

Medical Ultrasound ICs: Higher-Resolution Ultrasound Images and Cost Reduction with Hitachi Integrated High-Voltage Transmitters

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Key Features

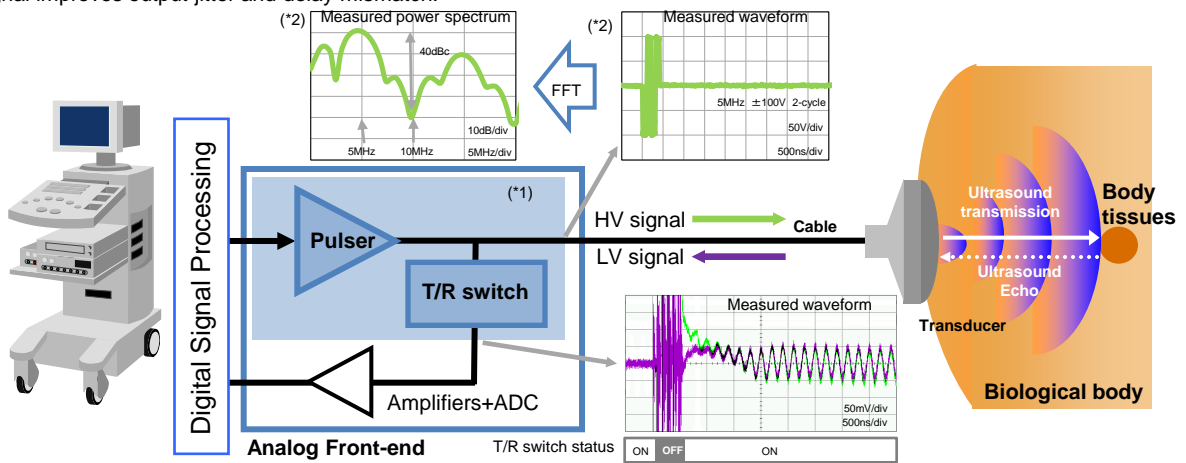
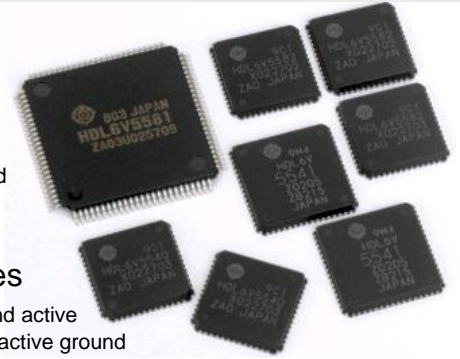
▶ High density facilitates downsize and cost reduction

Hitachi Octal/Quad pulsers feature low-voltage input logic interface, level translators, MOSFET gate drive buffers, and high-voltage high-current P-channel and N-channel MOSFETs. Besides, active transmit/receive switches, active ground clamps, floating voltage regulators, output blocking high-voltage diodes, noise-cut low-voltage diodes, active output termination, power-on reset function, and thermal protection are incorporated depending on the products.

This high density facilitates downsize and cost reduction (*1).

▶ Excellent performance for higher-resolution ultrasound images

Matched output current and output impedance of P-channel and N-channel MOSFETs, and active ground clamps result in high pulse symmetry and low 2nd-order harmonics (*2). Besides, active ground terminations working with active ground clamps suppress output noise in receiving period. Moreover, synchronizing input data with a clock signal improves output jitter and delay mismatch.



Products

▶ A wide selection of medical ultrasound pulsers as the best solution for your systems

Part Name	Channel Counts	Output Level	Output Voltage	Output Current	Clamp Current	T/R switch Impedance	Package
HDL6V5581	8	3	±100V	2.5A	-	-	100-lead TQFP(14mm x14mm)
HDL6V5582	8/4	3/5	±100V	1.8A	0.5A	-	52-lead VQFN(8mm x8mm)
HDL6V5583	8	3	±100V	1.8A	1.0A	-	52-lead VQFN(8mm x8mm)
HDL6V5583E	8	3	±100V	1.8A	1.0A	-	52-lead VQFN(8mm x8mm)
HDL6V5541	4	5	±100V	2.0A	1.0A	10Ω	64-lead VQFN(9mm x9mm)
HDL6V5541E	4	5	±100V	2.0A	1.0A	10Ω	64-lead VQFN(9mm x9mm)

Applications

▶ Medical Ultrasound Imaging

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