

Microcontroller I/O Type (Industrial Grade)

IC Part No.	Memory Type	ROM (13-Bit)	RAM (8-Bit)	I/O Pins	Interrupt (Ex/In)	Timer Modules		WDT	PWM	VDD(V)	Oper. Temp.(°C)	Oscillation Mode	Compar. (OP amp)	Special Function	Package-Lead Count
						(8-bit)	(16-bit)								
EM78P154N	OTP	1K	48	11	3(2/1)	1	-	Yes	-	2.1~5.5 2.3~5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	-	IRC, High Noise Immunity	DIP-14L SOP-14L
EM78P157N	OTP	1K	48	12	3(2/1)	1	-	Yes	-	2.3~5.5 2.5~5.5	0 ~ 70 -40 ~ 85	ERC,HXT, LXT	-	IRC, High Noise Immunity	DIP-14/18L SOP-14/18L
EM78P159N	OTP	1K	48	15	3(2/1)	1	-	Yes	-	2.1~5.5 2.3~5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	-	IRC, High Noise Immunity	DIP-18L SOP-18L SSOP-20L
EM78P211N	OTP	2K	80	18	5(2/3)	1	-	Yes	-	2.1~5.5 2.3~5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1	IRC, Comparator	DIP-20L SOP-20L SSOP-20L SDIP-24L SOP-24L SSOP-24L
EM78P212N	OTP	2K	80	22	5(2/3)	1	-	Yes	-	2.1~5.5 2.3~5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1	IRC, Comparator	DIP-24L SDIP-24L SOP-24L
EM78P221N	OTP	4K	144	22	5(2/3)	1	-	Yes	-	2.1~5.5 2.3~5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1	IRC, Comparator	DIP-24L SDIP-24L SOP-24L
EM78P222N	OTP	4K	144	26	5(2/3)	1	-	Yes	-	2.1~5.5 2.3~5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1	IRC, Comparator	SOP-28L SSOP-28L SDIP-28L

EM78P447N	OTP	4K	148	24	2(1/1)	1	-	Yes	-	2.3~5.5 2.5~5.5	0 ~ 70 -40 ~ 85	ERC,HXT, LXT	1	High Noise Immunity	DIP-28/32L SOP-24/28/32L SDIP-24/32L SSOP-28L
EM78F651N	Flash	1K	80	17	4(2/2)	1	-	Yes	-	2.2~5.5 2.5~5.5	0 ~ 70 -40 ~ 85	IRC, ERC, XT, LXT1, HXT, LXT2	-	128 bytes EEPROM, LVD, LVR	DIP-14/16/18/20L SOP-14/16/18L SSOP-20L

Microcontroller ADC Type (Industrial Grade)

IC Part No.	Memory Type	ROM (13-Bit)	RAM (8-Bit)	I/O Pins	Interrupt (Ex/In)	Timer Modules		WDT	ADC (Bit*Ch)	PWM	VDD(V)	Oper. Temp.(°C)	Oscillation Mode	Compar. (OP amp)	Serial I/O	Special Function	Package-Lead Count
						(8-bit)	(16-bit)										
EM78P258N	OTP	2K	80	11	5(2/3)	3	1	Yes	12*4	9*1	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	-	-	IR	DIP-14L SOP-14L
EM78P259N	OTP	2K	80	15	6(3/3)	3	1	Yes	12*4	9*1	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1(1)	-	IR	DIP-18L SOP-18L
EM78P260N	OTP	2K	80	17	6(3/3)	3	1	Yes	12*4	9*1	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1(1)	-	IR	DIP-20L SOP-20L SSOP-20L
EM78P341N	OTP	2K	80	12	6(3/3)	3	1	Yes	12*7	9*1	1.9 ~ 5.5 2.1 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT1,	-	-	IRC up to 16Mhz, Fast wake up, 4 high sink I/O,	DIP-14L SOP-14L

													LXT1, HXT2, LXT2			Low power consumption, IR, LVR, LVD	
EM78P342N	OTP	2K	80	16	7(4/3)	3	1	Yes	12*7	9*1	1.9 ~ 5.5 2.1 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1(1)	-	IRC up to 16Mhz, Fast wake up, 4 high sink I/O, Low power consumption, IR, LVR, LVD	DIP-18L SOP-18L
EM78P343N	OTP	2K	80	18	7(4/3)	3	1	Yes	12*8	9*1	1.9 ~ 5.5 2.1 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1(1)	-	IRC up to 16Mhz, Fast wake up, 4 high sink I/O, Low power consumption, IR, LVR, LVD	DIP-20L SOP-20L SSOP-20L
EM78P311N	OTP	2K	80	22	15(4/11)	3	1	Yes	10*8	8*1	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	Crystal, ERC	-	Yes	SPI, UART, Capture, PDO, Window, TBT, KT (key tone)	DIP-28L SOP-28L SSOP-28L
EM78P417N	OTP	4K	144	15	5(2/3)	4	-	Yes	12*8	10*3	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	-	-	PWM, IRC	DIP-18L SOP-18L
EM78P418N	OTP	4K	144	17	6(3/3)	4	-	Yes	12*8	10*3	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1(1)	-	PWM, IRC, OP, comparator	DIP-20L SOP-20L SSOP-20L
EM78P419N	OTP	4K	144	21	6(3/3)	4	-	Yes	12*8	10*3	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1(1)	-	PWM, IRC, OP, comparator	SDIP-22L SDIP-24L SOP-24L
EM78P345N	OTP	4K	144	16	5(2/3)	4	-	Yes	12*8	10*3	1.9 ~ 5.5 2.1 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	-	-	IRC up to 16Mhz, Fast wake up, 4 high sink I/O, Low power consumption, PWM, POR, LVD, LVR	DIP-18L SOP-18L

EM78P346N	OTP	4K	144	18	6(3/3)	4	-	Yes	12*8	10*3	1.9 ~ 5.5 2.1 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1(1)	-	IRC up to 16Mhz, Fast wake up, 4 high sink I/O, Low power consumption, PWM, OP, comparator, POR, LVD, LVR	DIP-20L SOP-20L SSOP-20L
EM78P347N	OTP	4K	144	22	6(3/3)	4	-	Yes	12*8	10*3	1.9 ~ 5.5 2.1 ~ 5.5	0 ~ 70 -40 ~ 85	IRC, ERC, HXT, LXT	1(1)	-	IRC up to 16Mhz, Fast wake up, 4 high sink I/O, Low power consumption, PWM, OP, comparator, POR, LVD, LVR	SDIP-24L SOP-24L SSOP-24L
EM78P5840N	OTP	4K	144	16	6(3/3)	2	-	Yes	10*8	NA	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	ERIC, Crystal, (PLL), IRC	-	-	IRC	PDIP-18L SOP-18L
EM78P5841N	OTP	4K	144	18	8(3/5)	4	-	Yes	10*8	10*2	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	ERIC, Crystal, (PLL), IRC	-	-	PWM, IRC	PDIP-20L SOP-20L
EM78P5842N	OTP	4K	144	22	8(3/5)	4	-	Yes	10*8	10*2	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	ERIC, Crystal, (PLL), IRC	-	-	PWM, IRC	PDIP-24L SOP-24L
EM78P312N	OTP	4K	144	22	15(4/11)	3	1	Yes	10*8	8*1	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	Crystal, ERC	-	Yes	SPI, UART, Capture, PDO, Window, TBT KT (key tone)	DIP-28L SOP-28L SSOP-28L
EM78P809N	OTP	8K	144	22	15(4/11)	3	1	Yes	10*8	8*1	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	Crystal, ERC	-	Yes	SPI, UART, Capture, PDO, Window, TBT KT (key tone)	DIP-28L SOP-28L SSOP-28L

EM78F652N	Flash	2K	144	17	10/(4/6)	2	1	Yes	12*4	8*1	2.2 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	IRC,ERC, HXT, LXT	(1, 2 order)	Yes	256 bytes EEPROM SPI, 2 order OPamp PGA, LVD, LVR, PDO Counter,Window	DIP-16/18/20L SOP-16/18/20L
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Microcontroller ▶ **LCD Type (Industrial Grade)**

IC Part No.	Memory Type	ROM (13-Bit)	RAM (8-Bit)	I/O Pins	Interrupt (Ex/In)	Timer Modules		WDT	LCD (C*S)	ADC (Bit*Ch)	PWM	VDD(V)	Oper. Temp.(°C)	Oscillation Mode	Compar. (OP amp)	Serial I/O	Special Function	Package-Lead Count
						(8-bit)	(16-bit)											
EM78468	Mask	4K	272	28	8(3/5)	5	-	Yes	4*32	-	8*1	1.9~5.5	0 ~ 70	ERIC,Crystal, PLL	-	-	IR	QFP-44/64L LQFP-44/64L
EM78P468N	OTP	4K	272	28	8(3/5)	5	-	Yes	4*32	-	8*1	2.3 ~ 5.5 2.5 ~ 5.5	0 ~ 70 -40 ~ 85	ERIC,Crystal, PLL	-	-	IR	QFP-44/64L LQFP-44/64L
EM78P468L	OTP	4K	272	28	8(3/5)	5	-	Yes	4*32	-	8*1	2.1 ~ 5.5 2.3 ~ 5.5	0 ~ 70 -40 ~ 85	ERIC,Crystal, PLL	-	-	IR, Low voltage	QFP-44L LQFP-44L
EM78P510N	OTP	8K	256	43	18(10/8)	3	1	Yes	8*23	12*12	8*2 or 16*1	2.3 ~ 5.5	-40 ~ 85	Dual Clock, ERIC,Crystal, PLL	-	Yes	External Interrupt Wake Up, UART, SPI, Capture, Toggle Output, Buzzer, Watch Timer, LVD, LVR	SDIP-32L SOP-32L DIP-42L LQFP-44/48L

Microcontroller ▶ **I/O, ADC, LCD Type (Commercial Grade)**

IC Part No.	Memory Type	ROM (13-Bit)	RAM (8-Bit)	I/O Pins	Interrupt (Ex/In)	Timer Modules		WDT	ADC (Bit*Ch)	LCD	PWM	VDD(V)	Oper. Temp.(°C)	Oscillation Mode	Compar. (OP amp)	Serial I/O	Special Function	Package-Lead Count
						(8-bit)	(16-bit)											
EM78P153S	OTP	1K	32	11	3(2/1)	1	-	Yes	-	-	-	2.3 ~ 5.5	0 ~ 70	IRC,ERC, HXT,LXT	-	-	IRC	DIP-14L SOP-14L
EM78156E	Mask	1K	48	12	3(2/1)	1	-	Yes	-	-	-	2.3 ~ 5.5	0 ~ 70	ERC,HXT, LXT	-	-	-	DIP-18L SOP-18L SSOP-20L
EM78P156EL	OTP	1K	48	12	3(2/1)	1	-	Yes	-	-	-	2.3 ~ 5.5	0 ~ 70	ERC,HXT, LXT	-	-	-	DIP-18L SOP-18L SSOP-20L
EM78P257A/B	OTP	2K	80	17	5(3/2)	4	-	Yes	-	-	1	2.3 ~ 5.5	0 ~ 70	IRC,ERC, ERIC,HXT,LXT	4(0)	-	IR; Mouse	DIP-18/20L SOP-18/20L
EM78447SA/B/C/D	OTP	4K	148	24	2(1/1)	1	-	Yes	-	-	-	2.3 ~ 5.5	0 ~ 70	ERC,HXT, LXT	-	-	-	SDIP-24/28L SOP-24/28/32L DIP-28/32L SSOP-28L
EM78P447SA/B/C/D	OTP	4K	148	24	2(1/1)	1	-	Yes	-	-	-	2.3 ~ 5.5	0 ~ 70	ERC,HXT, LXT	-	-	-	SDIP-24/28L SOP-24/28/32L DIP-28/32L SSOP-28L
EM78451	Mask	4K	148	24	2(1/1)	1	-	Yes	-	-	-	2.3 ~ 5.5	0 ~ 70	ERC,HXT, LXT	-	-	-	DIP-40L QFP-44L
EM78P451S	OTP	4K	140	35	4(1/3)	2	-	Yes	-	-	-	2.3 ~ 5.5	0 ~ 70	ERIC,ERC, HXT,LXT	-	Yes	SPI	DIP-40L QFP-44L
EM78452	Mask	4K	140	35	4(1/3)	2	-	Yes	-	-	-	2.3 ~ 5.5	0 ~ 70	ERIC,ERC, HXT,LXT	-	Yes	SPI Timer 1 isolation 2.1V/ 16MHz (Mask)	DIP-40L SOP-40L QFP-44L

EM78458/459	Mask	4K	84	16	6(3/3)	3	-	Yes	8*8	-	10*2	2.3 ~ 5.5	0 ~ 70	IRC,ERC, HXT,LXT	(1)	-	PWM, OP, comparator	DIP-20/24L SOP-20/24L
EM78P458/459	OTP	4K	84	16	6(3/3)	3	-	Yes	8*8	-	10*2	2.3 ~ 5.5	0 ~ 70	IRC,ERC, HXT,LXT	(1)	-	PWM, OP, comparator	DIP-20/24L SOP-20/24L

Microcontroller  HSM Type (Commerical Grade)

IC Part No.	Memory Type	ROM (16-Bit)	RAM (8-Bit)	I/O Pins	Timer Modules		WDT	Base Band	USB HUB	USB Device	ADC(bit*Ch)	PWM(bit*Ch)	VDD(V)	Oper. Temp.(°C)	Oscillation Mode	SPI	Special Function	Package-Lead Count
					(8-bit)	(16-bit)												
EM77F900	Flash	16K	1.3K	42	1	1	Yes	Yes	Yes	Yes	10*16	16*2	2.2~3.6	0 ~ 70	ERC,PLL, XTAL	Yes	ERC, POR, Pin Wakeup, Pull High, Open drain	QFP-100L LQFP-64L
EM77930	MASK	12K	1216	30	1	1	Yes	Yes	-	Yes	-	16*1	2.2~3.6	0 ~ 70	IRC,PLL, XTAL	-	IRC, POR, Pin Wakeup, Pull High, Open drain	LQFP-44L