Enhanced Quad RS-485/RS-422 Line Drivers

features

- **RS-485 or RS-422 Applications**
- **Quad Differential Line Drivers**
- **Driver Output Disable**
- **–7V to +12V Common Mode Output Range**
- **100µA Supply Current**
- **Single +5V Supply Operation**
- **Superior Drop-in Replacement for SN75172, SN75174, LTC486, and LTC487**
- **Improved ESD Specifications:**
  - ±15kV Human Body Model
  - ±15kV IEC1000-4-2 Air Discharge
  - ±8kV IEC1000-4-2 Contact Discharge

description

The SP486E and SP487E are low-power quad differential line drivers that meet the specifications of RS-485 and RS-422 serial protocols with enhanced ESD performance. The ESD tolerance has been improved on these devices to over ±15kV for both Human Body Model and IEC1000-4-2 Air Discharge Method. These devices are superior drop-in replacements to Sipex's SP486 and SP487 devices as well as popular industry standards. As with the original versions, the SP486E features a common driver enable control and the SP487E provides independent driver enable controls for each pair of drivers. Both feature wide common-mode input ranges. Both are available in 16-pin plastic DIP and SOIC packages.

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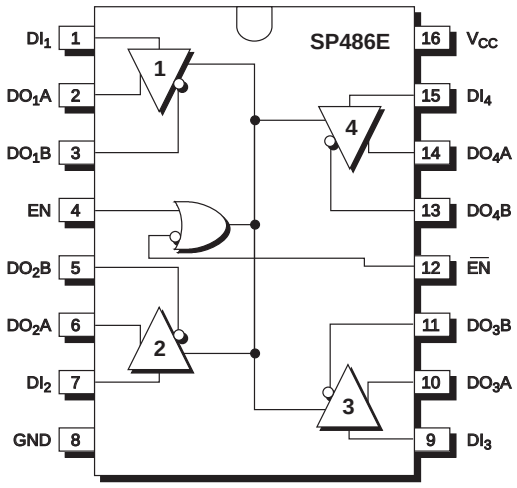
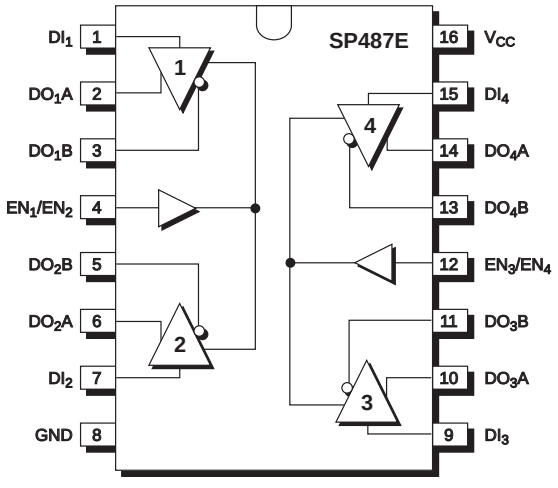
block diagrams





SP486E/SP487E

PIN NUMBER		NAME	DESCRIPTION
SP486E	SP487E		
1	1	DI_1	Driver 1 Input - If Driver 1 output is enabled, logic 0 on DI_1 forces driver output DO_1A low and DO_1B high. A logic 1 on DI1 with Driver 1 output enabled forces driver DO_1A high and DO_1B low.
2	2	DO_1A	Driver 1 output A.
3	3	DO_1B	Driver 1 output B.
4		EN	Driver Output Enable.
	4	EN_1/EN_2	Driver 1 and 2 Output Enable.
5	5	DO_2B	Driver 2 output B.
6	6	DO_2A	Driver 2 output A.
7	7	DI_2	Driver 2 Input - If Driver 2 output is enabled, logic 0 on DI_2 forces driver output DO_2A low and DO_2B high. A logic 1 on DI_2 with Driver 2 output enabled forces driver DO_2A high and DO_2B low.
8	8	GND	DIgital Ground.
9	9	DI_3	Driver 3 Input - If Driver 3 output is enabled, logic 0 on DI_3 forces driver output DO_3A low and DO_3B high. A logic 1 on DI_3 with Driver 3 output enabled forces driver DO_3A high and DO_3B low.
10	10	DO_3A	Driver 3 output A.
11	11	DO_3B	Driver 3 output B.
12		$\overline{EN}$	Driver Output Disable.
	12	EN_3/EN_4	Driver 3 and 4 Output Enable.
13	13	DO4B	Driver 4 output B.
14	14	DO_4A	Driver 4 output A.
15	15	DI_4	Driver 4 Input - If Driver 4 output is enabled, logic 0 on DI_4 forces driver output DO_4A low and DO_4B high. A logic 1 on DI_4 with Driver 3 output enabled forces driver DO_4A high and DO_4B low.
16	16	V_{CC}	Supply Voltage V_{CC}. $4.75V \leq V_{CC} \leq 5.25V$.

ordering information - *Please consult the factory for pricing and availability on a Tape-On-Reel option.*

Temperature Range		Package Type
0°C to +70°C	–40°C to +85°C	
SP486ECP	SP486EEP	16–pin Plastic DIP
SP486ECT	SP486EET	16–pin SOIC
SP487ECP	SP487EEP	16–pin Plastic DIP
SP487ECT	SP487EET	16–pin SOIC