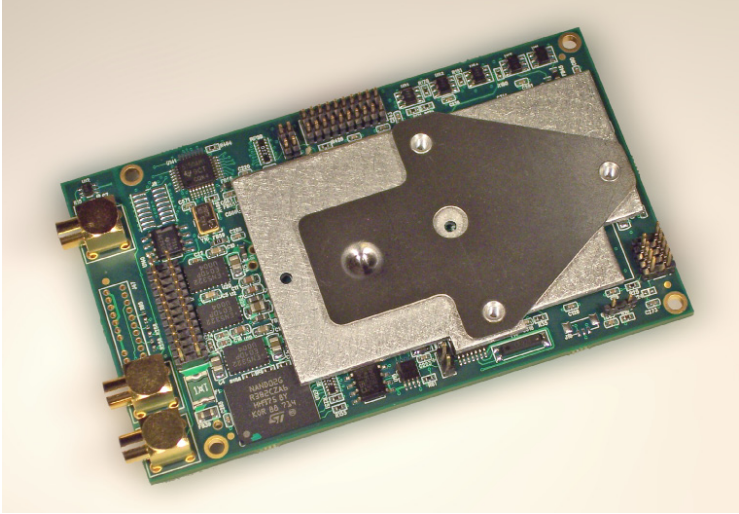


Discovery 40 PCB Image Processor



The Discovery 40 PCB employs dual-core processor technology to provide a powerful DSP platform capable of a wide range of real-time video image-processing functions, along with an ARM-9 general-purpose microprocessor running embedded Linux for robust user-interface and control implementations.

When combined with applications firmware from Pixon Imaging’s *Discovery Algorithm Suite*, the Discovery 40 PCB provides a turn-key video image-processing solution for systems integrators in military, homeland security, surveillance, scientific, and other high-end imaging applications.

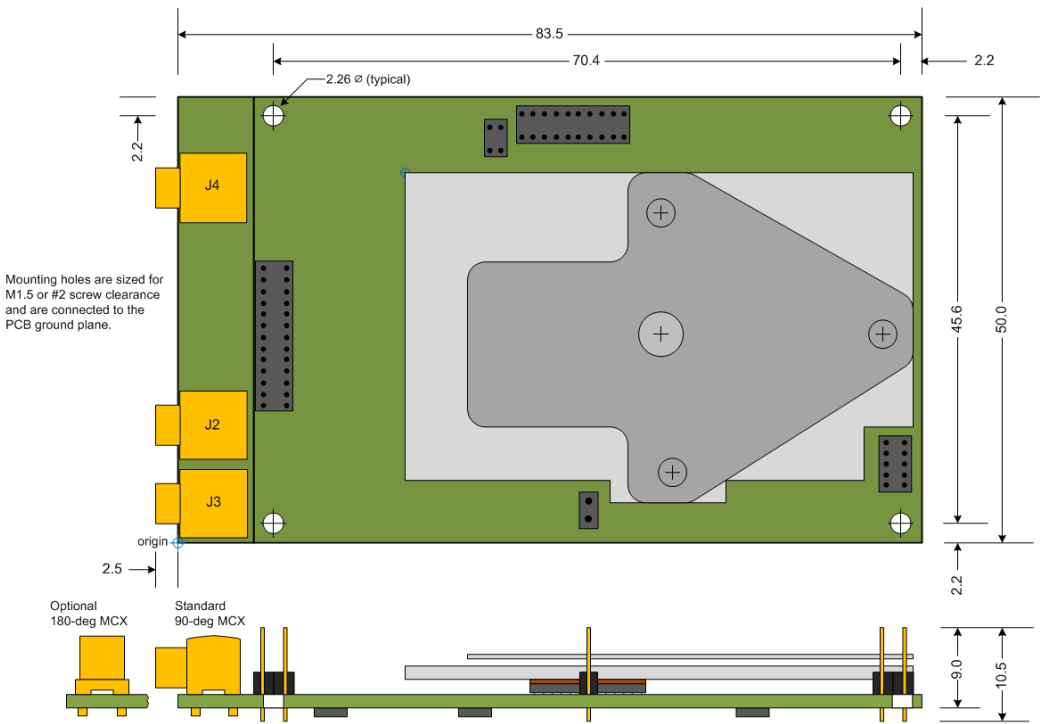
Specifications

Video inputs	
Video In	75 ohm, composite (CVBS, RS-170), 1 V p-p, NTSC or PAL format
Video outputs	
Video Out	Composite (CVBS, RS-170), 1 V p-p into 75 ohm load, video format same as “Video In” signal
Video loop-through	Composite (CVBS, RS-170), 1 V p-p into 75 ohm load, buffered “Video In” signal
Video bypass feature	
Video-signal-processing bypass (solid-state switching), software-controlled or hardware external control (logic-level); default mode on power-down or watchdog failure is bypass	Buffered output
Alternate power input	
3.3 to 5.5 VDC, 40 mA maximum	Alternative power input to maintain bypass and loop-through amplifiers if main power source fails
Control ports	
Serial port	Port is RS-232 protocol compatible but utilizes 3.3 V UART logic voltage levels (a level shifter is required for RS-232 voltage levels)
GPIOs	
Logic-level I/O (each line programmable as input or output)	6 lines, 1.8 V logic levels, unbuffered (external buffers and ESD protection may be required)
Power requirements	
Supply voltage	5.0 VDC ±10%
Load regulation	±5%, maximum ripple 50 mV p-p, transient response 2 ms for 50% load change
Line regulation	±5%
Supply current	350 mA typical (at 5.0 VDC)

Environmental	
Ambient temperature range, operating	0 to 70 °C standard
Ambient temperature range, storage	-60 to 85 °C
Humidity	3% – 90%, non-condensing
Altitude, convection cooling	4,500 m
Altitude, forced-air cooling	12,000 m
Dimensions	
H x W x D (with MCX extension, 90-deg MCX connectors)	50.0 x 86 x 10.5 mm
Weight (with MCX extension, 90-deg MCX connectors)	39 g

Software	
Region of interest	- Selects region of video to be processed
Brightness control	- Dynamic range control for adjusting the balance between dark and light areas
Dehazing	- Color recovery and haze (rain, fog, smoke, dust, murky water) removal
Noise reduction	- Removes noise by frame averaging

Mechanical drawing





For more information

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