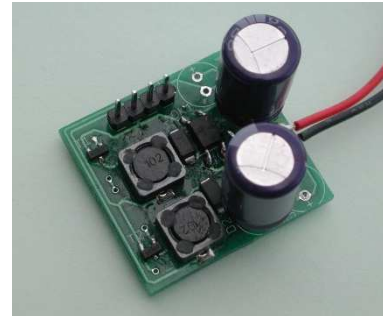


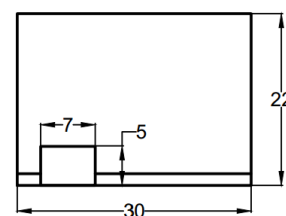
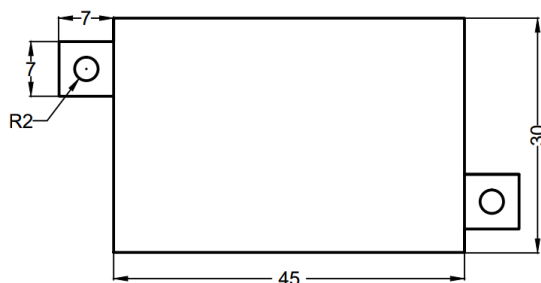
PIEZOELECTRIC MICROPUMP DRIVING MODULE MM-L / MM-S

Features:

- ✚ microprocessor controlled
- ✚ rectangular output signal
- ✚ two mutually exclusive SMPS boost converters
- ✚ optocouplers switching stage
- ✚ custom programmable:¹
 - ✓ positive/negative amplitude
 - ✓ frequency
 - ✓ slew-rate
 - ✓ dead-time
- ✚ DC mode for micropump valve regime of operation



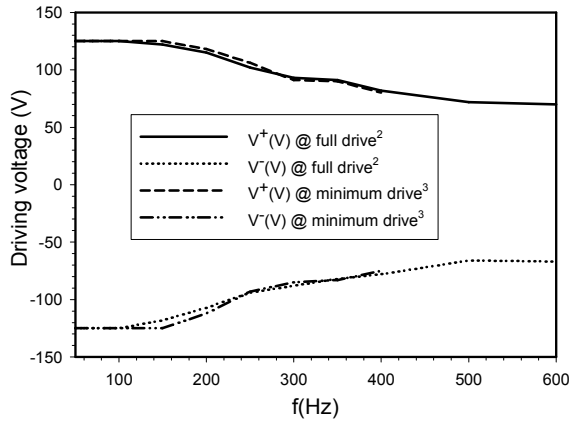
Specifications	
Dimensions	45 x 30 x 22 mm ³
Power consumption	typ < 0.5W, max 1.6W
Operating temperature	0 – 70 °C
Power supply	5-11V DC
Excitation signal frequency	DC - 1000 Hz
Excitation signal amplitude	30 –130V
Electrical connector	FPC FCC 4P
Slew-rate	up to 18 V/μs
Dead-time	> 200 μs
Piezoelectric capacitance	typ 12 nF, max 47 nF



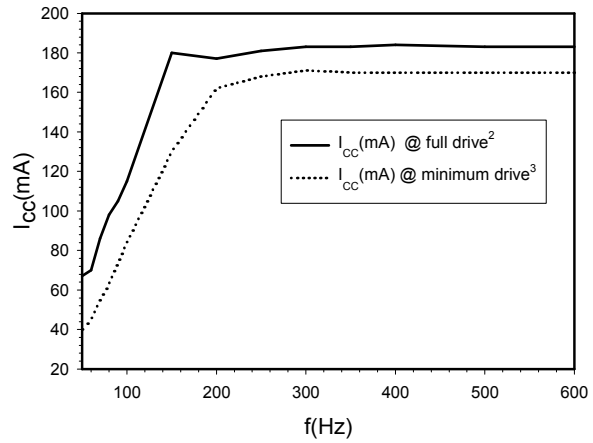
housing (black thermoplastic polymer ABS)

¹ programmable driving signal parameters via I/O port by extender module (as an option)

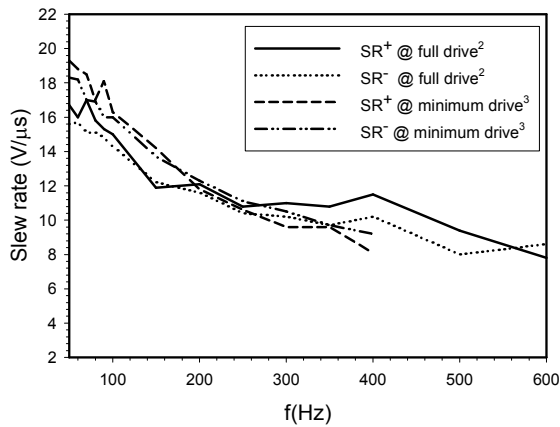
Driving signal amplitudes (V^+ , V^-) vs frequency



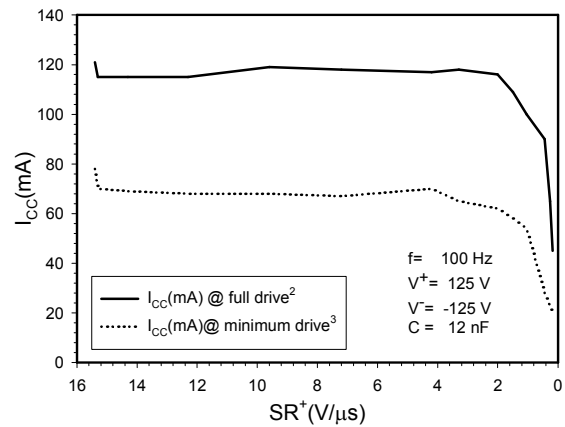
Current consumption I_{cc} vs frequency



Positive and negative slew rates SR ($V/\mu s$) vs frequency



Current consumption I_{cc} vs slew rate SR^+
@ 100 Hz, $V=125$ V



² condition that sets driving voltage for entire half-cycles

³ condition that sets driving voltage for only 200 μs of half-cycles