

S3F84K4/F84P4 vs S3F9454/F9444

This document describes the difference between S3F84K4/F84P4 and S3F9454/F9444. Though the two devices are pin-to-pin, there is still some difference. Some modules are updated and some are removed. Thus the S3F9454/F9444 program can not be used in S3F84K4/F84P4 directly. Please refer to the following tables for details.

Table. S3F84K4 vs S3F9454

Module Name	S3F84K4	S3F9454	Registers Needed to be Re-configured	NOTES
CPU	SAM8 RC	SAM8 RCRI	SPL, IMR, IPR Interrupt Vector Address	Interrupt structure is different
Timer 0	16bit (8+8) Timer	8bit Timer	TACON, TBCON TADATA, TBDATA	
PWM	12bit (6+6)	8bit	PWMCON PWMDATA, PWMEY	
Port 1	P1.1, P1.2	P1.0, P1.1, P1.2	None	In S3F84K4, P1.0 is removed
LVR Level	3 levels (2.2v, 3.0v, 3.9v)	3 levels (2.3v, 3.0v, 3.9v)	SMT 3E.6 ~ 3E.2	Only smart option configuration is different
Internal RC Osc	Internal 8M, 1M	Internal 3.2M, 0.5M	SMT 3F.1, 3F.0	Same resolution
Others	NO DIFFERENCE		None	

NOTE: When you use the GANG Writer, you must add a capacitor (100pF typically) between VPP and GND.

Table. S3F84P4 vs S3F9444

Module Name	S3F84P4	S3F9444	Registers Needed to be Re-configured	NOTES
CPU	SAM8 RC	SAM8 RCRI	SPL, IMR, IPR Interrupt Vector Address	Interrupt structure is different
Timer 0	16bit (8+8) Timer	8bit Timer	TACON, TBCON TADATA, TBDATA	
PWM	12bit (6+6)	N/A	PWMCON PWMDATA, PWMEX P0CONL, P1CON	In S3F84P4, PWM has 2 output ports. You can select either of them, or select both.
ADC	4 channels	3 channels	ADCON, P1CON	In S3F84P4, P1.1 can also be an ADC input.
LVR Level	3 levels (2.2v, 3.0v, 3.9v)	3 levels (2.3v, 3.0v, 3.9v)	SMT 3E.6 ~ 3E.2	Smart option configuration is different
Internal RC Osc	Internal 8M, 1M	Internal 3.2M, 0.5M	SMT 3F.1, 3F.0	Same resolution
Others	NO DIFFERENCE		None	

NOTE: When you use the GANG Writer, you must add a capacitor (100pF typically) between VPP and GND