

Topology

The OHD2800S series is a single ended forward converter operating at a nominal oscillator frequency of 400 KHz. These fixed frequency converters use a resonant transformer reset circuit which allows for a maximum duty cycle of 67% without increasing the voltage stress on the primary MOSFET or output rectifiers. Tight line and load regulation are achieved through wide bandwidth magnetic feedback circuit. This magnetic feedback circuit, in conjunction with bipolar control ICs, offers greater long term reliability and radiation tolerance when compared to converters using an optocoupler feedback circuit and/or CMOS control ICs.

High Reliability Design

Omnirel's OHD2800S series of DC/DC converters are designed to achieve the high reliability demanded by military programs. The case is resistance seam welded for superior long term hermeticity. The converters use only ceramic input capacitors to provide high product reliability over the military temperature range of -55°C to +125°C. All semiconductor devices are of the highest level of performance and reliability.

Omnirel's converters are designed in accordance with the NAVMAT P-4855-1A component derating guidelines when operating over the MIL-STD-704D input voltage range. The converters meet the conducted emissions (CE03) noise limits of MIL-STD-461C when operated with Omnirel's OFC461 EMI filter module.

Flexible Synchronization

The OHD2800S series offers two different synchronization options. The standard OHD2800S can be synchronized to an external system clock for any rate between 425 KHz and 525 KHz. A second option allows the system designer to synchronize multiple "slave" converters to one "master" converter. The appropriate parts must be ordered to utilize this master/slave configuration. A suffix of "-MST" is added for the master part number and "-SLV" suffix for the slave part number.

Example:

Part No.: OHD2805S-MST
Description: Master Synch. Config.

Inhibit Feature

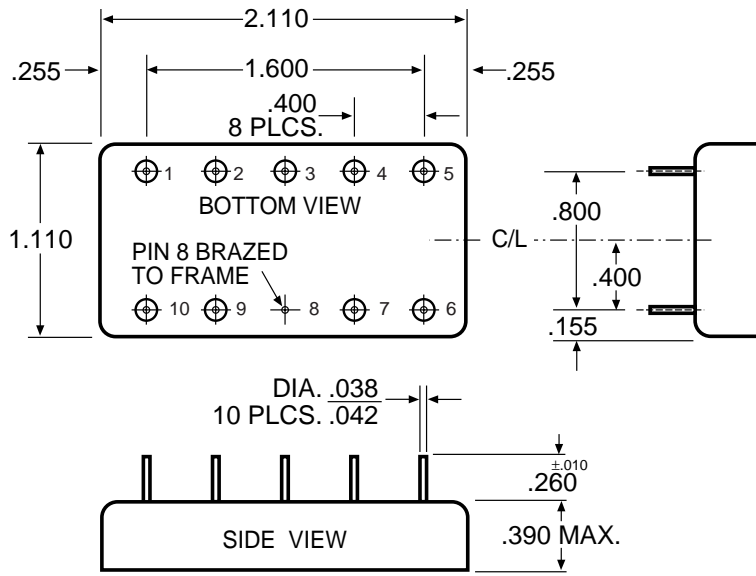
The OHD2800S series of converters provide an active low (<0.8 V) inhibit pin that can be used to disable the converter, resulting in a zero output voltage and very low quiescent current.

2.1

Low Voltage Lockout

Omnirel's OHS2800S series of converters are designed to operate from an input voltage of 16 to 40 Vdc. The converter will not start until the input voltage reaches approximately 15 Vdc. Once operating, the unit will shut down when the input voltage drops below approximately 14 Vdc.

MECHANICAL OUTLINE



2.1

PIN CONNECTION

| Pin | OHD2805S | OHD2812S/OHD2815S |
|-----|---------------|-------------------|
| 1 | + Input | + Input |
| 2 | Inhibit Input | Inhibit Input |
| 3 | Output Adjust | N/C |
| 4 | Output Common | Output Common |
| 5 | + Output | + Output |
| 6 | N/C | N/C |
| 7 | N/C | N/C |
| 8 | Case Ground | Case Ground |
| 9 | Sync | Sync |
| 10 | Input Common | Input Common |

ORDERING INFORMATION

