



R2C Series

H.264 Codec SoC with Dual Video Input Channel

Models		R288C	R292C
Host Controller		ARM926EJ™ up to 600MHz	
Video Compression	H.264 Profile	H.264/MPEG-4 AVC (ISO/IEC 14496-10) baseline, main, and high Profile@Level 4.1	
	H.264 Encoding Performance	1080p@30fps+D1@30fps	
	H.264 ROI Encoding	Up to 8 independent ROI windows. Support different quality and frame rate in each ROI region.	
	H.264 SVC-T Encoding	Up to 4 layers	
	MJPEG Performance	1080p@30fps	
Video Decompression	H.264 Decoding Features	Compliant with R2xxC H.264 encoder	
	H.264 Decoding Performance	1080p@30fps+D1@30fps	1080p@30fps+720p@30fps
Video Input Interface	Bayer	Up to two 12-bit channels	
	MIPI Rx	Up to one 2-lane channel	
	BT.1120	Up to one channel	
	BT.656	Up to two channels (including one MUX-4 channel)	
	BT.601	Up to two channels	
Video Output Interface	Max Sensor Resolution	28MP	
	8-bit BT.656	Support	
	16-bit BT.1120	Support	
	RGB 888	Support	
	sRGB (i80-50MP)	Support	
	HDMI Tx	Support	
	CVBS	Support	
Image Pipeline		Up to two channels	
Image Signal Processing	Fisheye correction		
	Geometric lens distortion correction		
	Lens shading correction		
	Chromatic aberration correction		
	Fixed pattern noise removal		
	Saturation, brightness and contrast adjustment		
	Statistic data output for customized 3A process		
	Static and dynamic defect pixel correction		
	Separated black clamp for R/G _B /G _B /B		
	Crop, mirror, flip, rotation		
	Color correction (3x3 RGB to RGB matrix with offset)		
	Gamma correction (12-bit to 8-bit correction table)		
	Separated digital gain control for R/G/B		
	Digital WDR (local tone mapping)		
	2D/3D noise reduction		
	Edge enhancement		
	Motion detection		
	De-interlace		
	Privacy mask (support arbitray mask shape)		
Resize (support arbitrary scaling ratio from 1/4x to 4x, up to four size-down channels simultaneously)			
Video Analytic		Intelligent classifier	
Audio Interface	Built-in audio codec with LSPK (mono differential output up to 500mW)		
	Full duplex		
	Single channel		
	I ² S I/F x1		
SDRAM I/F	16-bit DDR3 SDRAM (support up to 400MHz, 4Gb) x1	16-bit DDR3 SDRAM (support up to 533MHz, 4Gb) x1	
USB	USB 2.0 OTG x1		
MMC/SD/SDIO	x2, support up to UHS-1 SDXC; One for SDIO only		
NAND Flash	x1		
UART	x4 Tx/Rx, or x2 Tx/Rx and x1 RS485, or x1 full function		
ADC	x4, 10-bit resolution		
I2C	x3		
RTC	x1 (<18uW@3.3V mode, <3uW@1.2V mode)		
IrDA	x1		
SPI	x2		
GPIO	Up to 96 bits (16 dedicated)		
PWM	x8		
XTAL	12MHz (for system) and 32.768KHz (for RTC)		
Clock Generator		3 configurable clock sources	
Operating Voltage		Core: 1.2V I/O: 1.5V (for DDR3) and 3.3V	
Package		TFBGA361 (19x19) Ball Pitch: 0.65mm Dimension: 13mm x 13mm	
Power consumption		1.0W	1.4W
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