

LCD Controller/Driver LSI

J4

Type	Function	Feature	Max. LC Drive Voltage	LC Drive Output	Package
T6961A	Column/row driver	Data transfer: 1 bit serial. Dual direction.	18V	64 Output	QFP92
T6A39	Column driver	Data transfer: 1 bit serial. 2 bit/4 bit parallel. Dual direction.	28V	80 Output	QFP100
T6A40	Row driver	Data transfer: 1 bit serial. Dual direction.	28V	68 Output	QFP92
T6B61	Column driver	Data transfer: 4 bit parallel. Dual direction. 3V operation.	38V	80 Output	TCP
T6B18	Row driver	Data transfer: 1 bit serial. Dual direction. Separation each 50 outputs. 3V operation.	38V	100 Output	TCP
T6A23	Column driver	Data transfer: 1 bit serial. 2/4/8 bit parallel. Dual direction.	38V	160 Output	TCP
T6A24	Row driver	Data transfer: 1 bit serial. Separation each 50 outputs. Dual direction.	38V	100 Output	TCP
T6A62	Column driver	Data transfer: 1 bit serial. Dual direction.	5.5V	40 Output	QFP60
T6A41	Column driver	Data transfer: 1 bit serial. Dual direction.	5.5V	64 Output	QFP92
T6A92	Column driver	Data transfer: 1 bit serial. Dual direction.	5.5V	80 Output	QFP100
T7932	Column driver	Data transfer: 4/8 bit parallel from MPU. Built-in 1600 bit RAM.	11V	50 Output	QFP80
T7933	Row driver	1/8, 1/12, 1/16, 1/24, 1/32 Duty selection. Built-in power supply dividing resistors.	11V	32 Output	QFP60
T9841B	Column driver	Data transfer: 4/8-bit parallel from MPU. Built-in 5120 bit RAM.	11V	80 Output	QFP100
T9842B	Row driver	1/16, 1/32, 1/48, 1/64 Duty selection. Built-in LC drive power supply.	11V	64 Output	QFP100
T6A04	Column/row driver	1/64 Duty. Built-in 7680bit RAM. Built-in LC drive power supply.	16V	120/64 Output	TCP

J4

Type	Function	Feature	Supply Voltage/Current	Operating Clock	Package
T6963C	LCD controller	Character/graphics up to 1/128 duty	+5V, 3.3mA (TYP)	5.5MHz	QFP67
T7779	LCD controller	CRTC/LCDC compatible with HD6845S	+5V, 4.0mA (TYP)	18MHz	QFP100
T7934	LCD controller	Built-in 40 column/16 row driver	+5V, 0.3mA (TYP)	0.35MHz	QFP80
T6B20	LCD controller	Built-in 50 column/16 row driver 8 x 8 Key control, 2 x 8 LED control circuit	+5V, 0.5mA (TYP) 11V/max	0.5MHz	QFP100

• LL-Micon-Series LCD Driver (CMOS)

J2

Type	Application	No. of Segment	Display RAM	Duty of Common	Supply Voltage (V)	Package
T6A21	Column Driver for T20 ~ T31 (except T22, T29)	66	16 x 66	1/8, 1/10, 1/16	2.5 ~ 5.5	100-QFP
T6A46	Column Driver for T31	80	40 x 80	1/8 ~ 1/40	2.5 ~ 5.5	100-QFP

Speech Synthesis/Recording/Recognition LSI

J5

Classification	Type No.	Function/Features	Package
Synthesis	TC8801N/F-xxxx	ADM system. Built-in 256-Kbit ROM. Max. synthesizing time: 16 sec (under 16 kbps)	SDIP28/SOP28
	TC8804N/F-xxxx	ADM system. Built-in 128-Kbit ROM. Max. synthesizing time: 8 sec (under 16 kbps)	SDIP28/SOP28
	TC8802AF/BF-xxxx(BS)	PARCOR system. Built-in 64-Kbit ROM. Max. synthesizing time: about 30 sec. Built-in low pass filter	QFP44(1.9mm) /(2.7mm)
	TC8805F(BR, DRY)	Built-in CPU type. PARCOR system. TC8802A + TMP47C432. Speech ROM expandable	QP80
	TC8807N/F-xxxx	Built-in CPU type. PARCOR system. PARCOR + TMP47C70 Speech ROM expandable.	SDIP42/MFP44(2.7mm)
	TC88101F-xxxx	PARCOR system. Built-in 128k-bit ROM. ADM recording function.	QFP60(2.7mm)
Recording /Reproduction	T6668(BS)	DRAM connection type. Four 64k or 256k DRAM's. Built-in microphone amp. and band pass filter	QFP60
	TC8830AF(BS)	SRAM connection type. Four 64k or 256k SRAM's. Built-in microphone amp. and band pass filter	QFP67
	TC8831F(BS)	DRAM connection type. Four 256k ~ 4M DRAM's. Built-in microphone amp. and band pass filter	QFP60
	TC8832F(BS)	DRAM connection type. Four 256k ~ 4M DRAM's. Power down function	QFP60
	TC8833F(BR, DRY)	Pseudo-SRAM connection type. Four 256K or 1M P-SRAM. Built-in analog circuits.	QFP80
	TC8835N/F	DRAM connection type. Two 256k or 1M DRAM's. External analog circuit.	SDIP28/SOP28
	TC88401F	APC-MLQ system. Long time recording. DRAM, Pseudo-SRAM can be connected.	QFP100
Recognition	TC8860F-0000(BS)	Speaker dependent. Max. 10 words Built-in word register RAM (4k bits)	QFP44
	TC8861F(BS)	Speaker dependent (consisted of 4 chips including CPU and SRAM) Max. 78 words	QFP60
	+ TC8862F-0001(BR)		QFP100
	TC8861F(BS)	Speaker dependent (consisted of 3 chips including SRAM). Max. 50 words.	QFP60
	+ TC8864F-00(BR)		QFP100
	TC8861F(BS)	Speaker dependent (consisted of 3 chips including SRAM). Max. 20 words. For noisy environment	QFP60
	+ TC8865F-01(BR)		QFP100

*-xxxx" attached to Type No. is determined with a ROM code during development.

ADPCM CODEC

J6

Classification	Type No.	Function/Features	Supply Current (mA)	Package
CODEC	TC8070P/F	32kbps ADPCM CODEC	5(TYP)	SDIP28/SOP28
	TC8071P/F			
	TC8072AP/AF			
	TC8073AF		6(TYP)	VVFP64