DPMC-HC

Solutions for Pulsed I-V / RF Measurements

General

The performance of wide bad gap (WBG) high frequency nonlinear RF devices is affected by conditions like temperature, bias point, modulation and power. For this reason, new and existing characterization setups must be flexible enough to support CW, Pulsed and Modulated measurements. Pulsed measurements are used to avoid the effects of self -heating, which greatly affect the devices performance. The DPMC-HC pulse generator is designed for pulsed I-V (current voltage) and RF characterization extraction of semiconductor devices. It is well suited for other applications requiring high current and precision current and voltage pulses. The pulser module uses external low and high DC supplies up to 50V. The modular architecture of Load Pull Explorer software (LPEx) makes it easy to customize and take advantage of the advanced signal generation capabilities of modern instruments. The user has full control over frame structure, positive duty cycle and period. The user can measure parameters like Rise time, Falltime, Pulse width, Average voltage, vBase, vMax, vMin, peak-to-peak voltage, vRMS, vTop, EVM, ACPR, NPR, TOI, IMD, CCDF and much more.

Features

- High power capability up to 50V, 60A.
- Minimum pulse rate of 800ns for Drain and Gate.
- Modular design which enables multiple configurations.
- Shared library. The DPMC-HC can be used as a standalone instrument using an ActiveX library, which easily integrates into existing test software.
- Flexible Input/Output. Choose between high power and high precision pulse modules to create a customized setup for your specific application.
- Compatible with Focus Microwaves' device characterization software (LPEx).

Specifications

		DPMC Specs
Pulse voltage	Max Voltage	50V
	Resolution	150mV
	Max Current	60A[1]
	Max Error	5%
Pulse Width	Min Pulse	800ns
	Resolution	33ns
Duty Cycle	Min Duty Cycle	0.02%
	Max Duty Cycle	100%
Quiesent	Max Voltage	50V
	Resolution	150mV
	Max Current	60A
	Max Error	5%

[1] at Duty Cycle = 10%

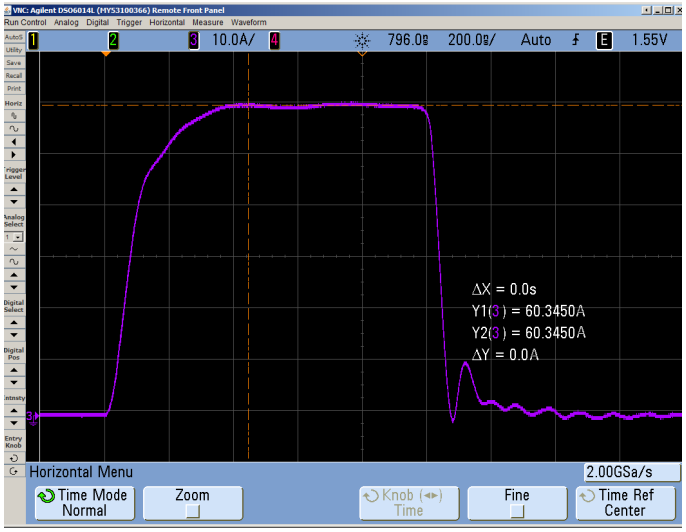
Power Supply Specifications,
Input (AC) 100-240V, 1.8A, Output

Drain Pulser Module (DPMC)

The DPMC contains an internal microcontroller which uses precision Pulse Width Modulation (PWM) modules with complementary outputs and programmable dead-time in order to generate and synchronize the pulses. The pulse width is adjustable from 800ns to 1ms; pulse repetition rate from 500Hz to 1MHz, with a maximum duty cycle of 100%. Both the pulse and quiescent bias voltages are delivered via external DC power supplies thereby making the MPIV a customizable modular solution. The DPM is controlled via TCP-IP interface.

High Current option (-HC)

High current option uses an N-channel MOSFET within the drain pulser module that supports voltages up to 50V and currents up to 60A.



Typical 800ns Output Waveform, 60A
200ns/Div Horizontal Scale, 10A/Div Vertical Scale.

FOCUS MICROWAVES

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