

MEMS Device Treasure Hunt assignments

Device Type	Specification for Best Performance
Accelerometer using capacitive sensing	Sensitivity in g's
Accelerometer using tunneling-based sensing	Sensitivity in g's
Silicon pressure sensor	Operating temperature range
Silicon pressure sensor	Pressure-measuring range (e.g., span)
Microfabricated capillary electrophoresis device	DNA separation speed
Microfluidic flow cytometer	Sorting rate
Room-temperature microfabricated bolometer	Response time
Room-temperature microfabricated bolometer	Sensitivity
MEMS thermal actuator	Fastest response time
MEMS thermal actuator	Largest force
MEMS thermal actuator	Largest displacement
MEMS nanopositioner	Best resolution
MEMS tunable capacitor	Actuation voltage
Microfabricated optical switch	Power and insertion loss
Surface micromachined tunable capacitor	Tuning ratio or range
Microfabricated electrophoresis chip for proteins	Number of theoretical plates
Microfabricated RF switch	Switching speed
Active gaseous valve	Highest back pressure
Active liquid valve	Highest flow rate
Gyroscope (any type)	Noise floor
Micro mechanical resonator	Resonant frequency
Micro mechanical resonator	Quality factor (Q)