

The DRV700 is a high-precision programmable current source with 20-bit resolution and ppm-level stability.

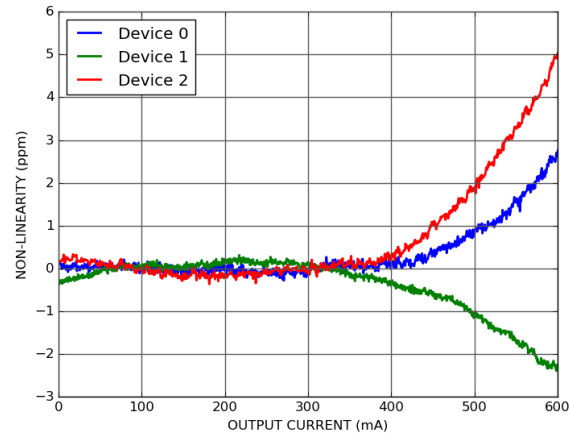
Specifications

DRV700-600-0

Output	
Output current	0 mA to 650 mA
Compliance voltage $I = 600 \text{ mA}$	7 V
DC output impedance	$\geq 1 \text{ M}\Omega$
Maximum load inductance No external compensation	1 mH
Precision	
Digital resolution	20 bits
Output current resolution Dithering OFF	750 nA
Non-linearity $I < 400 \text{ mA}$	$< 3 \text{ ppm}$
Stability	
RMS noise 0.1 Hz to 10 Hz	$30 \text{ nA}_{\text{rms}}$
Current noise density 1 kHz	$200 \text{ pA}/\sqrt{\text{Hz}}$
Temperature coefficient	$< 2 \text{ ppm}/^\circ\text{C}$
Allan deviation 1000 s	$< 40 \text{ ppb}$
Power supply	
Supply voltage	21 V to 33 V, nom. 24 V
Supply current	800 mA
Quiescent current	100 mA
Other	
Outside dimensions	109 mm x 90 mm x 17 mm
Weight	150 g
Operating temperature	-10°C to 70°C

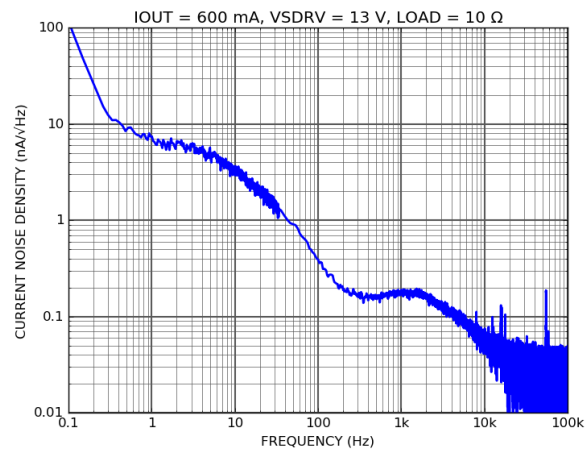
Linearity

Non-linearity of the output current versus setpoint is measured across a 10Ω load. Typical non-linearity is below 1 ppm for output currents up to 400 mA.



DRV700-600-0 linearity

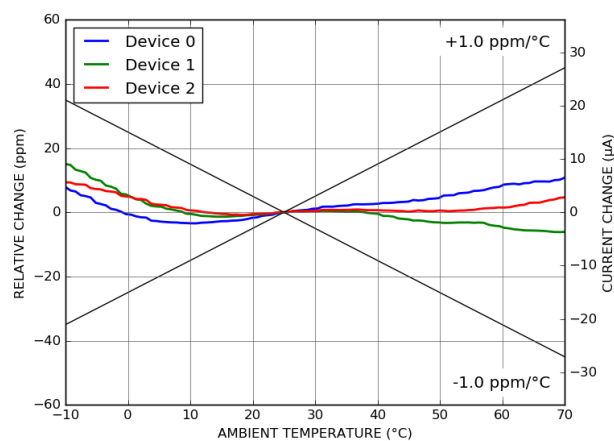
Current Noise Density



DRV700 current noise density

Temperature Stability

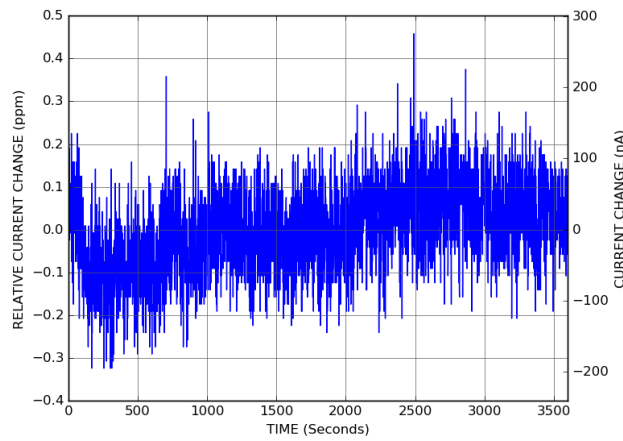
Current change versus ambient temperature for DRV700-600-0 driving 600 mA across a 10 Ω load:



DRV700-600-0 temperature coefficient

Stability

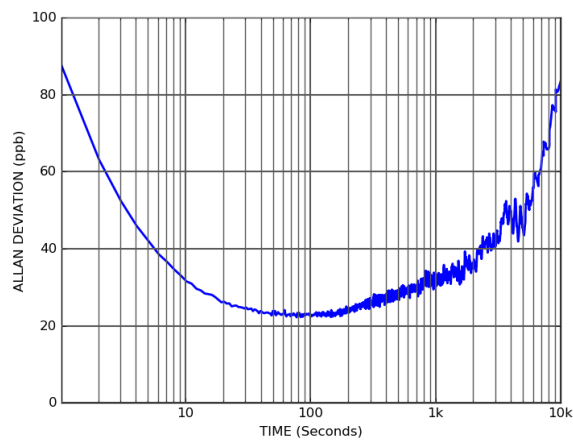
Output current stability over 1 hour of a DRV700-600-0 driving 600 mA across a 10 Ω load:



DRV700-600-0 one hour current stability

Allan Deviation

Allan deviation of a DRV700-600-0 driving 500 mA across a 10 Ω load:



DRV700-600-0 allan deviation

Ordering codes

PRODUCT NUMBER	ATTRIBUTE
DRV700-600-0	None