

## MSM66587 Family

### OKI Original High Performance CMOS 16-Bit Microcontroller

#### GENERAL DESCRIPTION

The MSM66587 Family consists of high-performance, 16-bit CMOS single-chip microcontrollers based on Oki's own architecture. On-chip peripherals include two switchable real-time channels, one 16-bit PWM channel, five external interrupt input channels, one serial output channel, and an 8-bit analog-to-digital converter. The chips are ideal for system control applications controlling decoder LSIs, digital signal processors, and host interface LSIs in equipment such as CD-ROM drives and magneto-optical drives. Their low-profile packages and built-in pull-up resistors, programmability at bit level, contribute to the compactness of the final design. The family includes the flash ROM version MSM66Q587, rewritable with a +5V power supply, the one-time PROM version MSM66P587, and the ROM-less MSM66X587.

#### ESSENTIAL FEATURES

DEVICE	MSM66586	MSM66587	MSM66X587
Operation temperature	-30 to +70°C		
Supply voltage range/ Max. int. operating frequency	+4.5 to 5.5V / f=20MHz +2.7 to 5.5V / f=10MHz		
Min. instruction execution time	100ns @20MHz (+4.5 to 5.5V) 200ns @10MHz (+2.7 to 5.5V)		
Internal ROM size	48kByte	64kByte	-
Max. ext. ROM size	1MByte		
Internal RAM size	2kByte		
Max. ext. RAM size	1MByte		
I/O Ports	80 I/Os (40 with programmable pull-up)		
Timer	16-bit free-run timer x 1 Two 16-bit real-time output channels (Choice of real-time output or toggled real-time output. In two-channel mode one channel can be configured as PWM output)		
	One 16-bit PWM		
	General purpose 8-bit auto-reload timer (suitable for counting external events)		
	One 8-bit auto-reload counter (doubles as serial interface's baud rate generator)		
Serial port	One synchronous port		
A/D converter	8-bit x 4 channels		
External interrupt	non-maskable x 1, maskable x 4		
Flash ROM version	MSM66Q587 (64KB Flash ROM)		
OTP-ROM version	MSM66P587 (64KB OTP-ROM)		
Package	100-pin TQFP (TQFP100-P-1414-0.50-K)		

#### TYPICAL APPLICATIONS

- CD-ROM Drives
- Magneto-Optical Drives
- Mini Disk Drives
- Floppy Disk Drives

**PACKAGE DIMENSIONS**

100-Pin TQFP  
TQFP100-P-1414-0.50-K

