

TEA - Tiny Encryption Algorithm

August 8, 2025

Contents

1	algorithm	1
2	design	2
2.1	registers	2

1 algorithm

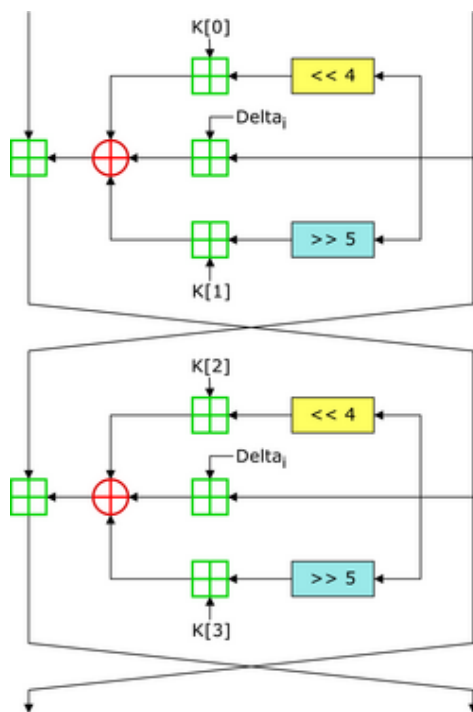


Figure 1: TEA one-round (image from wikipedia)

2 design

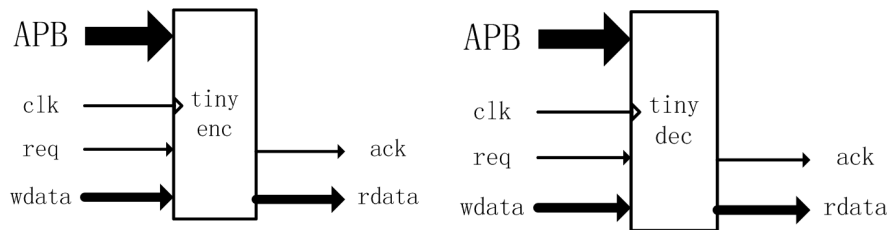


Figure 2: Design

2.1 registers

reg	offset	description
key10	0x0	key[31: 0]
key32	0x4	key[63:32]
delta	0x8	delta
round	0xc	round

Table 1: registers

signal	offset	type	description
key0	[15: 0]	RW	key[15: 0]
key1	[31:16]	RW	key[31:16]

Table 2: reg: key10

signal	offset	type	description
key2	[15: 0]	RW	key[47:32]
key3	[31:16]	RW	key[63:48]

Table 3: reg: key32

signal	offset	type	description
delta	[16: 0]	RW	delta

Table 4: reg: delta

signal	offset	type	description
round	[2:0]	RW	cycle = 2^{round}
enable	[3]	RW	enable

Table 5: reg: round