

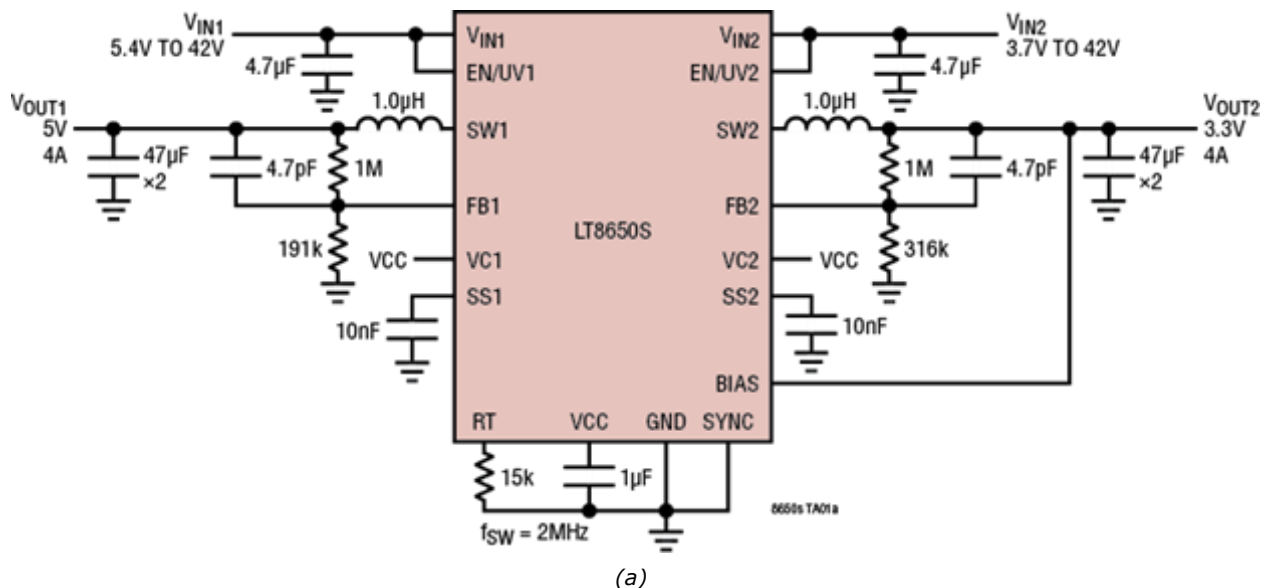
Dual-Channel Buck Converters Feature Low EMI And Stackable Outputs

[Analog Devices'](#) LT8650S, LT8652S and LT8653S are dual-channel synchronous stepdown Silent Switcher converter ICs rated for outputs of 4 A, 8.5 A and 2 A, respectively. Targeting automotive, communications and solid-state-drive power supplies, these converters employ the company's Silent Switcher 2 architecture along with spread spectrum frequency modulation to enable layout insensitive designs that achieve ultra-low EMI performance that easily meets CISPR25 emissions. Besides the variations in output current capability, the three converters operate over different input voltage ranges such as 3.7 V/5.4 V to 42 V (LT8650S), 3.0 V/3.6 V to 18 V (LT8652S) and 5.6 V to 42 V (LT8653S) (see the figure).

The LT8650S, LT8652S and LT8653S are also differentiated with their stackable-friendly outputs for higher-current applications. Outputs can be paralleled to scale up or down the output current based on the system need while optimizing thermal performance. This also helps to minimize inventory and qualification time with a single device. For example, the LT8652S provides 8.5 A from each channel simultaneously or up to 12 A on either channel. Synchronizing two LT8652S chips can achieve a four-phase, 34-A supply.

Other features of the LT8650S, LT8652S and LT8653S include integrated bypass capacitors which reduce radiated EMI, an ultralow quiescent current burst mode for light load operation, up to 12-A output (LT8652S) on one channel, and an adjustable and synchronizable switching frequency (300 kHz to 3 MHz).

The three converter ICs are available now, in LQFN packages measuring 4 mm x 6 mm (LT8650S), 4 mm x 7 mm (LT8652S) and 4 mm x 3 mm (LT8653S). In quantities of 1000, unit pricing is \$5.75 for the LT8650S, \$4.50 for the LT8652S and \$4.02 for the LT8653S. For data sheets, and to order samples and evaluation boards, see the [LT8650S](#), [LT8652S](#) and [LT8653S](#) product pages.



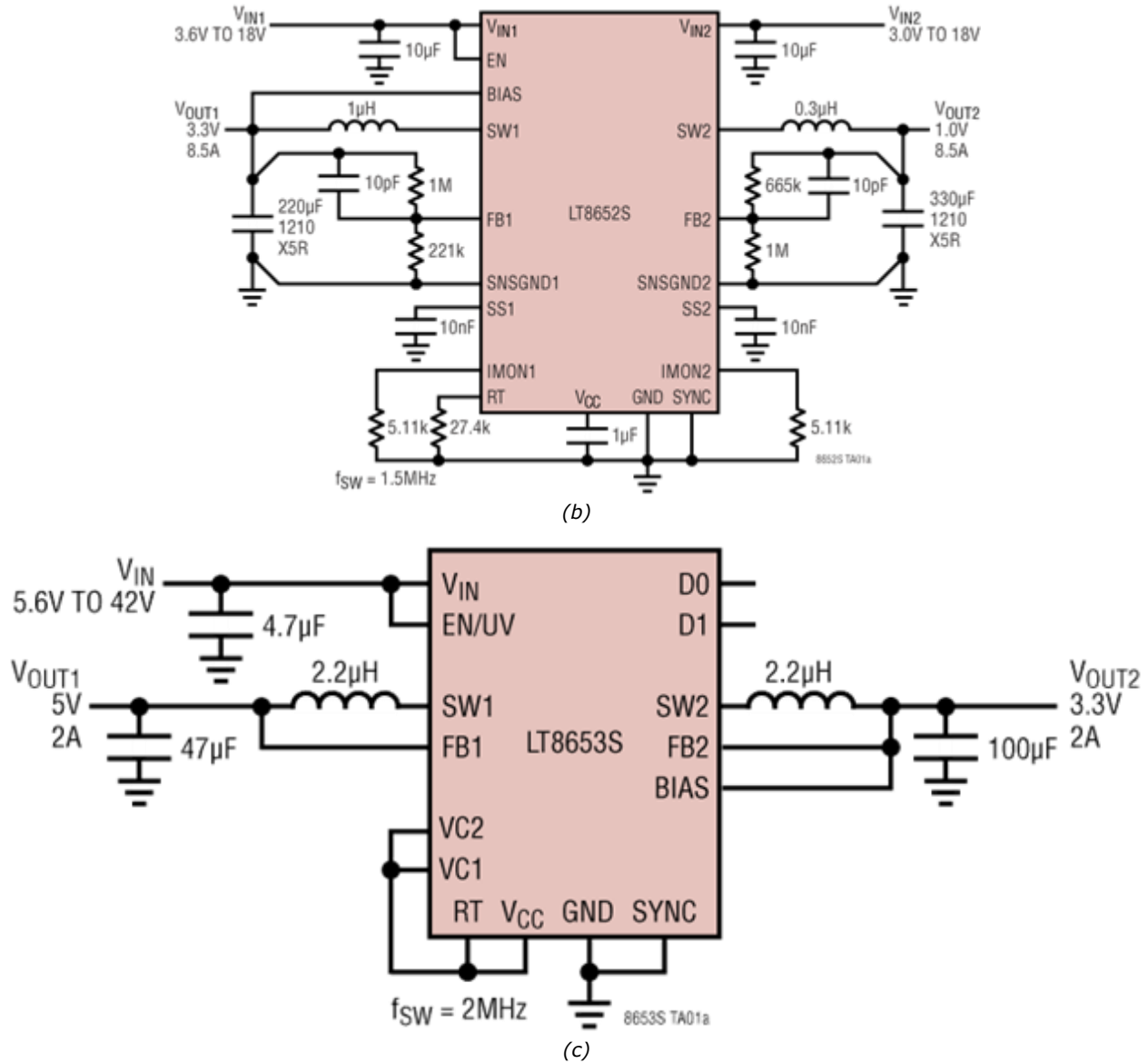


Figure. Typical application circuits for the LT8650S (a), LT8652S (b) and LT8653S (c) dual-channel synchronous stepdown converter ICs. These converters leverage a Silent Switcher 2 architecture and spread spectrum frequency modulation to produce low levels of EMI with little sensitivity to PCB layout. According to the company, designs based on these ICs easily meet CISPR25 limits on emissions. As shown here the three models feature different input voltage ranges and different output current ratings.