

Systems category: Standard

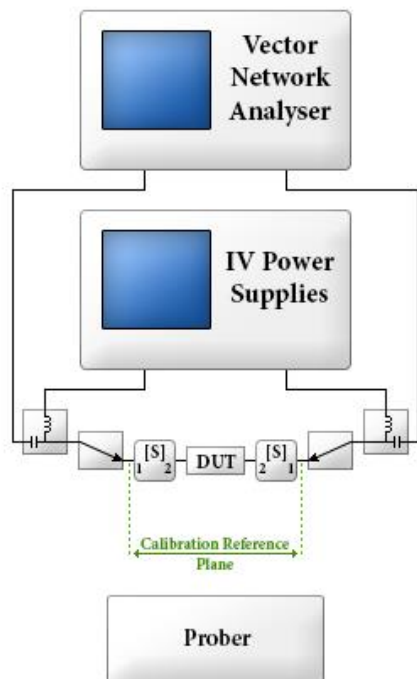
- ✓ Compact and efficient design
- ✓ Embedded power supplies
- ✓ Flexible and upgradable
- ✓ Unrivalled measurement resolution and accuracy
- ✓ High reliability pulse generators
- ✓ Driven by IVCAD Software

Main Features:

- Reliable pulsers with long lasting performances (thermal, SOA and DUT **breakdown protections**)
- Pulsed or DC operation, pulse width down to **200ns** from the generators
- Internal or external synchronization
- Extended stop conditions and built-in protection
- Mix-and-match input and output pulsers
- Connect systems in series for synchronizing 3+ pulsed channels
- **Long pulses into the tens of seconds for trapping and thermal characterization**
- Direct hardware programmability

System description

This Pulse IV system is used to bias transistors in quasi-isothermal conditions, it enables accurate compact modeling activities.



Pulser Safe Operating Area

Emergency stop when the operating point exceeds design limits: I_p , I_{rms} , I_{dc} (pulsed, RMS and DC current), V_{dc} (pulser input voltage, drain pulser only), P_{max} (DC power), F_{max} (switching frequency), Temperature

Current Breaker

Programmable thresholds: pulse current and power, quiescent current and power, transient current

Measurement Sampling Time

Fully programmable, 20ns resolution, External synchronization Mtrig & Rfpulse

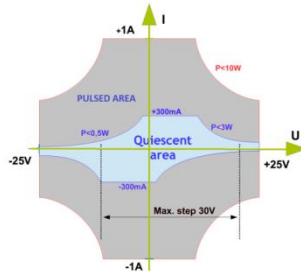
Modularity

The standard system works with two pulse generators and one control box. External signals permit to combine and synchronize several control boxes (4, 6, 8...).

System Specifications

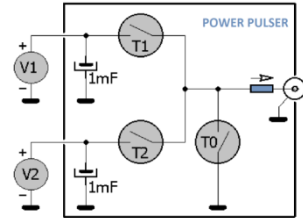
AM3211 Bipolar Probe +/-25V +/-1A

The AM3211 is a low noise floating pulse generator dedicated to bias the transistor gate, optimized to drive quickly and safely all the transistors (RF Devices, MOSFET).



AM3221 Probe +250V +30A

The AM3221 probe is a power probe dedicated to bias the transistor drain, optimized for high power pulsed measurements.



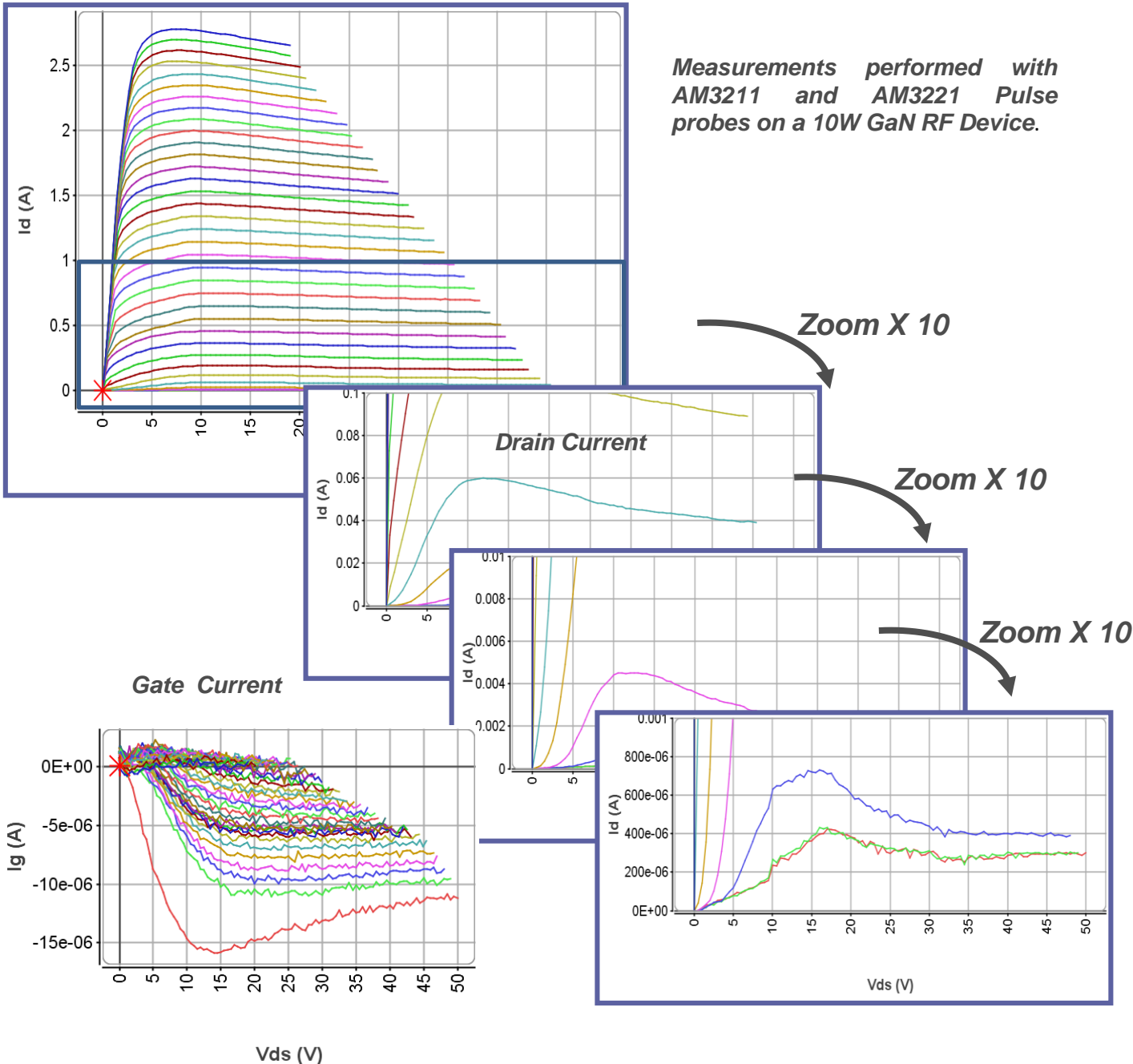
CONTROL BOX AM3200 SYSTEM		
PULSERS	AM3211	AM3221
PURPOSE	GATE	DRAIN
OPERATING RANGE		
Switched voltage levels	2	2
Voltage	±25V	+250V
Pulsed current	±1A	+30A
DC & RMS Current	300mA	5A
DC power	3W	100W
SOURCE PERFORMANCE		
Voltage setting resolution	16bit	18bit
Output impedance	$I \leq 0.1\text{mA}$: 204Ω / $I > 0.1\text{mA}$: 14.5Ω	$I \leq 0.3\text{A}$: 2Ω / $I > 0.3\text{A}$: 0,4Ω
PULSE TIMING		
Rise Time (10% - 90%)	Fast: 33ns* (typ. Value)	Fast: 20ns** (typ. Value)
Fall Time (10% - 90%)	Fast: 32ns* (typ. Value)	Fast: 22ns** (typ. Value)
Pulse timing	Resolution: 20ns, Width: 200ns to DC (Power limits)	
Fmax	500kHz	
MEASUREMENT PERFORMANCE		
V range	25V	250V/5V
I range	1A/10mA/0,1mA	30A/3A/0,3A
V & I ADC resolution	16bit	16bit
Noise free resolution (average filter 128 samples, at 0 voltage and current)	0,5mV 30μA/3μA/0,3μA	3mV/0,25mV 0,3mA/0,13mA/10μA
Settling time	300ns	300ns
Bandwidth (greatest range)	10MHz	10MHz
Output connector	D-SUB15	2 BNC

(*): AM3211, speed: fast, no load, 5V step

(**): AM3221, speed: fast, no load, 100V step

System Specifications

Ultimate Measurement Speed and Performances



System Specifications

Warranty

Any AMCAD product comes with a **two-year parts and labour warranty**, when returned to our workshops. A phone support service is also available for the same period.

At the end of the initial two-year period, a further contract can be subscribed, including:

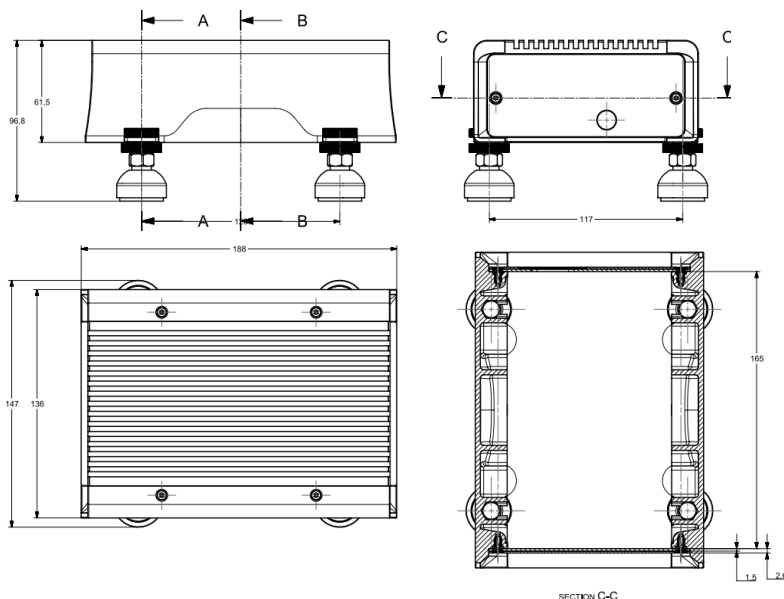
- a **preventive functional check and calibration of the modules (on site or in our workshop)**
- a **further two-year warranty period**

Quality Regulations & Environment

The PIV System and all modules are compliant to the applicable European directive and hold the CE mark.

- **ISO/CEI 17025 compliant calibration for any DC source or measurement module, calibration certificate provided.**
- Serial number based life cycle management
- All products are 100% tested (test reports on demand)
- AMCAD only uses RoHS compliant components and does not use substances banned by the COSHH regulation.
- AMCAD complies with the relevant national regulations related to the safety and health of its employees against hazardous substances.
- The protection degree of the PIV system is IP20 according to CEI 60529.

Probe dimensions (mm)



Contact sales@maurymw.com for sales requests