

Opto-Electronics Review, 2015, volume 23, issue 4, pp. 278-286

Status of long-wave Auger suppressed HgCdTe detectors operating > 200 K

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DOI: <https://doi.org/10.1515/oere-2015-0036>

Abstract:

We report on the status of long-wave infrared Auger suppressed HgCdTe multilayer structures grown on GaAs substrates designed for high operating temperature condition: 200-300 K exhibiting, detectivity -10^{11} cmHz^{1/2}/W, time response within a –120 ps range at 230 K. Abnormal responsivity within the range of -30 A/W for electrical area 30×30 μm² under reverse bias $V = 150$ mV is reported. Maximum extraction coefficient of -2.3 was estimated for analysed structures.