

Low Power Cam Match Line Circuit

Abstract

A Match-Detection Circuit (210) and Match-Detection method, for low-power-consuming searches in a Content Addressable Memory (201). A HIT is output when the Match Line rises from a Low voltage level to a higher Match Detection Voltage. The Match Detection Voltage is approximately the conducting threshold voltage of an N-channel Field Effect Transistor (FET), and is normally less than One Half of the Power Supply Voltage. Circuits and methods to turn off the through-current in each MISS-ing entry by a carefully timed control signal at the end of a brief Match Detection Period, are disclosed.

Fig. 2A