



瑞佑科技股份有限公司

RAIO Technology Inc.

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# 產品明細表

## Product list

### 1) MSTN LCD Controller

Function	RA8803	RA8822	RA8806	RA8863/6963	RA8835/8835A
Panel Resolution	320x240	240x160	128x64~320x240 (Dual Pages) 320x480 / 640x240 (Single Page)	External display RAM 64KB max	External display RAM 640x256 max
Operation Voltage	3.0~5.0	3.0~5.0	2.4~5.5	3.0~5.5	2.7~5.5
MPU Interface	4/8-bit 6800,8080 series	4/8-bit 6800,8080 series	4/8-bit 6800, 8080 series	8-bit ,8080 series	8-bit 6800,8080 series
Graphic/ Text	Graphic/ Text	Graphic/ Text	Graphic/ Text	Graphic/ Text	Graphic/ Text
Embedded Font ROM	512KB (Chinese, Japanese, English, European)	512KB (Chinese, Japanese, English, European)	512KB (Chinese, Japanese, English, European)	CGROM (128 word)	CGROM (160 word)
Embedded Display RAM	9.6x2 KB	4.8x2 KB	9.6x2 KB	--	--
CGRAM	512B	512B	512B + 9.6KB(Option)	--	--
Character Font	8x16, 16x16 32x32, 48x48	8x16, 16x16 32x32, 48x48	8x16, 16x16 x1~x4 font enlargement	Horizontal: 5, 6, 7, 8 Vertical: 8 (fixed)	5x7
ADC (Touch Panel Controller)	10-bit (Manual Mode)	10-bit (Manual Mode)	10-bit (Auto/Manual)	--	--
DAC (Contrast Control)	5-bit	5-bit	8-bit PWM	--	--
Graphic/Font Rotation	--	--	▲	--	--
Gray Scale	4 Level	4 Level	4 Level (FRC Mode)	--	--
Font ROM Readable	▲	▲	--	--	--
8x8 Key Scan	▲	▲	▲ (Smart Mode)	--	--
Horizontal Scroll	▲	▲	▲	▲	▲
Vertical Scroll	▲	▲	▲	▲	▲
Read/Write Display Data	▲	▲	▲	▲	▲
S/W & H/W Reset	▲	▲	▲	▲	▲
Operation Temperature	-20~80°C	-20~80°C	-30~90°C	-20~80°C	-20~75°C
Clock Source	PLL	PLL	X'tal OSC	X'tal OSC	X'tal OSC
CLK (MHz)	4~12	4~12	4~12	0.4~5.5	10
Package	Die, QFP, LQFP100	Die, QFP, LQFP100	Die, LQFP100, TQFP80	LQFP67	QFP60
Compatible	--	--	--	T6963C	S1D13305



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## 2) MSTN LCD Controller with Driver

Function	RA8815	RA8816	RA8825
Panel Resolution	128x33	144x65	128x33
Operation Voltage	2.5~3.6	2.5~3.6	2.5~3.6
MPU Interface	4/8-bit 6800, 8080 series 3-wire/4-wire SPI	4/8-bit 6800, 8080 series IIC/3-wire/4-wire SPI	4/8-bit 6800, 8080 series 3-wire/4-wire SPI
Graphic/ Text	Graphic/ Text	Graphic/ Text	Graphic
Embedded Font ROM	256KB (Chinese, Japanese, English, European)	256KB (Chinese, Japanese, English, European)	--
Font Size	8x8, 8x16, 16x16	8x8, 8x16, 16x16	--
Booster	2X	2X/3X/4X	2X
Duty	1/33	1/65, 1/55, 1/49, 1/33	1/33
Bias	1/4~1/7	1/5~1/9	1/4~1/7
RAM Capacity	528B+354B	11392bits	528B+354B
CGRAM	256B	256B	--
I/O	8	8	8
Key Scan	4x5	4x5	4x5
Embedded EL Charge/ Discharge Signal	▲	▲	▲
Contrast Control	32-Steps	64-Steps	32-Steps
Driving Current	8-Steps	8-Steps	8-Steps
Vertical Scrolling / Shift	▲	▲	▲
Horizontal Scrolling / Shift	▲	▲	▲
Read/Write Display Data	▲	▲	▲
Display ON/OFF	▲	▲	▲
All Display/ Partial Blink	▲	▲	▲
Bold Character	▲	▲	▲
Normal/Reverse Display	▲	▲	▲
Common Output Direction Select	▲	▲	▲
Select Segment Direction	▲	▲	▲
SW/HW Reset	▲	▲	▲
Memory Clear/Cursor Reset	▲	▲	▲
Key/ IO Wakeup	▲	▲	▲
Driver Power Controller Set	▲	▲	▲
Power Save	Sleep	Sleep	Sleep
Clock Source	RC Oscillator with ext. R	RC Oscillator with int. R	RC Oscillator with int. R
Package	Gold Bump Die	Gold Bump Die	Gold Bump Die