

Cortex-M3/M4F Instruction Set

TECHNICAL USER'S MANUAL

Copyright

Copyright © 2010-2011 Texas Instruments Inc. All rights reserved. Stellaris and StellarisWare are registered trademarks of Texas Instruments. ARM and Thumb are registered trademarks and Cortex is a trademark of ARM Limited. Other names and brands may be claimed as the property of others.

Texas Instruments Incorporated 108 Wild Basin, Suite 350 Austin, TX 78746 http://www.ti.com/stellaris







http://www-k.ext.ti.com/sc/technical-support/product-information-centers.htm

Table of Contents

1	Introduction	19
1.1	Instruction Set Summary	19
1.2	About the Instruction Descriptions	26
1.2.1	Operands	27
1.2.2	Restrictions When Using the PC or SP	27
1.2.3	Flexible Second Operand	27
1.2.4	Shift Operations	28
1.2.5	Address Alignment	31
1.2.6	PC-Relative Expressions	32
1.2.7	Conditional Execution	32
1.2.8	Instruction Width Selection	34
2	Memory Access Instructions	
2.1	ADR	
2.1.1	Syntax	36
2.1.2	Operation	36
2.1.3	Restrictions	36
2.1.4	Condition Flags	36
2.1.5	Examples	36
2.2	LDR and STR (Immediate Offset)	37
2.2.1	Syntax	37
2.2.2	Operation	38
2.2.3	Restrictions	39
2.2.4	Condition Flags	39
2.2.5	Examples	39
2.3	LDR and STR (Register Offset)	40
2.3.1	Syntax	40
2.3.2	Operation	41
2.3.3	Restrictions	41
2.3.4	Condition Flags	41
2.3.5	Examples	41
2.4	LDR and STR (Unprivileged Access)	42
2.4.1	Syntax	42
2.4.2	Operation	43
2.4.3	Restrictions	43
2.4.4	Condition Flags	43
2.4.5	Examples	43
2.5	LDR (PC-Relative)	44
2.5.1	Syntax	44
2.5.2	Operation	44
2.5.3	Restrictions	45
2.5.4	Condition Flags	45
2.5.5	Examples	45
2.6	LDM and STM	46
2.6.1	Syntax	46
2.6.2	Operation	47