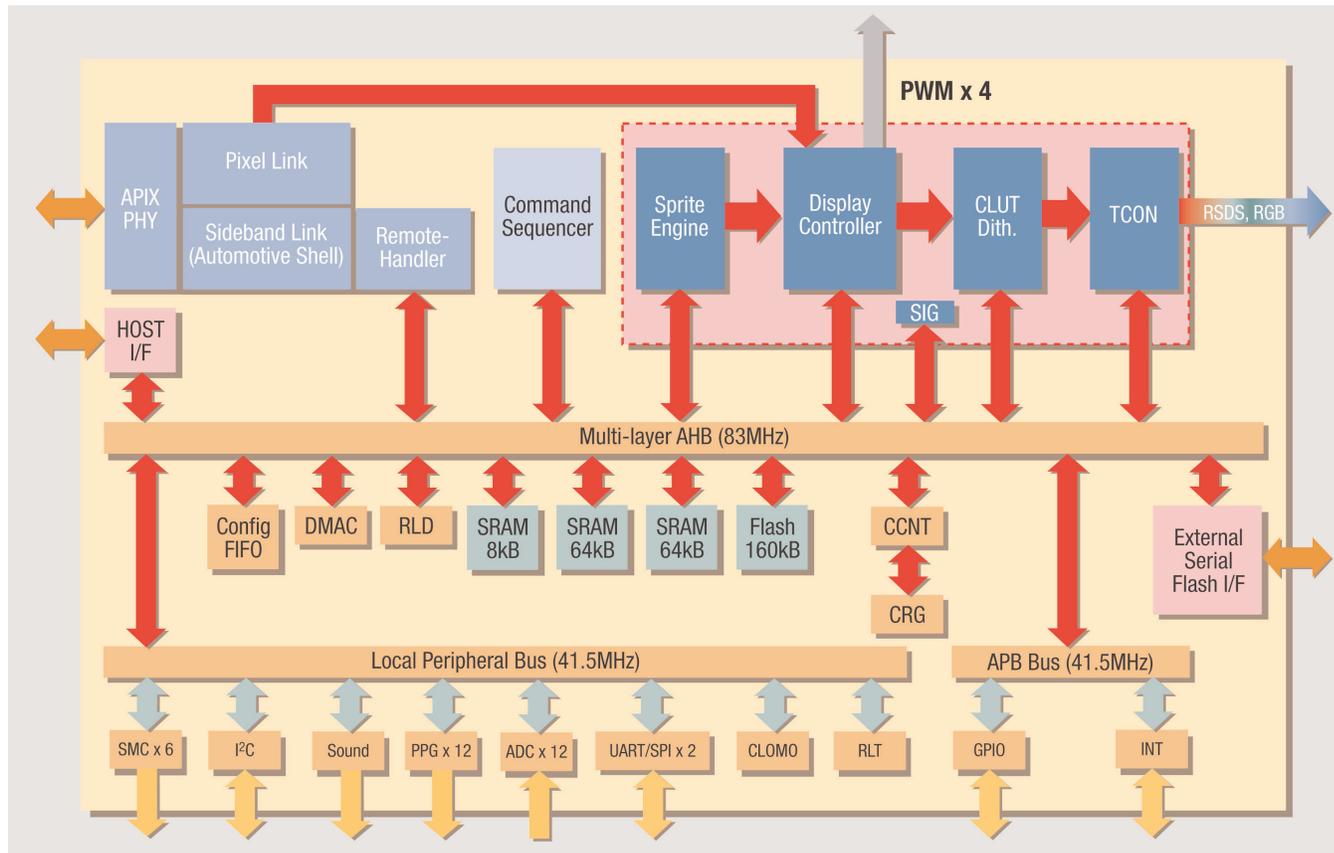FUJITSU

MB88F322 Graphics Display Controller

▶ Description

The Fujitsu MB88F322 Graphics Display Controller (GDC) is an extremely versatile and feature-rich device that has been designed specifically for today's most popular display-based automotive applications including instrument clusters, Heads-Up Display (HUD), Central Information Display (CID) and Rear-Seat Entertainment (RSE) systems. Packaged in a low-cost 208-pin Quad-flat package (QFP), this device has a number of advanced on-board features that significantly reduce bill-of-materials cost, form factor and system-level power consumption.

The MB88F322 GDC is principally a sprite engine that is optimized to efficiently process and animate sprites and bitmaps in a variety of sizes and color depths. The absence of a traditional 2D/3D rendering engine enables this device to operate at a lower frequency. This translates into reduced power consumption, improved EMI characteristics and an extended operating temperature range of -40°C to +105°C.

Perhaps most significantly, the sprite engine does not require the expensive frame-buffer memory that is necessary for graphics rendering units. This device uses a simpler and far-less-costly line-buffer technique that is commonly used in high-definition video products. Accordingly, the on-chip memory space is more than adequate to support an array of bit maps and sprites that are typical in automotive applications. For larger content, such as splash screens, the device features run-time data compression for expansion of run-length encoded data.

The MB88F322 GDC advanced image-processing system supports 1-, 2-, 4-, and 8-bit indirect color palettes. For applications that require finer gradient coloring, the device also supports 14- and 16-bit direct color modes. An available 4/8 bit alpha plane and dithering-and-gamma unit ensure high image quality. The display controller supports a variety of display sizes with resolutions up to 800 x 600 and color depths