

DC-50MBd Versatile Link

Market Released



Features:

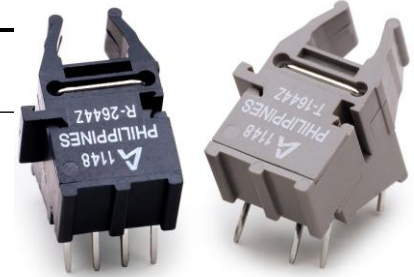
- TX: **Integrated** 650nm LED and **Driver IC** with LVTTTL/TTL Input Logic
- RX: **Integrated** PIN Diode and **Digitalizing IC** with LVTTTL/TTL Output Logic
- Link Distance: **50m** over 1mm POF
- Temperature: -40°C to 85°C
- VCC: **3.3V and 5V**
- **Enhanced EMI performance**
- **Reduced Design Effort and PCB Space**
- **Low Power Consumption**
- **Short Propagation Delay ($t_d \leq 30\text{ns}$)**

Markets:

- **Medium Voltage Drive**
- **Inverter/Converter**
- **Medical Equipment**

Versatile Link (DC – 50 MBd)

Market Released



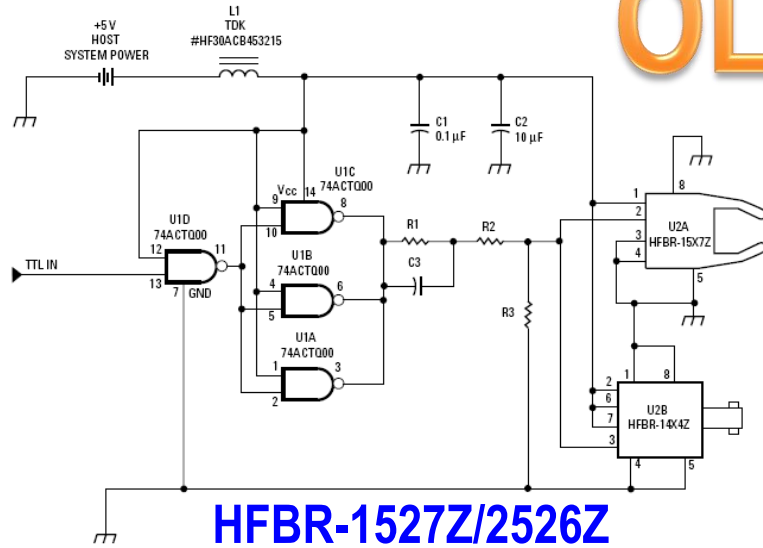
Apollo (DC-50MBd) Product Family Overview

Avago PN	Versatile Link Package	Transmitter		Receiver	Electrical Output (Standard/Inverted)	Data Rate	Link Distance	Supply Voltage	Unique/Key Feature
		LED Only	Integrated LED Driver (TTL In)	Integrated PIN & Digitizer (TTL Out)					
AFBR-1529Z	Horizontal	X			Both	DC - 10Mbd	50m	2.3V Max	Higher LOP/Lower Current than HFBR-1528Z
AFBR-1624Z	Horizontal		X		Standard	DC - 50MBd	50m	3.3V or 5V	Integrated LED Driver
AFBR-2624Z	Horizontal			X					Excellent EMI Immunity
AFBR-1629Z	Horizontal		X		Inverted	DC - 50MBd	50m	3.3V or 5V	Integrated LED Driver
AFBR-2529Z	Horizontal			X					Excellent EMI Immunity
AFBR-1644Z	Tilted		X		Standard	DC - 50MBd	50m	3.3V or 5V	Integrated LED Driver
AFBR-2644Z	Tilted			X					Excellent EMI Immunity

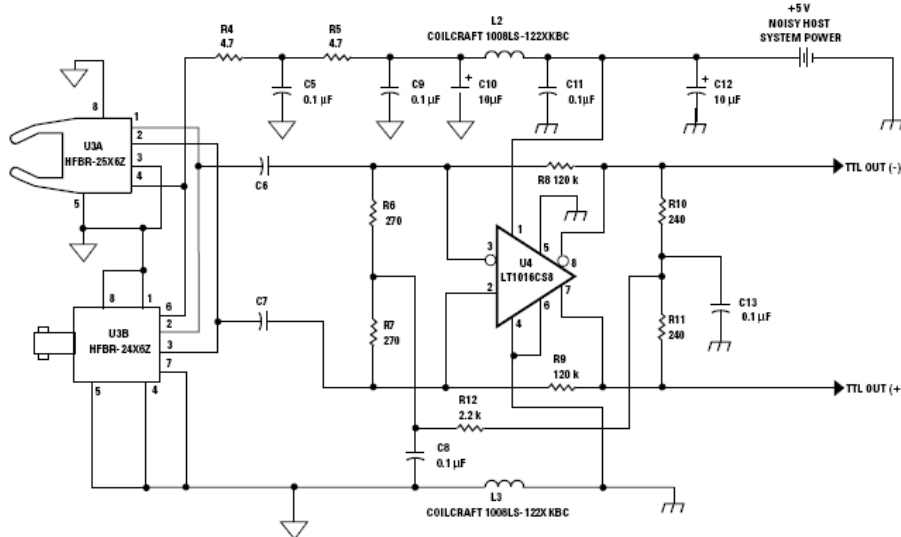
DC-50MBd VL - Simplified Circuitry



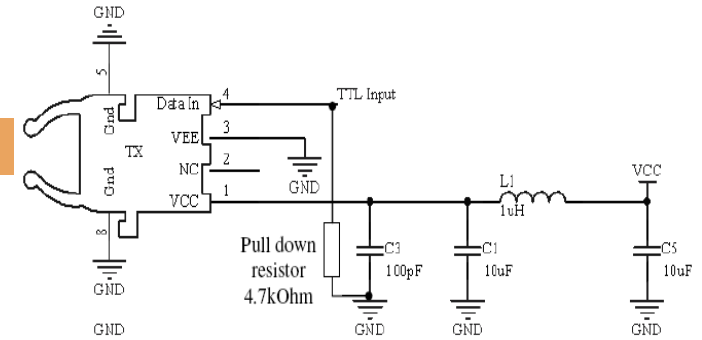
OLD NEW



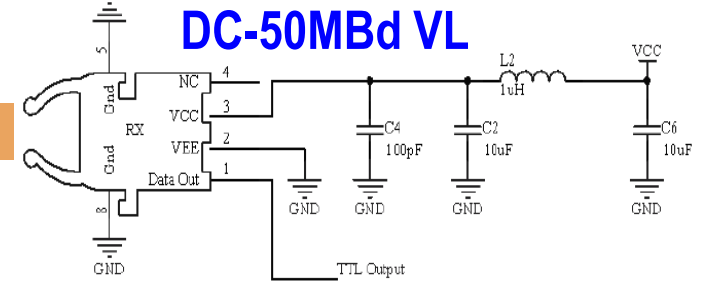
HFBR-1527Z/2526Z



TX



RX





Versatile Link Parts

Total Link Comparison

Performance	1521ETZ/2521ETZ	1528Z/2528Z	1629Z/2529Z* (NEW)
Data Rate	DC – 5MBd	DC – 10MBd	DC – 50MBd
Link Distance	20m (POF)	30m (POF) 100m (HCS)	50m (POF)
Propagation Delay	~ 100ns	> 100ns	≤ 60ns
Total ICC at worst (Ext IC + Avago Parts)	~ 140mA	~ 170mA	≤ 61mA
VCC	5V	5V	3.3V or 5V

HFBR-1521ETZ, HFBR-1528Z vs AFBR-1529Z



Performance	HFBR-1521ETZ	HFBR-1528Z	AFBR-1529Z (NEW)
Data Rate	DC – 5MBd	DC – 10MBd	DC – 10MBd
Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Link Distance	20m (POF)	30m (POF) 100m (HCS)	50m (POF)
Optical Peak Power (min) @ IF=20mA, 1mm POF	-21.8dBm	-16.8dBm	-8dBm
Reverse Input Breakdown Voltage (min)	5V	3V	9V

- **AFBR-1529Z's Optical power is much higher as compared to the other parts. Therefore, the power consumption is much lesser to achieve the same optical power.**



HFBR-1528Z vs AFBR-1529Z Schematic

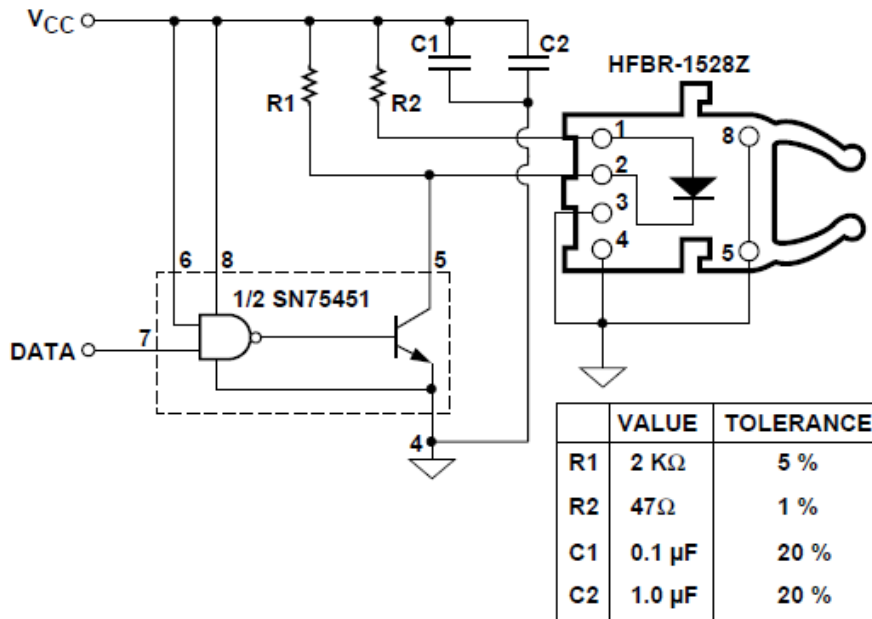
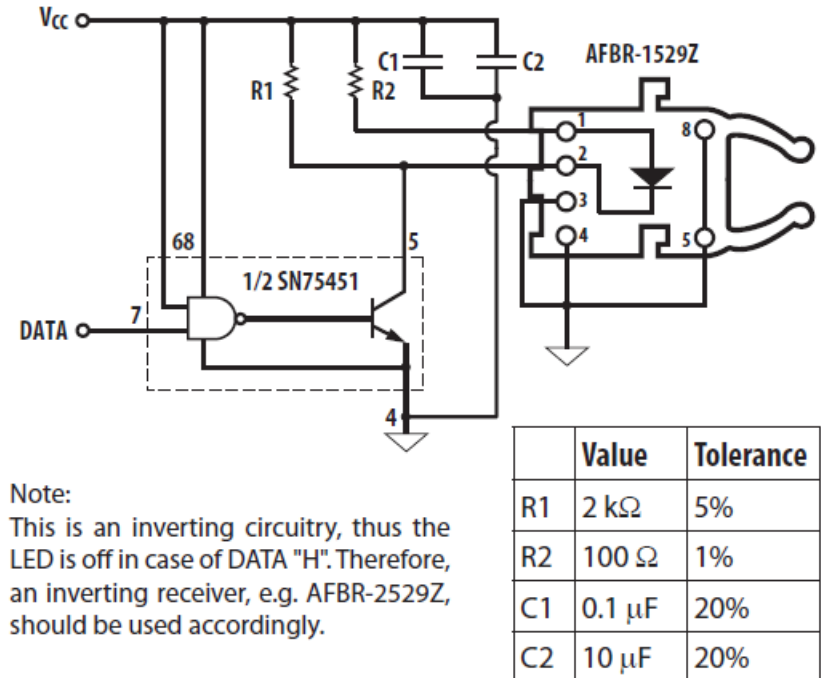


Figure 6. Recommended transmitter drive circuit ($I_{F,on} = 60$ mA nominal at $T_A = 25^\circ\text{C}$).



Note:
This is an inverting circuitry, thus the LED is off in case of DATA "H". Therefore, an inverting receiver, e.g. AFBR-2529Z, should be used accordingly.

Figure 3. Recommended drive circuit Top View ($I_{F,on} = 30$ mA nominal at $T_A = 25^\circ\text{C}$)

- Same pin-outs
- Same driving circuit, except for R2's value