

TQM8xx(L)(M)



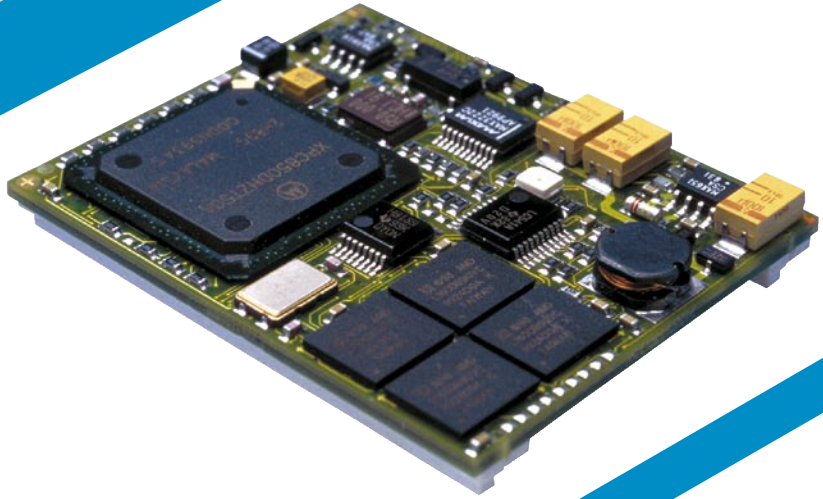
Modular – it fit's!

EMBEDDED-MODULES

TQM8xx(L)(M)

32-bit Microprocessor MPC8xx Family





TQ-Minimodule

TQM8xx(L)(M)

TQ minimodules of the TQM8xxL family are the modules with the highest level of integration available on the basis of Motorola's well-known PowerPC MPC8xx family. Within minutes after receiving the starter kit, the developer can put the module into operation and begin with the creation of his application; which means that software development takes place on the target platform. The implementation of modular solutions makes it possible to meet the universal "time to market" requirement and

reduce the time until devices are brought on the market. Due to the lower complexity of the base board, they can be realized in a faster and more cost-effective manner. The test requirements of the whole system can be reduced, because the complex core of the computer has already been tested prior to delivery. So the use of a minimodule does not only save time, but costs as well. The modules have the full computer functionality on board, such as clocking and monitoring of the microprocessor to ensure

that it continuously runs in a well-defined state, hard disk (Flash) and main memory (SDRAM), as well as two serial interfaces for base communication or loading data and programs onto the minimodule. An additional two CAN controllers can be fitted. The application has access to all ports of the microcontroller as well as address, data and control lines.

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Module

Function Derivate	I-Cache (Kbyte)	D-Cache (Kbyte)	10BaseT	10/100BaseT	ATM	ESAR ATM	HDLC Channels	SCC	#T1/E1	USB (V 1.1)	PCMCIA	CRT	Speed	max.Speed ext. Temp.
MPC823	2	1	Up to 2				Up to 64	2		yes	1	yes	66,75,81	66
MPC823E	16	8	Up to 2				Up to 64	2		yes	1	yes	66.75	66
MPC850DE	2	1	Up to 2					2		yes	1		50,66,80	50
MPC850SR	2	1	Up to 2		yes		Up to 64	2	2	yes	1		50,66,80	50
MPC855T	4	4	1	1	yes		Up to 32	1	1		2		50,66,80	66
MPC857T	4	4	1	1	yes	yes	Up to 32	1	1		2		50,66,80,100	80
MPC859T	4	4	1	1	yes	yes	Up to 32	1	1		2		100.133	100
MPC859P	16	8	1	1	yes	yes	Up to 32	1	1		2		100.133	100
MPC860P	16	8	Up to 4	1	yes		Up to 64	4	2		2		50,66,80	66
MPC860SR	4	4	Up to 4		yes		Up to 64	4	2		2		50,66,80	66
MPC860T	4	4	Up to 4	1	yes		Up to 64	4	2		2		50,66,80	66
MPC862T	4	4	Up to 4	1	yes	yes	Up to 64	4	2		2		50,66,80,100	80
MPC862P	16	8	Up to 4	1	yes	yes	Up to 64	4	2		2		50,66,80,100	80
MPC866T	4	4	Up to 4	1	yes	yes	Up to 64	4	2		2		100.133	100
MPC866P	16	8	Up to 4	1	yes	yes	Up to 64	4	2		2		100.133	100

All modules of the TQM8xxL Family are pin and plug compatible. This allows you to exchange modules of the TQM8xxL family in order to choose the best module for your application. The target system becomes scalable and can be tailored to deliver the required performance.

The minimodules are supported by a number of operating systems. The almost transparent availability of the microprocessor in the application facilitates the customization of further operating systems supporting the PowerPC.

Highlights

TQM8xx(L)(M)

- High modularity (numerously Controller)
- Expanded temperature Range
- Low power dissipation / passive cooling
- Various variation of interfaces
- Small size: 54 x 44 mm²
(2.13 x 1.73 square inch)

Family

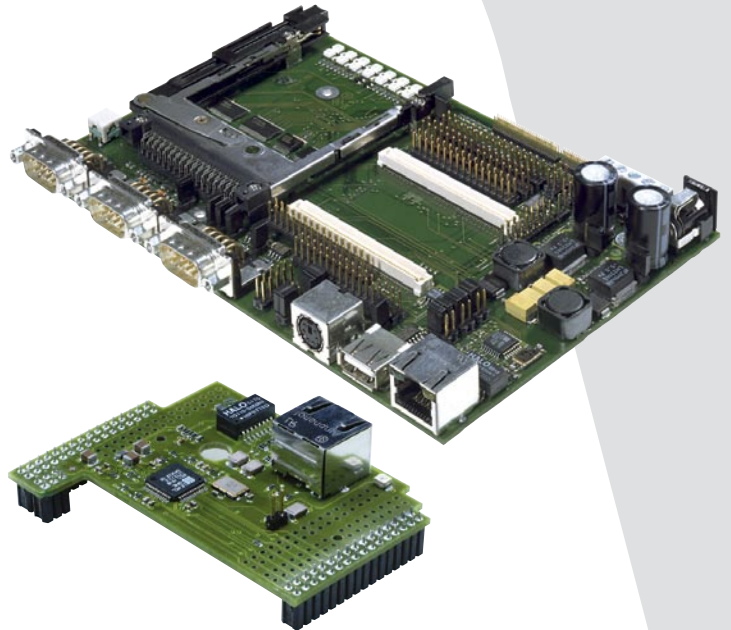
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Module-Type	TQM8xxL Series	TQM8xxM Series
Microprocessor Type	MPC823, MPC823E MPC850DE, MPC850SR MPC855T MPC860SR, MPC860T, MPC860P MPC857T, MPC862T, MPC862P	MPC823, MPC823E MPC850DE, MPC850SR MPC855T MPC860SR, MPC860T, MPC860P MPC857T, MPC862T, MPC862P MPC859T, MPC859P MPC866T, MPC866P
CPU Clock	50 - 100 MHz ¹⁾	50 - 133 MHz ¹⁾
Power Fail / WatchDog	MAX816	TPS3801
Memory		
SDRAM	16 - 64 MB	16 - 128 MB
Flash	2 - 8 MB	4 - 32 MB
EEPROM		0 - 32 kB
Interfaces		
Serial	2 x RS-232	2 x RS-232
CAN	2 x 82527	2 x 82527
USB	yes ¹⁾	yes ¹⁾
Ethernet	10 Mbit / 100 Mbit ¹⁾	10 Mbit / 100 Mbit ¹⁾
PCMCIA	1x / 2x ¹⁾	1x / 2x ¹⁾
ATM	yes ¹⁾	yes ¹⁾
LCD / Video	only MPC823	only MPC823
I / O Ports	49	49
Adress / Data bus	26 Bit / 32 Bit	26 Bit / 32 Bit
General		
Power supply	3.3V / 5V	3.3V / 5V
Temperature range	0°C...+70°C	0°C...+70°C
Optional	-40°C...+85°C	-40°C...+85°C
Plug system	SMD RM0.8 mm	SMD RM0.8 mm
Dimensions	54 x 44 mm ²	54 x 44 mm ²
Starter kit	STK8xxL	STK8xxL
¹⁾ Processor depending		

Universal Evaluation and Application Board

Performance features of the STK8xxL

- ⊕ Suitable for all TQM8xxL
- ⊕ CAN interface (Sub-D)
- ⊕ 2 x RS-232 interface (Sub-D)
- ⊕ Ethernet 10BaseT interface (RJ45)
- ⊕ USB interface
- ⊕ PCMCIA interface
- ⊕ JTAG /BDM interface
- ⊕ Reset switch
- ⊕ Port B LEDs
- ⊕ 3,3V /5V DC/DC converter
- ⊕ Connectors for port signals
- ⊕ Size 175 x 115 mm² (6.89 x 4.53 square inch)
- ⊕ Lauterbach Trace Connector



Optional available


Fast Ethernet Adapter **FETH8xxL**:

- ⊕ Fast Ethernet 100MBit/s on RJ45 connector
- ⊕ Suitable for all TQM8xxL with FEC function

Accessories

- ⊕ STK8xxL
- ⊕ TQM8xxL minimodule
- ⊕ Power pack
- ⊕ Serial download cable
- ⊕ Monitor software on board
- ⊕ Module extractor MoZi8xxL

Operating system and tool partner for TQ modules



RTOS / Linux



RTOS / OSE



RTOS / jbed




C Compiler & RTOS / Euros



Debugging Tools



Compiler & RTOS / CodeWarrior



RTOS / QNX



RTOS / OS-9



RTOS / RTEMS



C Compiler



RTOS / VXWorks



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