit Protection
- Static safety, 2KV@HBM
- TC: 100ppm/°C
- Low ESR Capacitor: Ceramic Compatible

APPLICATION

- Battery powered systems;
- Portable instrumentations;
- Reference Voltage Sources;
- Radio control systems;
- Portable/Palm computers;
- Portable consumer equipments.

BLOCK DIAGRAM



ORDER INFORMATION

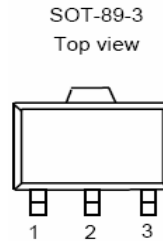
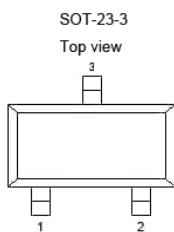
xxx3619 ① ② ③ ④

Designator	Symbol	Description
①	P	Standard
② ③	Integer	Output Voltage(0.9V~5.0V) e.g. 3.0V= ②:3, ③:0
④	M	Package : SOT23
	P	Package : SOT89
	T	Package : TO-92

**Low Dropout Voltage
300mA CMOS LDO Regulator**

XXX3619 Series

PIN CONFIGURATION



xxx3619P (Pin output sequence can be ordered by customer)

PIN NUMBER						PIN NAME	FUNCTION
SOT23-3			SOT89-3		TO92		
M	MC	MY	P	PT	T		
1	3	3	1	2	1	Vss	Ground
2	2	1	3	1	3	Vout	Output
3	1	2	2	3	2	Vin	Power input

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	DESCRIPTION	UNIT
Input Voltage	V_{IN}	10	V
Output Current	I_{out}	600	mA
Output Voltage	V_{out}	$V_{ss}-0.3 \sim V_{out}+0.3$	V
Power Dissipation	SOT23	P_d	250 mW
	SOT89	P_d	500 mW
	TO92	P_d	500 mW
Operating Temperature	T_{Opr}	-40~+85	°C
Storage Temperature	T_{stg}	-55~+125	°C
Soldering Temperature & Time	T_{solder}	260°C, 10s	