

## Supporting Information

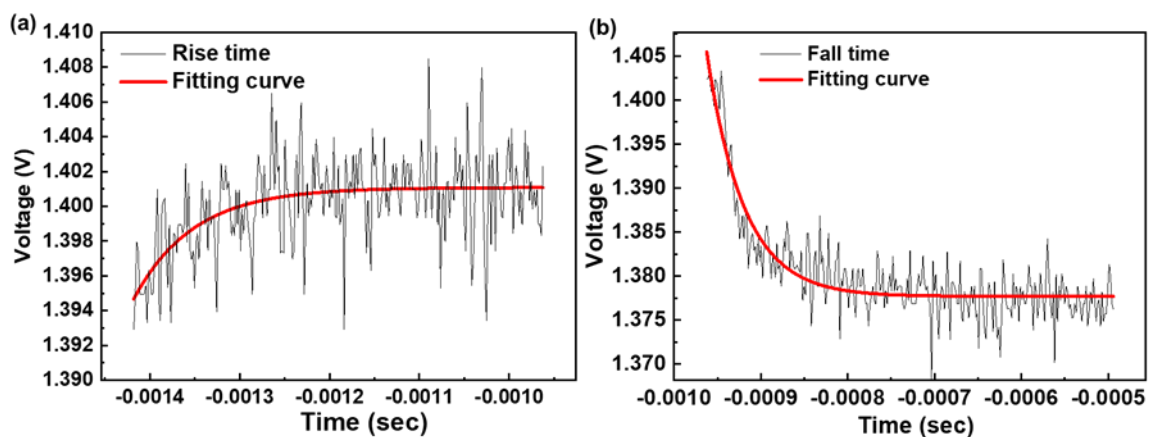
### Non-polar (11-20) GaN Metal-Semiconductor-Metal Photo-detectors with Superior Performance on Silicon

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**Figure S1.** Fitting to extract (a) rise-time and (b) fall-time of our non-polar GaN PD.



**Table S1.** Growth conditions for our non-polar GaN on patterned (110) silicon substrates

| Samples | NH3 flow rate (sccm) | TMGa flow rate (sccm) | V/III ratio | Temperature (°C) |
|---------|----------------------|-----------------------|-------------|------------------|
| N332    | 1000                 | 40                    | 454         | 1250             |
| N339    | 300                  | 40                    | 136         | 1200             |
| N381    | 300                  | 40                    | 136         | 1275             |
| N395    | 300                  | 40                    | 136         | 1300             |
| N401    | 300                  | 40                    | 136         | 1315             |
| N404    | 300                  | 40                    | 136         | 1300             |