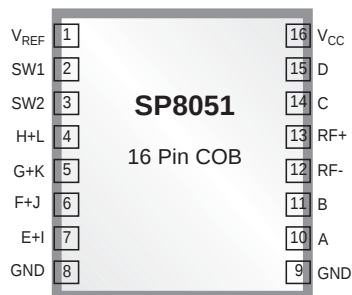


8 Channel, 140MHz Fully Integrated PDIC Receiver with Gain Switching

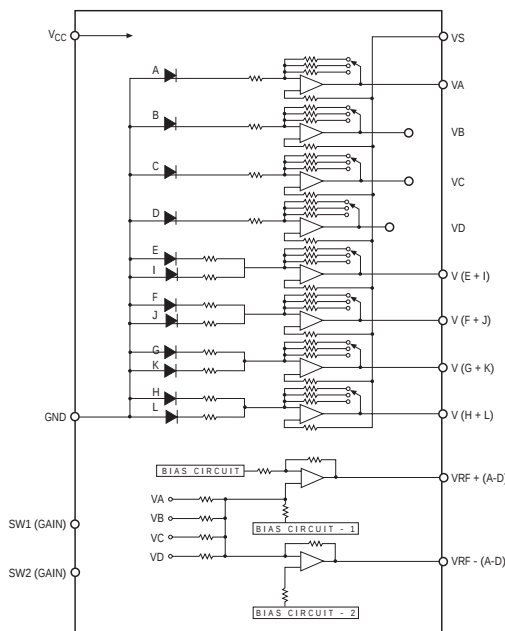
- Data channel bandwidth 140MHz
- Settling Time: 9ns to 1% for 1.5V step
- Three selectable Gain Settings
- Group Delay Error less than 2ns up to 70MHz
- Low Offset Drift of less than 20uV/ °C
- Low Offset Voltage of less than 10mV



DESCRIPTION

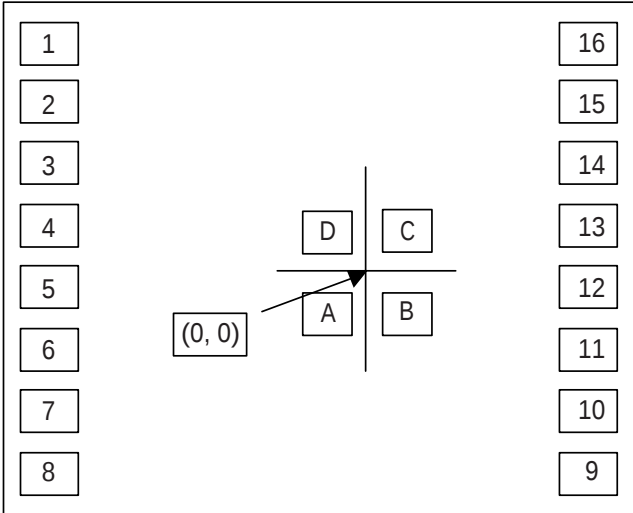
The SP8051 is a high performance 8 channel PDIC with a fully integrated photo detector array ideally suited for high speed DVDRW, DVDROM and CDRW systems. Responsivity is fully specified at wavelengths of 650nm and 780nm. The 8 channels consist of 4 high speed channels (A, B, C, D) for data detection as well as 4 tracking channels (E, F, G, H) for beam positioning requirements. Two additional outputs (RF+ and RF-) representing the sums of the high speed channels are also provided.

The SP8051 is manufactured with an advanced, fully complementary proprietary BiCMOS process that enables integration of on-board multiple photo detector arrays.

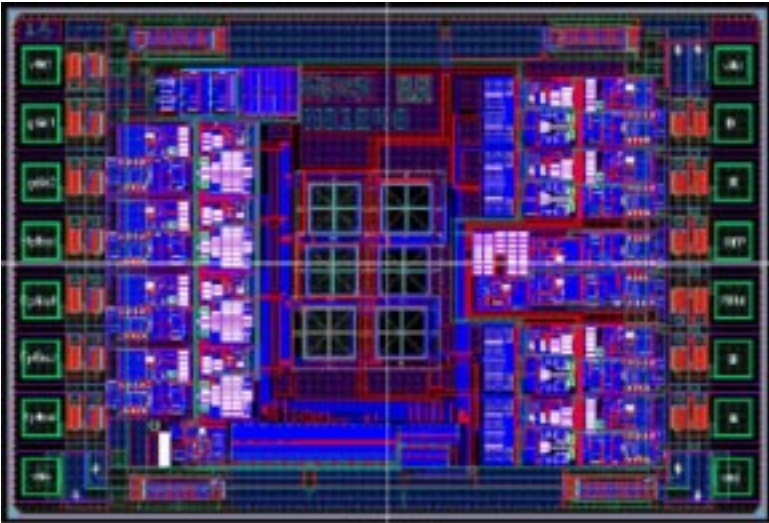


SP8051 Functional Diagram

PIN NUMBER	NAME	DESCRIPTION
1	V_{REF}	Reference Voltage
2	SW1	Gain Select 1
3	SW2	Gain Select 2
4	H+L	Tracking Channel Sum
5	G+K	Tracking Channel Sum
6	F+J	Tracking Channel Sum
7	E+I	Tracking Channel Sum
8, 9	GND	Power Ground
10	A	Data Channel
11	B	Data Channel
12	RF-	RF Sum Minus (A to D)
13	RF+	RF Sum Plus (A to D)
14	C	Data Channel
15	D	Data Channel
16	V_{CC}	Supply Voltage

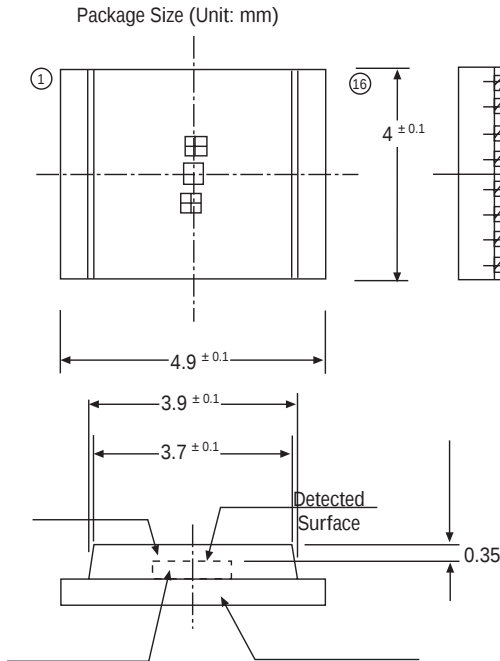


Pin assignment

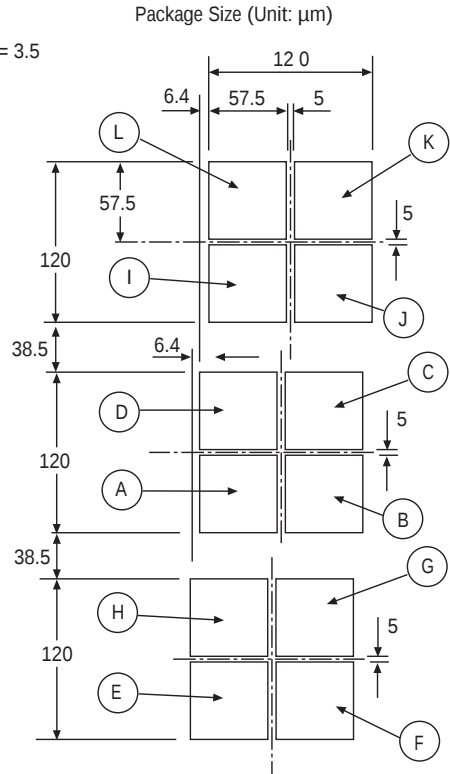


die layout

PDIC (8ch + RF + GAIN - SW) (12-divided detector)



PIN NUMBER	NAME
1	V _{REF}
2	SW1
3	SW2
4	H+L
5	G+K
6	F+J
7	E+I
8, 9	GND
10	A
11	B
12	RF-
13	RF+
14	C
15	D
16	V _{CC}



Part Number**Package Type**

SP8051 16 Pin COB

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