

ABSTRACT

An offset detector circuit includes a digital signal register storing M unit digital signals received in latest M signal periods, M being a natural number, among digital signals generated based on a single-ended PAM-N signal, N being an odd number, a comparator outputting a comparison signal of a pair of signals included in differential signals generated from a differential signal generator based on the single-ended PAM-N signal, a comparison result register storing M unit comparison signals corresponding to the latest M signal periods among the comparison signals, a pattern detector outputting a detection signal when the M unit digital signals match a predetermined signal pattern, and an offset checker checking patterns of the M unit comparison signals in response to the detection signal, and outputting an offset detection signal when the patterns of the M unit comparison signals match a predetermined offset pattern.

FIG. 1