



十速

# TM57FA40/40A

关于 IVC 的设置说明

## Application Note

*Rev V1.0*

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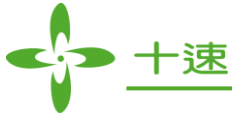
### 修改记录

版本	日期	描述
V1.0	Sept, 2013	新颁



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## PRODUCT NAME

TM57FA40&TM57FA40A IC

## 关于 IVC 的设置说明

TM57FA40、TM57FA40A 芯片内置 IVC 线路，用以给 IC 的 ROM 提供适宜的电压。IVC 线路可以通过 IC 的 CONFIG 字控制其在 Sleep 模式下打开(CONFIG[Bit12]=IVC/LVR ON in Sleep mode)或关闭(CONFIG[Bit12]=IVC/LVR OFF in Sleep mode)。在 Sleep 模式下,打开 IVC 线路会增加额外的耗电，因此在有低功耗要求时，建议 Sleep 模式下关闭 IVC 线路。

与 IVC 有关的控制寄存器为 IVC\_REG(在 R-Plane 中，地址为 11H),IVC\_REG 寄存器设定的电压范围要与 IC 的 Vcc 电压相适应，否则可能会造成 Sleep 模式下 IC 工作异常。所以用户在使用 IC 开发时，程序中应该针对产品应用的不同工作电压，通过 IVC\_REG 寄存器设置不同的 IVC 电压区域。

例如：

产品 Vcc 电压大于 4.5V( $V_{cc} > 4.5V$ )时，IVC\_REG 寄存器对应位需设置为：

**00:  $V_{CC} > 4.5V$** ；Vcc 电压大于 3.6V 而小于 4.5V( $4.5V > V_{cc} > 3.6V$ )时，IVC\_REG 寄存器对应位需设置为：**01:  $4.5V > V_{CC} > 3.6V$** ；Vcc 电压小于 3.6V( $V_{cc} < 3.6V$ )时，IVC\_REG 寄存器对应位需设置为：**10:  $3.6V > V_{CC}$** 。



IC CONFIG 字和 IVC\_REG 寄存器说明如下：

CONFIG 字：

Bit	13~0	
Default Value	00 0000 000x xxxx	
Bit	Description	
13	<b>PROTECT</b> : Code Protection Selection	
	1	Code protection
	0	No protect
12	<b>ICVPD</b> : IVC*/LVR Power Down in Sleep mode	
	1	IVC/LVR OFF in Sleep mode
	0	IVC/LVR ON in Sleep mode
11-10	<b>LVR</b> : LV reset mode	
	11	LVR threshold is 2.1V, always enable
	10	Invalid
	01	LVR threshold is 2.9V, always enable
	00	LVR disable
9-8	<b>CLKS</b> : Clock Source Selection	
	11	Fast Xtal (455KHz~12MHz)
	10	Slow Xtal (32KHz)
	01	Internal RC (4MHz)
	00	External RC
7	<b>XRESETE</b> : External pin Reset Enable	
	1	Enable External pin Reset
	0	Disable External pin Reset
6	<b>WDTE</b> : WDT Reset Enable	
	1	Enable WDT Reset, Disable WKT Timer
	0	Disable WDT Reset, Enable WKT Timer
4-0	<b>IRCF</b> : Internal RC Frequency adjustment control	

IVC\_REG 寄存器：

IVC_REG	11,4~3	W	0	Built-in regulator control in sleep mode 00: VCC > 4.5 V 01: 4.5 V > VCC > 3.6 V 10: 3.6 V > VCC
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