

# FREESCALE Digital Signal Processors and Controllers



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## MC56F800X DIGITAL SIGNAL CONTROLLERS

The entry-level MC56F8006/2 DSC provides the most cost-optimized solution for mathematically-intensive, power-sensitive real-time control applications. The MC56F8006/2 series uses the 56800E core, which is based on a dual Harvard-style architecture consisting of three execution units operating in parallel. This allows as many as six operations per instruction cycle. The MCU-style programming model and optimized instruction set allow straightforward generation of efficient, compact DSP and control code.



For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Performance	Internal Flash (Kbytes)	Internal RAM (Kbytes)	Serial Interface Type	I/O Pins	Core Operating Voltage (V)	ADC	Price Each			
										1	25	50	100
841-MC56F8002VWL	MC56F8002VWL	SOIC 28W	32 MHz / 32 MMACS	12	2	LIN,I2C,SCI,SPI	9	1.8	12-bit / 36 ch.	3.09	1.86	1.81	1.76
841-MC56F8006VLC	MC56F8006VLC	LQFP 32	32 MHz / 32 MMACS	16	2	LIN,I2C,SCI,SPI	13	1.8	12-bit / 36 ch.	4.40	2.82	2.72	2.54
841-MC56F8006VLF	MC56F8006VLF	LQFP 48	32 MHz / 32 MMACS	16	2	LIN,I2C,SCI,SPI	26	1.8	12-bit / 36 ch.	3.19	1.93	1.86	1.82
841-MC56F8006VWL	MC56F8006VWL	SOIC 28W	32 MHz / 32 MMACS	16	2	LIN,I2C,SCI,SPI	13	1.8	12-bit / 36 ch.	4.28	2.74	2.65	2.47

## 56F800 SERIES GENERAL PURPOSE 16-BIT FIXED POINT



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For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Performance	Program Flash / RAM	Off-chip Memory	Serial Interface Type	Core Operating Voltage (V)	A/D Converter	Price Each			
									1	25	50	100
841-DSP56F803BU80E	DSP56F803BU80E	LQFP 100	80 MHz / 40 MIPS	64KB / 1KB	Yes	SCI, SPI, CAN	3.3	8-Ch. / 12-bit	12.81	10.28	10.20	10.03
841-DSP56F805FV80E	DSP56F805FV80E	LQFP 144	80 MHz / 40 MIPS	64KB / 1KB	Yes	SCI, SPI, CAN	3.3	8-Ch. / 12-bit	14.48	13.27	12.86	11.49
841-DSP56F807PY80E	DSP56F807PY80E	LQFP 160	80 MHz / 40 MIPS	120KB / 4KB	Yes	SCI, SPI, CAN	3.3	16-Ch. / 12-bit	17.23	15.79	15.49	14.44

## 56F8300 SERIES GENERAL PURPOSE 16-BIT FIXED POINT



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MOUSER STOCK NO.	Freescale Part No.	Package	Performance	Program Flash / RAM	Off-chip Memory	Serial Interface Type	Core Operating Voltage (V)	A/D Converter	Price Each			
									1	25	50	100
841-MC56F8322MFAE	MC56F8322MFAE	LQFP 48	40 MHz / 40 MIPS	32KB / 32 KB	No	SCI,SPI,CAN	3.0-3.6 V	6-ch. / 12-bit	10.17	8.55	8.31	7.82
841-MC56F8322VFAE	MC56F8322VFAE	LQFP 48	40 MHz / 40 MIPS	32KB / 32 KB	No	SCI,SPI,CAN	3.0-3.6 V	6-ch. / 12-bit	8.87	7.32	7.18	6.69
841-MC56F8323MFBE	MC56F8323MFBE	LQFP 64	60 MHz / 60 MIPS	32KB / 32 KB	No	SCI,SPI,CAN	3.0-3.6 V	8-ch. / 12-bit	9.61	8.80	8.55	8.05
841-MC56F8323VFBF	MC56F8323VFBF	LQFP 64	60 MHz / 60 MIPS	32KB / 32 KB	No	SCI,SPI,CAN	3.0-3.6 V	8-ch. / 12-bit	9.16	7.56	7.42	6.92
841-MC56F8335VFGE	MC56F8335VFGE	LQFP 128	60 MHz / 60 MIPS	64KB / 8KB	No	SCI,SPI,CAN	---	16-ch. / 12-bit	11.67	9.79	9.62	9.26
841-MC56F8345MFGF	MC56F8345MFGF	LQFP 128	60 MHz / 60 MIPS	128KB / 8KB	No	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	15.57	14.22	13.84	12.68
841-MC56F8345VFGE	MC56F8345VFGE	LQFP 128	60 MHz / 60 MIPS	128KB / 8KB	No	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	13.08	11.95	11.65	10.76
841-MC56F8346MFVE	MC56F8346MFVE	LQFP 144	60 MHz / 60 MIPS	128KB / 8KB	Yes	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	15.74	14.29	13.87	12.60
841-MC56F8346VFVE	MC56F8346VFVE	LQFP 144	60 MHz / 60 MIPS	128KB / 8KB	Yes	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	13.18	12.08	11.67	10.43
841-MC56F8347MPYE	MC56F8347MPYE	LQFP 160	64 MHz / 64 MIPS	128 / 12	Yes	SCI, SPI, CAN	3.0 - 3.6	12-bit / 16-ch	17.04	14.26	14.07	13.49
841-MC56F8347VPYE	MC56F8347VPYE	LQFP 160	60 MHz / 60 MIPS	128KB / 8KB	Yes	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	14.00	13.97	13.57	11.70
841-MC56F8355MFGF	MC56F8355MFGF	LQFP 128	60 MHz / 60 MIPS	256KB / 16KB	No	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	18.48	16.80	16.45	15.75
841-MC56F8355VFGE	MC56F8355VFGE	LQFP 128	60 MHz / 60 MIPS	256KB / 16KB	No	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	17.25	15.81	15.52	14.45
841-MC56F8356MFVE	MC56F8356MFVE	LQFP 144	60 MHz / 60 MIPS	256KB / 16KB	No	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	18.73	17.03	16.46	15.96
841-MC56F8356VFVE	MC56F8356VFVE	LQFP 144	60 MHz / 60 MIPS	256KB / 16KB	No	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	17.41	15.97	15.62	14.55
841-MC56F8357MPYE	MC56F8357MPYE	LQFP 160	60 MHz / 60 MIPS	256 / 20	Yes	SCI, SPI, CAN	3.0 - 3.6	12-bit / 16-ch	20.01	18.25	18.01	17.26
841-MC56F8357VPYE	MC56F8357VPYE	LQFP 160	60 MHz / 60 MIPS	256KB / 16KB	No	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	18.68	17.12	16.81	15.65
841-MC56F8366VFVE	MC56F8366VFVE	LQFP 144	60 MHz / 60 MIPS	512KB / 32KB	Yes	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	22.57	20.52	20.03	19.23
841-MC56F8367VPYE	MC56F8367VPYE	LQFP 160	60 MHz / 60 MIPS	512KB / 32KB	Yes	SCI,SPI,CAN	3.0-3.6 V	16-ch. / 12-bit	23.57	21.43	20.75	20.09

## 56F8000 SERIES GENERAL PURPOSE 16-BIT FIXED POINT



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For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Freescale Part No.	Package	Performance	Program Flash / RAM	Off-chip Memory	Serial Interface Type	Core Operating Voltage (V)	A/D Converter	Price Each			
									1	25	50	100
841-MC56F8011VFAE	MC56F8011VFAE	LQFP 32	32 MHz / 32 MIPS	12 / 2	No	SCI, SPI, I2C	3.0 - 3.6	12-bit / 6-ch	5.12	3.51	3.46	3.32
841-MC56F8013VFAE	MC56F8013VFAE	LQFP 32	32 MHz / 32 MIPS	16KB / 4 KB	No	SCI, SPI, I2C	3.0-3.6 V	6-ch. / 12-bit	5.52	3.78	3.66	3.54
841-MC56F8014VFAE	MC56F8014VFAE	LQFP 32	32 MHz / 32 MIPS	16KB / 4 KB	No	SCI, SPI, I2C	3.0-3.6 V	8-Ch. / 12-bit	5.52	3.78	3.69	3.54
841-MC56F8023VLC	MC56F8023VLC	LQFP 32	32 MHz / 32 MIPS	32KB / 4 KB	No	SCI, SPI, I2C	3.0-3.6 V	6-ch. / 12-bit	6.20	3.97	3.82	3.72
841-MC56F8025VLD	MC56F8025VLD	LQFP 44	32 MHz / 32 MIPS	32KB / 4 KB	No	SCI, SPI, I2C	3.0-3.6 V	8-Ch. / 12-bit	5.39	4.45	4.06	3.72
841-MC56F8036VLF	MC56F8036VLF	LQFP 48	32 MHz / 32 MIPS	64KB / 8KB	No	SCI, SPI, I2C	3.0-3.6 V	10-Ch. / 12-bit	6.37	4.61	4.58	4.36
841-MC56F8037VLH	MC56F8037VLH	LQFP 64	32 MHz / 32 MIPS	64KB / 8KB	No	SCI, SPI, I2C	3.0-3.6 V	16-ch. / 12-bit	6.47	4.93	4.77	4.62

## 56850 SERIES GENERAL PURPOSE 16-BIT FIXED POINT



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MOUSER STOCK NO.	Freescale Part No.	Package	Performance	Program Flash / RAM	Off-chip Memory	Serial Interface Type	Core Operating Voltage (V)	A/D Converter	Price Each			
									1	25	50	100
841-DSP56853FGE	DSP56853FGE	LQFP 128	120 MHz / 120 MIPS	12KB / 4 KB	Yes	SCI, SPI	1.8-3.3 V	No	9.81	7.87	7.78	7.49
841-DSP56854FGE	DSP56854FGE	LQFP 128	120 MHz / 120 MIPS	16KB / 16KB	Yes	SCI, SPI	1.8-3.3 V	No	10.17	9.16	9.04	8.50
841-DSP56857BUE	DSP56857BUE	LQFP 100	120 MHz / 120 MIPS	40KB / 24KB	No	ESSI, SCI, SPI	1.8-3.3 V	No	11.77	10.77	10.47	9.33
841-DSP56858FVE	DSP56858FVE	LQFP 144	120 MHz / 120 MIPS	40KB / 24KB	Yes	ESSI, SCI, SPI	1.8-3.3 V	No	12.33	11.03	10.81	10.38

## DSP563XX - SYMPHONY™ AUDIO DSP PRODUCTS



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MOUSER STOCK NO.	Freescale Part No.	Package	Performance	Program Flash / RAM	Off-chip Memory	Serial Interface Type	Core Operating Voltage (V)	A/D Converter	Price Each			
									1	25	50	100
841-DSPB56362AG120	DSPB56362AG120	LQFP 144	120 MHz / 120 MIPS	14000	Yes	SPI, I2C, ESAI, SHI	3.3 V	No	11.67	9.79	9.26	8.80
841-DSPB56371AF180	DSPB56371AF180	LQFP 80	181 MHz / 181 MIPS	-	No	ESIA, SHI	3.3 V	No	14.31	13.11	12.08	11.99
841-DSPB56374AE	DSPB56374AE	LQFP 52	150 MHz / 150 MIPS	54000	No	SIA, SHI	3.3 V	No	13.79	13.03	11.87	8.28