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PRESS RELEASE
For Immediate Release

Monolithic Power Systems Announces \$50 Million Stock Repurchase Program

SAN JOSE, Calif. — July 28, 2010 — Monolithic Power Systems, Inc. (Nasdaq:MPWR) (“MPS”) today announced that its Board of Directors has approved a stock repurchase program that authorizes MPS to repurchase up to \$50 million dollars in the aggregate of its common stock between August 2, 2010 and December 31, 2011.

“MPS is in a very strong cash position as a result of the record financial results of the past six months. Our Board concluded that it was in the best interest of our shareholders to engage in this repurchase program,” said Rick Neely, chief financial officer of MPS.

The repurchases will be funded from available working capital. As of June 3, 2010, MPS had cash, cash equivalents and investments of approximately \$209 million, and approximately 38.4 million diluted weighted average shares of common stock outstanding.

Stock repurchases under the program may be made through open market repurchases, privately negotiated transactions or other structures in accordance with applicable state and federal securities laws, at times and in amounts as management deems appropriate. The timing and the amount of any repurchased common stock will be determined by MPS’ management based on its evaluation of market conditions, legal requirements, share price, and other factors. Repurchases of common stock may be made under a Rule 10b5-1 plan, which would permit common stock to be repurchased when the Company might otherwise be precluded from doing so under insider trading laws. The repurchase program does not obligate MPS to purchase any particular number of shares and may be suspended, modified, or discontinued at any time without prior notice.

About Monolithic Power Systems, Inc.

Monolithic Power Systems, Inc. (MPS) develops and markets proprietary, advanced analog and mixed-signal semiconductors. The company combines advanced process technology with its highly experienced analog designers to produce high-performance power management integrated circuits (ICs) for DC to DC converters, LED drivers, Cold Cathode Fluorescent Lamp (CCFL) backlight controllers, Class D audio amplifiers, and Linear ICs. MPS products are used extensively in computing and network communications products, LCD monitors and TVs, and a wide variety of consumer and portable electronics products. MPS partners with world-class manufacturing organizations to deliver top quality, ultra-compact, high-performance solutions through the most productive, cost-efficient channels. Founded in 1997 and headquartered in San Jose, California, the company has expanded its global presence with sales offices in Taiwan, China, Korea, Japan, and Europe, which operate under MPS International, Ltd.

Forward-Looking Statements

Actual events may differ materially from those indicated or suggested by such forward looking statements as a result of various important factors including, among others, the market price of the Company's common stock prevailing from time to time, the nature of other investment opportunities presented to the Company from time to time, the Company's cash flows from operations, general economic condition, and other factors as identified in the Company's most recent Quarterly Report on Form 10-Q filed with the SEC (a copy of which may be accessed through the company’s website at www.monolithicpower.com). In addition, the forward-looking statements included in this press release represent the Company's views as of the date of this press release and these views could change. However, while the Company may elect to update these forward-looking statements at some point in the future, the

Company specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of the press release.

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