M65582AMF-XXXFP

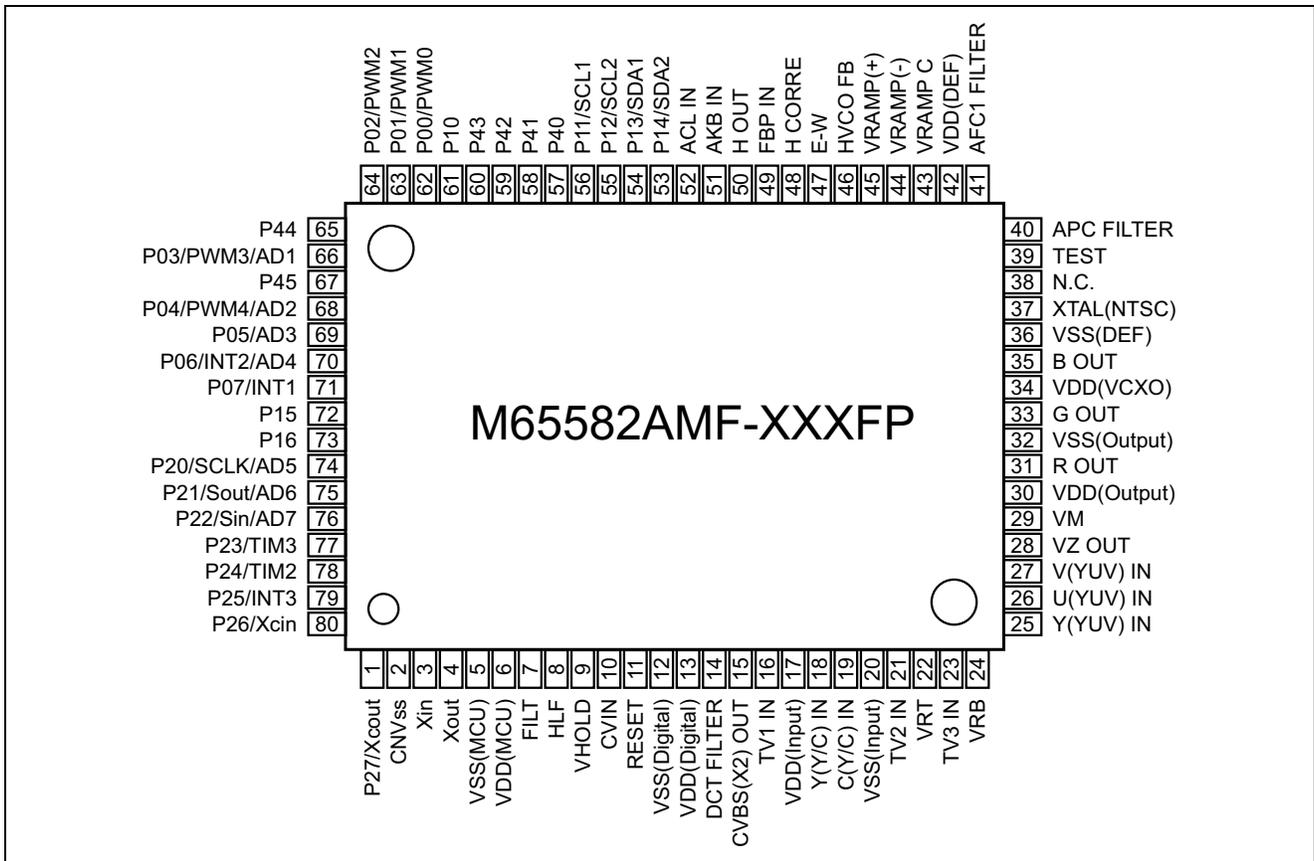## NTSC TV Signal Processor with MCU

Features

- 1package solution with TV baseband signals (Video and Chroma) processor, deflection and 8bit MCU
- High quality picture by 2 Dimension Adaptive Y/C Separation of 3 Line type
- Built-in VM (Velocity Modulation) circuit emphasizing the picture outline by the changing of the Scanning Speed
- Built-in the correction circuits of the picture distortion which is EAST-WEST function etc. for Flat TV
- Available to use the software for best saled MCU M37272
- Available to input External Video signal, S Video signal and Component Video signal
- High performance OSD function with CCD and Half Tone Display
- Analog Video Switch with 5 Video Inputs Composite Video : 3ch, S Video : 1ch, Component Video : 1ch
- Built-in a high performance Blackstrech
- Built-in YNR
- Built-in 8bit MCU core M37272
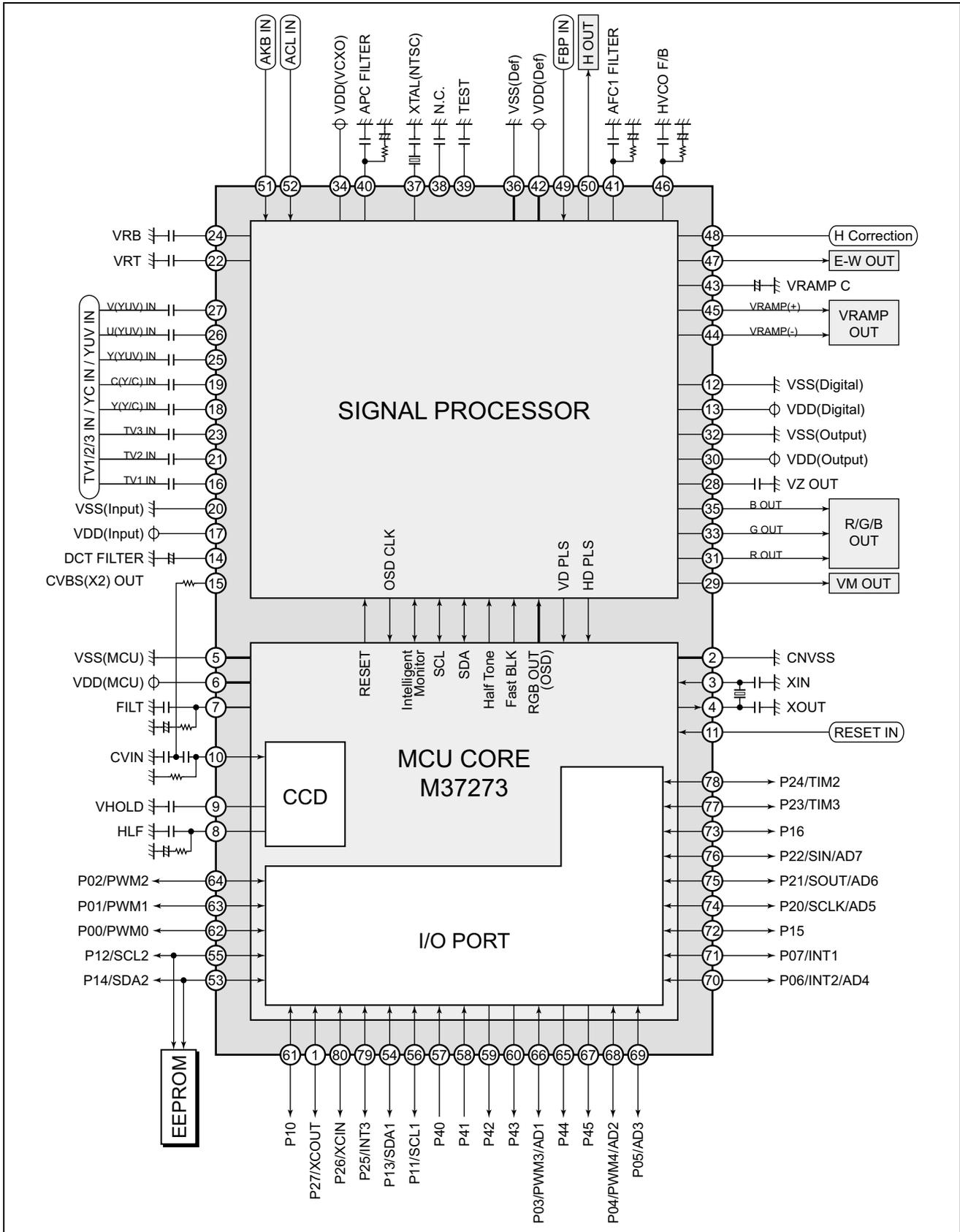 ROM : 60Kbyte, RAM : 2048byte

Applications
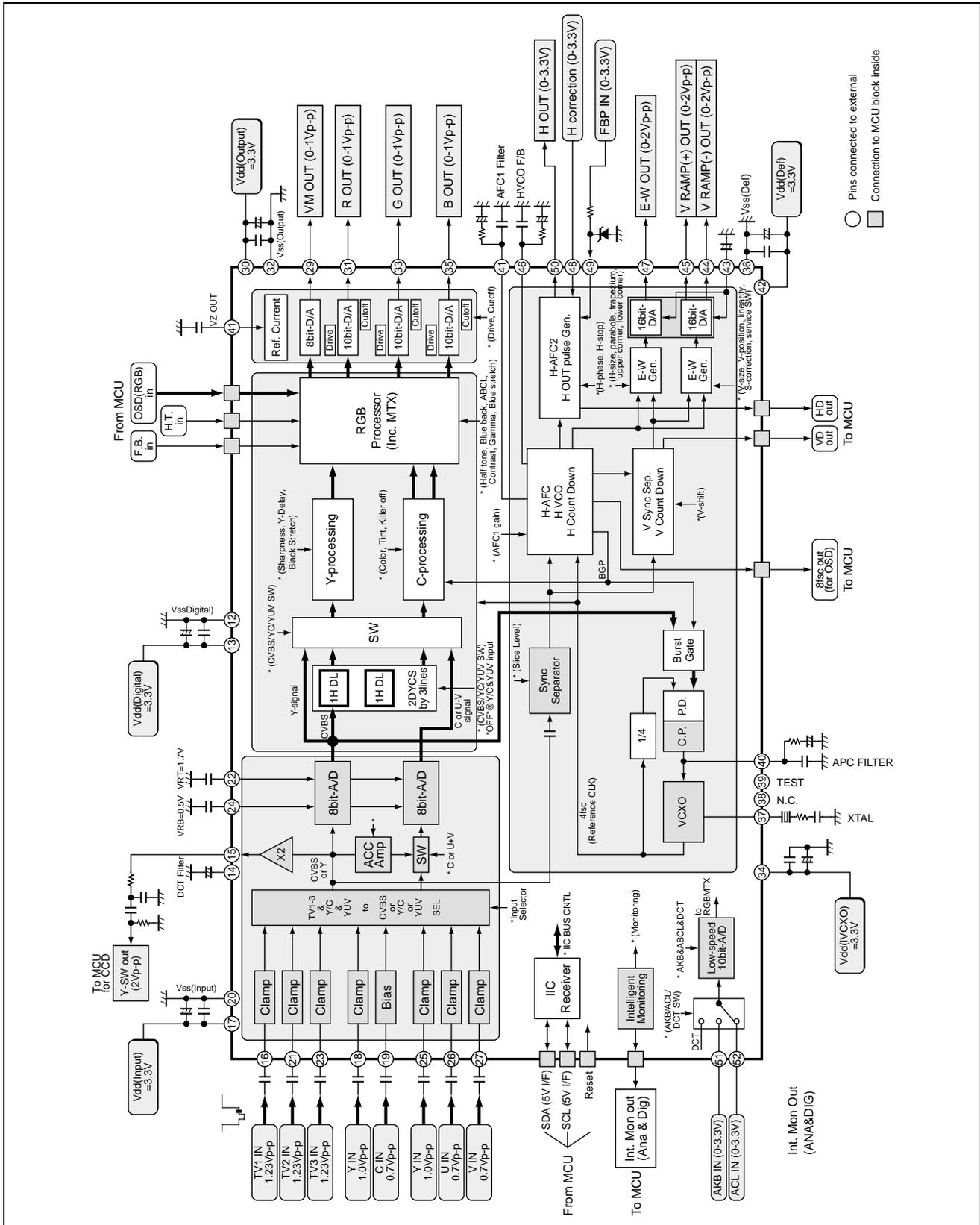
NTSC color television receivers

Pin Configuration

Top-side pins (left to right, 64–41):
- 64 P02/PWM2
- 63 P01/PWM1
- 62 P00/PWM0
- 61 P10
- 60 P43
- 59 P42
- 58 P41
- 57 P40
- 56 P11/SCL1
- 55 P12/SCL2
- 54 P13/SDA1
- 53 P14/SDA2
- 52 ACL IN
- 51 AKB IN
- 50 H OUT
- 49 FBP IN
- 48 H CORRE
- 47 E-W
- 46 HVCO FB
- 45 VRAMP(+)
- 44 VRAMP(-)
- 43 VRAMP C
- 42 VDD(DEF)
- 41 AFC1 FILTER

Left-side pins (65–80):
- 65 P44
- 66 P03/PWM3/AD1
- 67 P45
- 68 P04/PWM4/AD2
- 69 P05/AD3
- 70 P06/INT2/AD4
- 71 P07/INT1
- 72 P15
- 73 P16
- 74 P20/SCLK/AD5
- 75 P21/Sout/AD6
- 76 P22/Sin/AD7
- 77 P23/TIM3
- 78 P24/TIM2
- 79 P25/INT3
- 80 P26/Xcin

Center label: **M65582AMF-XXXFP**

Right-side pins (40–25):
- 40 APC FILTER
- 39 TEST
- 38 N.C.
- 37 XTAL(NTSC)
- 36 VSS(DEF)
- 35 B OUT
- 34 VDD(VCXO)
- 33 G OUT
- 32 VSS(Output)
- 31 R OUT
- 30 VDD(Output)
- 29 VM
- 28 VZ OUT
- 27 V(YUV) IN
- 26 U(YUV) IN
- 25 Y(YUV) IN

Bottom-side pins (left to right, 1–24):
- 1 P27/Xcout
- 2 CNVss
- 3 Xin
- 4 Xout
- 5 VSS(MCU)
- 6 VDD(MCU)
- 7 FILT
- 8 HLF
- 9 VHOLD
- 10 CVIN
- 11 RESET
- 12 VSS(Digital)
- 13 VDD(Digital)
- 14 DCT FILTER
- 15 CVBS(X2) OUT
- 16 TV1 IN
- 17 VDD(Input)
- 18 Y(Y/C) IN
- 19 C(Y/C) IN
- 20 VSS(Input)
- 21 TV2 IN
- 22 VRT
- 23 TV3 IN
- 24 VRB

Block Diagram (Whole)

Block Diagram (ASIC)

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Absolute maximum ratings

Parameter	Symbol	Ratings	Unit	Conditions
Supply voltage (MCU : 5V)	VDD (MCU)	–0.3 to 6.0	V	All voltage are based on Vss.Output transistors are cut off.
Supply voltage (ASIC : 3.3V)	VDD (ASIC)	–0.3 to 4.0	V	
Input Voltage (MCU)	VI (MCU)	–0.3 to Vcc+0.3	V	
Output Voltage (MCU)	VO (MCU)	–0.3 to Vcc+0.3	V	
Circuit current (MCU)	IOH (MCU)	0 to 1 (See note 1)	mA	
Circuit current (P00-P07, P10, P15, P16, P20-P27, P40-P45)	IOL1 (MCU)	0 to 2 (See note 2)	mA	
Circuit current (P11-P14)	IOL2 (MCU)	0 to 6 (See note 2)	mA	
Circuit current (P24-P27)	IOL3 (MCU)	10 (See note 3)	mA	
Digital input voltage	VID (ASIC)	–0.3 to Vcc+0.3	V	
Analog output current	IOUT (ASIC)	–30	mA	
Power dissipation	Pd	2000	mW	
Thermal derating	Kt	20.0	mW/°C	
Operating temperature	Topr	–20 to 70	°C	
Storage temperature	Tstg	–40 to 125	°C	

Recommended Conditions

(Ta=25 to 70°C, Unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage (MCU) (See note 4)	VDD (MCU)	4.75	5.0	5.25	V
Supply voltage (Digital)	VDD (Digital)	3.13	3.3	3.47	V
Supply voltage (Input)	VDD (Input)	3.13	3.3	3.47	V
Supply voltage (Output)	VDD (Output)	3.13	3.3	3.47	V
Supply voltage (VCXO)	VDD (VCXO)	3.13	3.3	3.47	V
Supply voltage (DEF)	VDD (DEF)	3.13	3.3	3.47	V
Supply voltage (MCU)	VSS (MCU)	0	0	0	V
High Iutput voltage P00-P07, P10-P16, P20-P27, P40-P45, RESET, X IN	VIH1 (MCU)	0.8 VDD		VDD	V
High Iutput voltage SCL1, SCL2, SDA1, SDA2 (When using I2C -Bus)	VIH2 (MCU)	0.7 VDD		VDD	V
High Iutput voltage FBP IN	VIH3 (ASIC)	0.8 VDD		VDD	V
Low Iutput voltage P00-P07, P10-P16, P20-P27 P40-P45	VIL1 (MCU)	0		0.4 VDD	V
Low Iutput voltage SCL1, SCL2, SDA1, SDA2 (When using I2C-Bus)	VIL2 (MCU)	0		0.3 VDD	V
Low Iutput voltage (See note 6) RESETB, X IN, TIM2, TIM3, INT1, INT2, INT3, S IN, S CLK	VIL3 (MCU)	0		0.2 VDD	V
Low Iutput voltage FBP IN	VIL4 (ASIC)	0		0.2 VDD	V
High average output current (See note 1) P10-P16, P20-P27, P40-P45	IOH (MCU)			1	mA