Min-cost flow (circulation), with capacity 1 and cost 1 for each edge. $\tilde{O}((m+n^{1.5})\log^2 W)$ [1].

References

[1] Jan van den Brand, Yin-Tat Lee, Danupon Nanongkai, Richard Peng, Thatchaphol Saranurak, Aaron Sidford, Zhao Song, and Di Wang. Bipartite matching in nearly-linear time on moderately dense graphs. arXiv e-prints, pages arXiv-2009, 2020.