

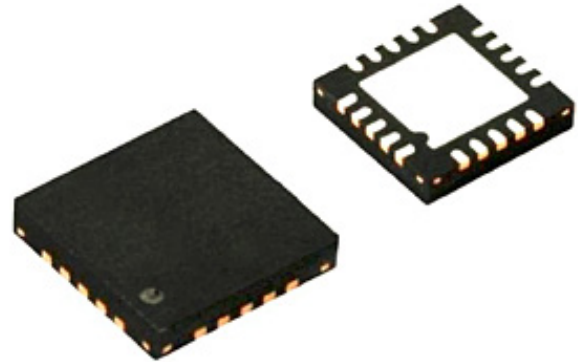
CSI021

4-Channel High Voltage Programmable Current Sink/Source



APPLICATIONS

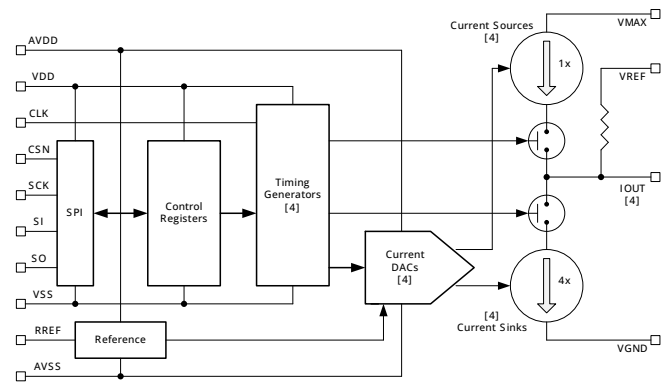
- Neurostimulation/Neuromodulation
- Battery Powered Applications
- MEMS and Sensor Applications
- Implantable Pulse Generators



FEATURES

- 4 Output Channels per IC
- Unlimited Expansion Capability
- Fully Programmable Pulse Timing
- 8-Bit Programmable Amplitude
- Integrated Charge Balancing
- SPI Programmable Output Current Range
- High Output Current [up to 6mA]
- High Output Voltage [up to 18V]
- Low Voltage SPI Interface [2.5V]
- Low Overhead Power [$< 10\text{mW}$]
- Ultra-Low Standby Power [$< 25\mu\text{W}$]
- Real-Time Status for All Channels
- SPI-Writable Trigger Register to Synchronize Multiple Channels & ICs
- Small 4mm x 4mm QFN20 Package

FUNCTIONAL BLOCK DIAGRAM



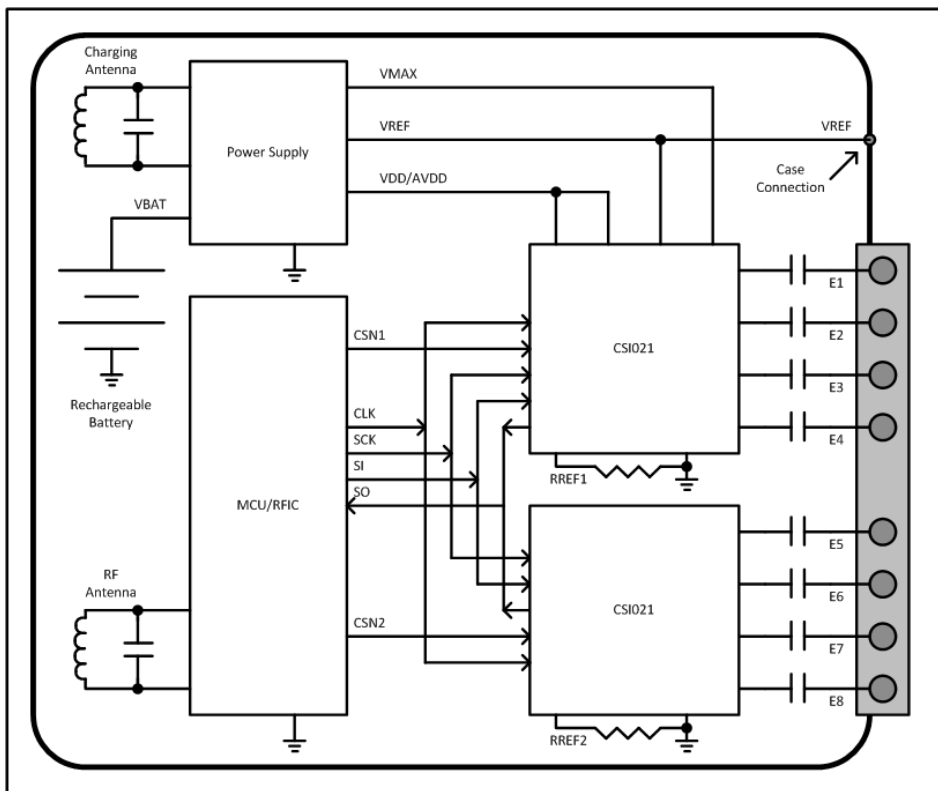
PIN CONFIGURATION

Pin	Name	Pin	Name	Pin	Name
1	CSN	8	RREF	15	VREF
2	SCK	9	AVDD	16	VMAX
3	SI	10	VGND	17	TESTEN
4	SO	11	IOUT3	18	ITEST
5	CLK	12	IOUT2	19	NRESET
6	VSS	13	IOUT1	20	VDD
7	AVSS	14	IOUT0		

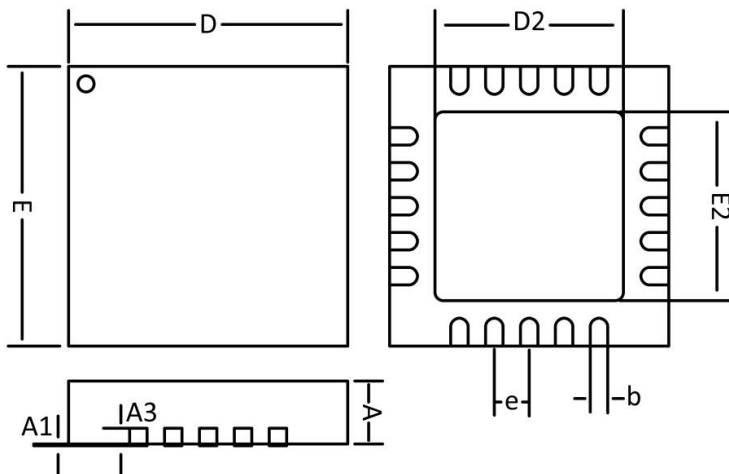
GENERAL DESCRIPTION

The CSI021 features 4 independent DAC-programmable current sink/source outputs with up to 6mA/1.5mA full-scale currents. An 18V supply voltage allows for 6mA output currents into 1.5KW loads. The CSI021 pulse timing is fully programmable via a 10MHz, 2.5V SPI. Programmable parameters include sink/source pulse widths, pulse frequencies, stimulation on/off periods, and amplitude ramp rates. Internal timing generators in the CSI021 use the programmed parameters to create waveform profiles with only minimal intervention from a host processor, and a 4:1 sink to source current ratio provides for easy stimulation charge balancing.

TYPICAL APPLICATION DIAGRAM



PACKAGING



Dim	Min	Typ	Max
	0.80		1.00
	0.00		0.05
		0.20	
	0.18		0.30
		4.00	
		4.00	
		0.50	
	2.65		2.75
	2.65		2.75

ORDERING INFORMATION

PART NUMBER
CSI021-020

DESCRIPTION
Packaged Part- QFN20

QTY: 3-25 26-100 101-500*
COST: \$391 \$315 \$291

*Minimum order 3. Contact us for pricing exceeding 500 units.