

# ICs/LSIs for Audio

## For Compact Disc Player

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
MN6650A	4.5 ~ 5.5	CMOS	Digital servo processor	44-QFP	L46
MN6617	4 ~ 5.5		Digital signal processing LSI, digital signal processing LSI for intermediate/leader audio	84-QFP	L59
MN6622	4 ~ 5.5		Digital signal processing LSI, digital signal processing LSI for intermediate/high-end audio	84-QFP	L59
MN6625	4.0 ~ 5.5		Digital signal processing LSI, digital signal processing LSI for intermediate/leader audio	64-QFP(a)	L51
MN6626	3.4 ~ 5.5		Digital signal processing LSI (16KRAM, PLL built-in), low voltage	64-QFP(b)	L52
MN66261	4.5 ~ 5.5		Digital signal processing LSI (16KRAM, PLL built-in), double speed	64-QFP(b)	L52
MN66271	4.5 ~ 5.5		Digital signal processing, digital servo processor DF, post filter built-in, D/A converter	80-QFS	L57
MN66271RA	4.5 ~ 5.5		Digital optical servo processor, audio data signal processor, 8 times oversampling MASH+, D/A converter	80-QFS	L57
MN662710RA	4.5 ~ 5.5		Further to MN66272RA specifications, double-speed playback function is added. (Digital data reproduction only, D/A converter assures normal reproduction.)	80-QFS	L57
MN662712RA	4.5 ~ 5.5		Further to MN66271RA specifications, audio data output function after 4 times oversampling is added.	80-QFS	L57
MN66271RAFA	4.5 ~ 5.5		MN66271RA's package derivative	84-QFP	L57
MN6618A	4.5 ~ 5.5		Digital filter LSI	42-QFP	L45
MN66181	4.5 ~ 5.5		Digital filter LSI	42-QFP	L45
MN6471	4.5 ~ 5.5		DF built-in D/A converter (interior resolution 18 bit) clock 768fs (MASH*)	40-QFP(b)	L44
MN6474A	4.5 ~ 5.5		DF built-in D/A converter (interior resolution 18 bit) clock 768fs (MASH*)	40-QFP(b)	L44
MN6475A	4.5 ~ 5.5		DF, post filter built-in, D/A converter (interior resolution 16 bit) clock 768/384fs with double speed mode (MASH*)	SO-24D	L38
MN64751	3.2 ~ 5.5		DF, post filter built-in, D/A converter (interior resolution 16 bit) clock 768/384fc (MASH*)	SO-24D	L38
MN64761	4.5 ~ 5.5		DF, D/A converter (interior resolution 16 bit) clock 768/384fs (MASH*)	42-QFP	L45
MN6479	4.75 ~ 5.25		DF, post filter built-in, D/A converter (interior resolution 16 bit) clock 384fs with double speed mode (MASH*)	USO-28D	—
MN64791	3.2 ~ 5.5		DF, post filter built-in, D/A converter (interior resolution 16 bit) clock 384fs (MASH*)	USO-28D	—
AN7097SB	3 ~ 6	Bipolar	2ch headphone amplifier	USO-28D	B83
AN8083S	3		Low voltage DC-DC converter IC	SO-16D	B67
AN8086S	3		Low voltage DC-DC converter IC	SO-16D	B67
AN8290NS	4.5 ~ 20		Spindle PWM driver, 3 phase full wave	SO-24D	B74
AN8377N	5.5 ~ 16		3 ch linear driver	16-DIP(F)	B41
AN8387S	3.5 ~ 9		2 ch linear driver for portable CD	SONF-20D	B72
AN8388S/SR	4.5 ~ 18		4 ch linear driver	HSOP-24D HSOP-24D(BH)	B76 B77
AN8800SC	5		Head amp. for digital servo (1 beam system)	VSO-42D	B86
AN8801SC	5		Head amp. for digital servo (3 beam system)	VSO-42D	B86
AN8802SC	5		Head amp. for digital servo (1 beam system)	VSO-22D	B84
AN8803SB/NSB	5		Head amp. for digital servo (3 beam system)	USONF-36D	B85
AN8389S/SR	4.5 ~ 18		4 ch linear driver	HSOP-24D HSOP-24D(BH)	B76 B77

\*MASH is the trademark registered by NTT.

## For DAT

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
MN6460A	4.75 ~ 5.25	CMOS	DF built-in A/D converter (interior resolution 16 bit) clock 512fs (MASH*)	VSO-42D	L41
MN6470	4.5 ~ 5.5		DF built-in D/A converter (interior resolution 18 bit) clock 512fs (MASH*)	40-QFP(b)	L44
MN6624	4.5 ~ 5.5		Digital signal processing	124-QFP	L63
AN3841SR	4.5 ~ 5.5	Bipolar	Motor drive, 3 phase full wave	HSOP-24D	B76
AN6607NS	8 ~ 16		DC motor forward/reverse 2-speed electronic governor	SONF-16D	B68
AN7030S	$V_{DD} = 4.5 \sim 5.5$ $V_{EE} = 4.5 \sim 9.5$		RF signal recording/playback, head amp. equalizer	VSO-42D	B86
AN7035SC	4.5 ~ 5.5		Bit clock playback PLL, envelope detection	VSO-32D	B84
AN7036FHP	3 ~ 6		Bit clock playback PLL, envelope detection	48-QFH(d)	B96
AN8320NFA	4.5 ~ 7.5		Servo interface	48-QFP(a)	B97

\*MASH is the trademark registered by NTT.

(Package Symbol) DIP = Dual-In-Line Plastic Package SSIP = Shrunk Single-In-Line Plastic Package, QFP = Quad Flat Plastic Package,  
QFH = Quad Flat L-Leaded High Package, SO = Small Outline Package (PANA FLAT PACKAGE),  
VSO = Very Short Pitch Small Outline Package, (F) = with Fin

# ICs/LSIs for Audio

## ■ ICs for FM/AM Tuner

### ● Car Radio

Type No.	Operating Voltage (V)	Process	Functions					Package	No.
			Front End	IF	NC	MPX	AM		
AN7286S	7.2 ~ 9.0	Bipolar					●	SO-20D	B71
AN7243S	6.5 ~ 9.6		●					SO-14D	B66
AN7254	6.5 ~ 9.8		●					9-SIP	B13
AN7280S	6.8 ~ 9.2		●					SO-20D	B71
AN7283S	7.2 ~ 9.2		●					SO-20D	B71
AN7259S	7.3 ~ 9.6			●				SO-20D	B71
AN7414	6 ~ 14					●		18-ZIP	B32
AN7418S	5 ~ 9					●		SO-18D	B70
AN7463S	6 ~ 10				●	●		SO-28D	B80
AN7464S	6 ~ 10				●	●		VSO-32D	B84
AN7465K/S	6 ~ 10				●	●		28-SDIP/SO-28D	B57, B80
AN7291SC/FBP	7.2 ~ 9.6			●	●	●		VSO-42D/48-QFH(b)	B86, B94
△AN7291NSC/NFBP	7.2 ~ 9.6			●	●	●		VSO-42D/48-QFH(b)	B86, B94
AN7292SC/FBP	7.2 ~ 9.6			●	●	●		VSO-42D/48-QFH(b)	B86, B94
△AN7292NSC/NFBP	7.2 ~ 9.6			●	●	●		VSO-42D/48-QFH(b)	B86, B94
△AN7298FBP	7.2 ~ 9.6			●	●	●		48-QFH(b)	B94
△AN7297S				IF + diversity		●	●	VSO-32D	B84

△ Preliminary

### ● For Radios/Radio Cassette Tape Recorder

Type No.	Operating Voltage (V)	Process	Functions					Package	No.	
			Front End	IF	MPX	AM	Power			
AN7017S/SB	1 ~ 2	Bipolar	●					SO-16D/USO-16D	B67, B69	
AN7202S	1 ~ 4		●					SO-10D	B65	
AN7203	1.8 ~ 7		●					9-SIP	B13	
AN7204	2.7 ~ 7		●					9-SIP	B13	
AN7205	1.5 ~ 7		●					9-SIP	B13	
AN7220	2 ~ 6.5			●			●	18-DIP	B42	
AN7221S	2 ~ 6			●			●	SO-18D	B70	
AN7223	2.8 ~ 12			●			●	18-DIP	B42	
AN7224	2.8 ~ 9.6			●			●	18-DIP	B42	
AN7230S	1 ~ 4			●			●	SO-18D	B70	
AN7420	3.5 ~ 12				●	●		9-SIP	B13	
AN7421	1.8 ~ 6				●	●		9-SIP	B13	
AN7024	3 ~ 7			●	●	●	●	18-ZIP	B32	
AN7025K/S	1.8 ~ 6.6			●	●	●	●	22-SDIP/SO-24D	B54, B74	
AN7232SB	0.95 ~ 2			●	●	●	●	USO-28D	B83	
AN7238K/S	3.6 ~ 7			●	●	●	●	22-SDIP/SO-24D	B54, B74	
AN7002K/S	1.8 ~ 6 1.8 ~ 4.5				●	●	●	●	22-SDIP/SO-24	B54, B74
AN7006NS	1.8 ~ 5			●	●	●	●	SO-28D	B80	
AN7007S/S(U)	1.8 ~ 4			●	●	●	●	SO-28D/VSO-28D	B80, B83	
AN7008K	1 ~ 2						●	●	22-SDIP	B54
AN7009S	1.8 ~ 4.5					●	●	SO-24D	B74	
AN7235S	1.8 ~ 5		●	●	●	●	SO-24D	B74		

### ● For Hi-Fi

Type No.	Operating Voltage (V)	Process	Functions					Package	No.
			Front End	IF	DET	MPX	AM		
AN7273	3 ~ 12	Bipolar		●	●		●	18-DIP	B42
AN7470	9 ~ 14					●		16-DIP(c)	B40
AN7472S	4.5 ~ 9					●		SO-28D	B80

(Package Symbol) SIP = Single-In-Line Plastic Package, ZIP = Zigzag In-Line Plastic Package, SO = Small Outline Package (PANA FLAT PACKAGE),

SDIP = Shrink Dual-In-Line Plastic Package, VSO = Very Short Pitch Small Outline Package, USO = Ultra Small Outline Package

# ICs/LSIs for Audio

## ■ For Cassette, Cassette Deck

### ● Equalizer Amp.

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
AN3991NS	4 ~ 9	Bipolar	Recording/playback amplifier circuit for tape recorder, VCR (with microphone amp.)	SO-20D	B71
AN6221S	1.8 ~ 4.5		Pre-amplifier circuit with AGC for low voltage	SO-20D	B71
AN7015S	1.8 ~ 7.5		Low voltage dual pre-amplifier circuit	SO-22D	B73
AN7310N	5 ~ 14		Dual pre-amplifier circuit	9-SIP	B13
AN7311	5 ~ 14		Dual pre-amplifier circuit	9-SIP	B13
AN7312	5 ~ 14		Dual pre-amplifier circuit	14-DIP(a)	B36
AN7316	3.5 ~ 12		Recording/playback amp. for radio cassette	16-DIP(a)	B38
AN7317	3.5 ~ 12		Recording/playback amp. for radio cassette (with REC mute)	16-DIP(b)	B39
AN7318S	5 ~ 14		Dual pre-amplifier circuit	SO-16D	B67
AN7351K/SC	$\pm 4.5 \sim \pm 7$		Hi-Fi W cassette deck recording/playback pre-amp.	42-SDIP/VSO-42D	B59, B86
AN7352S	$\pm 4.5 \sim \pm 6.5$		VCA, TPS built-in W cassette deck recording/playback pre-amp.	SO-28D	B80
AN7353S	$\pm 4.5 \sim \pm 6.5$		Record amplifier for EQ control	SO-24D	B74

### ● Noise Reduction

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
AN6290S	1.8 ~ 9	Bipolar	dbx system compander	SO-20D	B71
AN6291/S	1.8 ~ 14		Cassette deck, radio cassette dbx NR	22-DIP/SO-22D	B46, B73
AN7354SC	$\pm 4.5 \sim \pm 6.5$		Line mute/Level meter drive built-in Dolby B/CNR	VSO-42D	B86
▲AN7355SC	$\pm 4.5 \sim \pm 6.5$		Line mute/Level meter drive built-in Dolby B NR	VSO-32D	B84
AN7367K	$\pm 5 \sim \pm 7$		Dolby dbx Nr	28-SDIP	B57
AN7368K	$\pm 5 \sim \pm 7$		Dolby dbx Nr	28-DIP	B57
AN7374K	9 ~ 13		Dual dolby B/C NR for cassette deck	28-SDIP	B57
AN7375N/NS	1.8 ~ 4.5		Dolby B type NR for low voltage cassette tape recorder	18-DIP/SO-18D	B42, B70

▲ Under development

### ● Low Freq. Pre-Power Amp. (1-Chip)

Type No.	Operating Voltage (V)	Process	Single	Dual	BTL	Conditions		Output Power (mW)				Package	No.
						V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	< 30	> 30	> 100	> 300		
AN7082K	1.8 ~ 6	Bipolar		●		3	32			●	○	22-SDIP	B54
AN7085NS	1.8 ~ 4.5		●		●	3	8			●	○	SO-20D	B71
AN7086S	1.8 ~ 4.5		●			3	8				●	SO-24D	B74
AN7105	4.2 ~ 9			●		6	8				●	18-DIP	B42
AN7106K	1.8 ~ 4.5				●	3	4				●	24-SDIP	B55
AN7108	1.8 ~ 6				●	3	32		●	○		16-DIP(b)	B39
AN7109S	1.8 ~ 4.5				●	3	32		●			SO-28D	B80

● Standard ○ Application available

### ● Others (Tape Index Detection, Reverse Control, etc.)

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
AN6230S	1.8 ~ 6	Bipolar	Low freq. power amp. circuit for cassette tape recorder (450mW)	SO-18D	B70
AN6262N	4.5 ~ 16		Tape index detection circuit for tape sensor of radio cassette tape recorder/cassette deck (Output of tape index = Low)	9-SIP	B13
AN6263N	4.5 ~ 16		Tape index detection circuit for tape sensor of radio cassette tape recorder/cassette deck (Output of tape index = High)	9-SIP	B13

(Package Symbol) SIP = Single-In-Line Plastic Package, DIP = Dual-In-Line Plastic Package, SDIP = Shrunken Dual-In-Line Plastic Package

SO = Small Outline Package (PANA FLAT PACKAGE), VSO = Very Short Pitch Small Outline Package

# ICs/LSIs for Audio

## ■ ICs for Audio Common Use

### ● DC Volume, Graphic Equalizer

Type No.	Operating Voltage (V)	Process	Functions	Package	No.
AN7332S	3 ~ 14.4	Bipolar	2 channel 4 elements graphic equalizer (Quasi 5 elements)	SO-24D	B74
AN7333K/S	4 ~ 14		4 elements graphic equalizer for radio, radio cassette tape recorder	24-SDIP/SO-24D	B55, B74
AN7337N	± 4 ~ ± 18		7 elements graphic equalizer	20-DIP(b)	B45
AN7381	5.4		Tone control circuit	9-SIP	B13
AN7382	24		DC volume, tone control circuit	18-SIP	B31
AN7384N	± 7 ~ ± 11		Electrical volume for cassette deck	16-DIP(c)	B40

### ● Low Freq. Pre-Amplifier Circuit

Type No.	Operating Voltage (V)	Process	Functions	Package	No.
AN360	4 ~ 16	Bipolar	High advantage low noise amp. for car stereo	7-SIP	B11
AN7060	(+ 60, - 6)		Hi-Fi audio amp., pre-driver	9-SIP	B13
AN7062N	80		Hi-Fi audio amp., pre-driver	18-DIP	B42

### ● Low Freq. Power Amplifier

Type No.	Operating Voltage (V)	Process	Single	Dual	BTL	Conditions		Output Power (W)					Package	No.	
						V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	≥ 1	> 2	> 4	> 5	> 10			
AN7100S	1 ~ 3	Bipolar		●		1.5	150	< 1						SO-18D	B70
AN7112	4 ~ 14		●			6	8	< 1						9-SIP	B13
AN7117	2.5 ~ 9		●			6	4	●						9-SIP	B13
AN7118S	1.8 ~ 4.5				●	○	3	4	< 1					SO-18D	B70
AN7124	6 ~ 15				●		9	3			●			12-SIP(F)	B23
AN7135	5 ~ 18				●	○	15	3				●	○	12-SIP(FP)	B24
AN7139	6 ~ 18				●		9	4		●				12-SIP(F)	B23
AN7140	6 ~ 16			●			13.2	4			●			9-SIP(F)	B15
AN7141	3.8 ~ 18			●			6	4	●					9-SIP	B13
AN7142	3.8 ~ 18				●	○	±(6)9	4	●	●				16-DIP(F)	B41
AN7147N/49N	5 ~ 22				●	○	×(9)12	3		●		●	○	12-SIP(FP)	B24
AN7148	6 ~ 18				●	○	±(9)12	4					○	12-SIP(FP)	B24
AN7158N	5 ~ 20				●	○	16	8				●	○	12-SIP(P)	B25
AN7163	7 ~ 20					●	13.2	4					●	12-SIP(FP)	B24
AN7164	8.3 ~ 24					●	21	8					●	12-SIP(FP)	B24
AN7164N	8.3 ~ 24					●	26.4	8					●	12-SIP(FP)	B24
AN7168	7 ~ 24				●	○	13.2	4				●	○	12-SIP(FP)	B24
AN7169	5 ~ 24				●	○	13.2	4				●	○	12-SIP(FP)	B24
AN7170	8 ~ 35			●			26.4	8				●	○	11-SIP(P)	B21
AN7171NK	7 ~ 18				●	●	13.2	4					●	16-ZIP(FP)	B30
AN7172NK	7 ~ 18				●	●	13.2	4					●	9-SSIP(F)	B16
AN7173K	7 ~ 18				●	●	13.2	4					●	16-ZIP(FP)	B30
AN7174K	8 ~ 18				●	○	13.2	4					●	16-ZIP(FP)	B30
AN7177	8 ~ 18				●	●	13.2	4					●	23-ZIP(FP)	B33
AN7178	8 ~ 18				●		13.2	4				●		12-SIP(FP)	B24
△AN7190K/91K	8 ~ 18				●	●	13.2	4					●	16-ZIP(FP)	B30
AN7133N	6 ~ 24				●		12	3			●			23-ZIP(F)	B33
AN7134NR	6 ~ 18				●		15	3				●		23-ZIP(F)	B33

+ No heat Sink ● Standard ○ Application available △ Preliminary

(Package Symbol) SIP = Single-In-Line Plastic Package, DIP = Dual-In-Line Plastic Package, (P) = Power Type, (F) = with Fin

SO = Small Outline Package (PANA FLAT PACKAGE), SDIP = Shrunk Dual-In-Line Plastic Package,

SSIP = Shrunk Single-In-Line Plastic Package, ZIP = Zigzag-In-Line Plastic Package, (FP) = Power Type with Fin

# ICs/LSIs for Audio

## ■ ICs for Motor

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
AN6608	8 ~ 16	Bipolar	DC motor forward/reverse 2-speed electronic governor	16-DIP(F)	B41
AN6609N/NS	8 ~ 16		DC motor forward/reverse 2-speed electronic governor	16-DIP(F)/HSOP-24D(BH)	B41, B77
AN6612/S	1.8 ~ 4		Motor control circuit	8-DIP/SO-8D	B35, B64
AN6650/S	1.8 ~ 7		Motor control circuit	8-DIP/SO-8D	B35, B64
AN6651	3.5 ~ 14		Motor control circuit	TO-126(4 pin)	B6
AN6652	6 ~ 20		Motor control circuit	TO-126(4 pin)	B6
AN6655S	1.05 ~ 3.6		Forward/reverse electronic governor for micro-motor	SO-16D	B67
AN6656/S	1.8 ~ 6		Forward/reverse electronic governor for micro-motor	16-DIP(c)/SO-16D	B40, B67
AN6657/S	4.5 ~ 14		Forward/reverse electronic governor for micro-motor	16-DIP(c)/SO-16D	B40, B67
AN6659S	1 ~ 2.5		Electronic governor for 1.5V micro-motor	SO-10D	B65

## ■ ICs for Display Driver

Category	Type No.	Operating Voltage (V)	Display Division		Functions				Remarks	Package	
			Log.	Linear	5 marks	7 marks	12 marks	Input amp. built-in			No.
FL	AN6870N	(20, 15)	●						18 marks × 2 ch peak with hold	28-DIP	B49
LED	AN6875	12 ~ 16	●		●					9-SIP	B13
	AN6876	12 ~ 16		●	●					9-SIP	B13
	AN6877	5 ~ 16		●		●		●		16-DIP(F)	B41
	AN6878	5 ~ 16	●			●		●		16-DIP(F)	B41
	AN6879	4.4 ~ 12	●			●		●		16-DIP(c)	B40
	AN6882	6.2 ~ 16	●			●		●	With dot, bar display switch pins	16-DIP(c)	B40
	AN6884	3.5 ~ 16	●		●			●		9-SIP	B13
	AN6886	4 ~ 16	●		●			●	Priority of large input of 2 input amp.	14-DIP(a)	B36
	AN6887	5 ~ 16	●			●		●	Priority of large input of 2 input amp., 2 LED series	16-DIP(c)	B40
	AN6888	5 ~ 16	●		● (× 2)			●	5 marks × 2 ch, 2 LED series	18-DIP	B42
AN6891	7 ~ 16	●				●	●	3 LED series	18-DIP	B42	

## ■ Others

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
MN6631A	± 15, 5	CMOS	5 channel CMOS analog electrical switch for audio	18-DIP(a)	L10
MN6632A	5		2 channel CMOS electrical volume for audio	18-DIP(a)	L10
MN6633	5		1 channel CMOS electrical volume for audio	16-DIP(a)	L7
AN7072N	74	Bipolar	High breakdown voltage audio amp. muting circuit	7-SIP	B11
AN7074K	10 ~ 23		Hi-Fi audio power amp. muting control	13-SSIP	B27
AN8072N	10.5 ~ 16		Multi output power supply regulator	12-SIP(F)	B23

(Package Symbol) DIP = Dual-In-Line Plastic Package, SIP = Single-In-Line Plastic Package, SSIP = Shrunk Single-In-Line Plastic Package.

SO = Small Outline Package (PANA FLAT PACKAGE), (F) = with Fin

# ICs/LSIs for Industrial and Home Use

## ■ For Analog Clock (MOS ICs)

Motor Type	Type No.	Oscillating Frequency (MHz)	Supply Voltage (V)	Power Supply Current max. ( $\mu$ A)	Motor Driving Pulse Output		Alarm Signal Output Waveform	Package	No.	Remarks
					Frequency (Hz)	Pulse Width (ms)				
Step motor	MN6057	4.19	1.5	35	0.5	1s		8-DIP	L1	
	MN6251			35	0.5	31.25		8-DIP	L1	
	MN6252			35	0.5	31.25		8-DIP	L1	
	MN6255			500	0.5	46.875		8-DIP	L1	For car clock
	MN6253B	32kHz	1.5	10	0.5	31.25		8-DIP	L1	
	MN6260B			10	0.5	31.25		8-DIP	L1	
	MN6260C			10	0.5	31.25		8-DIP	L1	
	MN6263			10	0.5	15.625		8-DIP	L1	
	MN6275AS			3	0.5	31.25		SO-8D	L29	
	Synchronous motor	MN6092	4.19	1.5	50	16	31.25		8-DIP	L1
MN6093		1mA			64	7.8125		8-DIP	L1	For car clock
MN6094		35			16	31.25		8-DIP	L1	
MN6095		35			16	31.25		8-DIP	L1	
Step/synchronous motor	MN6220	4.19	1.5	70	0.5/16	1s/31.25		18-DIP(a)	L10	Timer indication

## ■ For Facsimile (MOS ICs)

Type No.	Operating Voltage (V)	Process	Functions	Package	No.	Remarks
MN86153	5	Image signal processing for contact-type image sensor	84-QFP	L59		
MN86157	5	LSI (7 bit) for shading compensation	44-QFP	L46		
MN8601	5	Digital signal processor	64-SDIP	L24		
MN8605*	5	Facsimile modem (Specification modification possible by external ROM)	84-PLCC	L82		
MN86051*	5	Facsimile modem (ROM built-in)	84-PLCC	L82		
MN86062	5	Band compression extension LSI for facsimile	84-QFP	L59		
MN8354	5	Half tone processor; ASIC available	84-QFP	L59		

\* Sales by Matsushita Denso Inc.

(Package Symbol) DIP = Dual-In-Line Plastic Package, SDIP = Shrunk Dual-In-Line Plastic Package, QFP = Quad Flat Package, SO = Small Outline Package (PANA FLAT PACKAGE), PLCC = Plastic Leaded Chip Carrier.

# ICs/LSIs for Industrial and Home Use

## ■ For Telephone

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
MN6106A	2.5 ~ 5.5	CMOS	High-function dialer LSI, (DTME/Outpulse switching) with shorten dial and auto-flash re-dial	42-QFP	L45
MN6112	2 ~ 7	MOS	Dialer CMOS LSI (popular type, DTMF/Outpulse switching)	22-SDIP	L19
MN6114	2 ~ 7		Dialer CMOS LSI (high end, DTMF/Outpulse switching) with shorten dial and auto-flash re-dial	28-SDIP	L20
AN6141S/SB	2 ~ 5	Bipolar	Compander ICs for cordless phone	SO-24D/USO-24D	B74, B79
AN6150	3 ~ 11.5		Speech network	16-DIP(b)	B39
AN6152	3 ~ 11.5		Speech network	16-DIP(b)	B39
AN6153N/NS	2.5 ~ 11.5		Speech network	16-DIP(b)/SONF-16D	B39, B68
AN6154NK/NS	3 ~ 11.5		Speech network	24-SDIP/SO-24D	B55, B74
AN6157NK	3 ~ 11.5		Speech network	22-SDIP	B54
AN6162SC	2 ~ 5.5		Narrow freq. band FM reception	VSO-32D	B84
AN6164K/S	4.5 ~ 8		Regular voltage drive type speech network	28-SDIP/SO-28D	B57 B80
AN6166NK	$V_{CC} = 2.5 \sim 4.5$ $V_I = 1 \sim 8$		Cordless phone base set speech network	30-SDIP	B58
AN6167S/SB	2 ~ 5		Cordless phone handset speech network	USO-28D/USO-28D	B80, B83
AN6170/S	10 ~ 22		Ringer, 1 call tone tremolo (Rumbling starting current variable type)	8-DIP/SO-8D	B35, B64
AN6171	10 ~ 22		Ringer, 4 call tone tremolo (High end)	14-DIP(a)	B36
AN6172	10 ~ 22		Ringer, 1 call tone tremolo (Rumbling starting voltage variable type)	8-DIP	B35
AN6175K/FBP	3 ~ 12		ICs for hands-free telephone speech network	42-SDIP/44-QFH	B59, B91
AN6176	1.8		ICs for security	SO-24D	B74
AN6182NK/NS			Recording/playback ICs for answering phone	24-SDIP/SO-24D	B55, B74
AN6290S	1.8 ~ 9		ICs for dbx system compander	SO-20D	B71
AN6425K	3 ~ 12		Speech network	28-SDIP	B57
AN6426NK	3 ~ 12		Hands-free speech network	42-SDIP	B59
AN6480	5.6 ~ 8.4		IF amp. for car telephone	18-DIP	B42
AN6448NFBP	5		ICs Speech network built-in cross point switch	64-QFH(c)	B102
AN6657/S	5		Forward/reverse electronic governor	SO-16D	B39, B67

## ■ For Communications Equipment

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
MN1295	15	MOS	Speech network switching, 4 × 4 cross point switch	16-DIP(b)	L8
MN6105/S	15		Speech network switching, 4 × 8 cross point switch	22-DIP	L13
MN6126FA	5		Tone squelch for communication control	42-QFP	L45
MN6126A	5		Tone squelch for communication control	40-DIP(a)	L16
MN6127A	5		1 chip all dual communication modem	28-DIP(a)	L15
MN61113	2.6 ~ 3.5	CMOS EEPROM	3V single power supply, EEPROM for serial input/output 2k bit ID code	SO-8D/8-DIP	L29, L1
MN6310	2.6 ~ 3.5		Serial input/output 512 bit EEPROM for ID code, programming time $V_{CC} = 5V$ , $V_{PP} = 21V$	SO-8D/8-DIP	L29, L1
MN6152S/U	1.8 ~ 2.5	CMOS	Variable dividing PLL (200MHz: $V_{DD} = 2V$ )	SO-16D/USO-16D	L32/L33
MN6153U	1.0 ~ 1.4		Variable dividing PLL	USO-16D	L33
AN93C02NSB	1.0 ~ 1.8		IF amplifier circuit for a pager	USO-16D	L33

## ■ For Timer

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
MN6076	- 12	MOS	Two operation digital AC clock timer (Fluorescent lamp drive)	40-DIP(a)	L16
MN6139	4.5 ~ 5.5	CMOS	Timer for dish dryer	14-DIP(a)	L4
AN6780/S	4.5 ~ 12	Bipolar	Long hour CR timer	7-SIP/SO-14D	B11, B66
AN6781	4.5 ~ 12		Residual amount indication CR timer	16-DIP(a)	B38
AN6783S	5		ICs for long hour CR oscillation timer	SO-8D	B64

(Package Symbol) SIP = Single-In-Line Plastic Package, DIP = Dual-In-Line Plastic Package, SDIP = Shrunken Dual-In-Line Plastic Package,

QFP = Quad Flat Package, QFH = Quad Flat L-Leaded High Package, SO = Small Outline Package (PANA FLAT PACKAGE), USO = Ultra Small Outline Package, VSO = Very Short Pitch Small Outline Package

# ICs/LSIs for Industrial and Home Use

## ■ Others

Type No.	Operating Voltage (V)	Process	Functions	Package	
					No.
▲AN8610SB/SR	4 ~ 5.5	Bipolar	SCSI active terminator	USONF-28D HSOP-24D	—
MN871102	5	CMOS	Floppy disk controller for FDC (765 type)	100-QFP(b)	L62
MN66402	5.0 ± 0.25		Data processing for CD-ROM (ECC)	100-QFP(a)	L61
MN83852A	± 5		Full color TFT LCD source driver	TCP	—
DN8640S	4 ~ 6	Bi-CMOS	3 × 8 bit shift register latch driver	USONF-36D	B85
DN8643S	4 ~ 6		24 bit shift register latch driver	USONF-36D	B85
DN8646FBP	4 ~ 6		4 × 8 bit shift register latch driver	44-QFH	B91
DN8648FBP	4 ~ 6		32 bit shift register latch driver	44-QFH	B91
DN8649FBP	4 ~ 6		2 × 16 bit shift register latch driver	44-QFH	B91
DN8657S	4.5 ~ 5.5		LED driver, display driver (16 bit)	SONF-28D	B81
DN8659S	4.5 ~ 5.5		LED panel display driver (8 bit)	SONF-20D	B72
△DN8665S	4.5 ~ 5.5		LED driver, high precision (8 bit)	SONF-20D	B72

△ Preliminary ▲ Under development

(Package Symbol) QFH = Quad Flat L-Leaded High Package, SO = Small Outline Package (PANA FLAT PACKAGE),  
USONF = Ultra-Small Outline Non-Fin.