Piezo Haptic Driver with Integrated Boost Converter

Check for Samples: DRV8662

FEATURES

- **High-Voltage Piezo Haptic Driver**
  - **Drives up to 100 nF at 200 V_{PP} and 300 Hz**
  - **Drives up to 150 nF at 150 V_{PP} and 300 Hz**
  - **Drives up to 330 nF at 100 V_{PP} and 300 Hz**
  - **Drives up to 680 nF at 50 V_{PP} and 300 Hz**
  - **Differential Output**
- **Integrated Boost Converter**
  - **Adjustable Boost Voltage**
  - **Adjustable Current Limit**
  - **Integrated Power FET and Diode**
  - **No Transformer Required**
- **Fast Start Up Time of 1.5 ms**
- **Wide Supply Voltage Range of 3.0 V to 5.5 V**
- **1.8V Compatible Digital Pins**
- **Thermal Protection**
- **Available in a 4 mm × 4 mm × 0.9 mm QFN package (RGP)**

APPLICATIONS

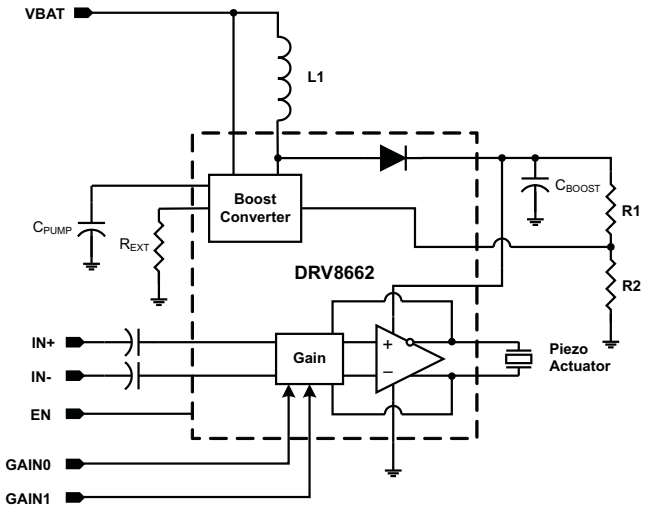
- **Mobile Phones**
- **Tablets**
- **Portable Computers**
- **Keyboards and Mice**
- **Touch Enabled Devices**

DESCRIPTION

The DRV8662 is a single-chip piezo haptic driver with integrated 105 V boost switch, integrated power diode, and integrated fully-differential amplifier. This versatile device is capable of driving both high-voltage and low-voltage piezo haptic actuators. The input signal can be either differential or single-ended. The DRV8662 supports four GPIO-controlled gains: 28.8 dB, 34.8 dB, 38.4 dB, and 40.7 dB.

The boost voltage is set using two external resistors, and the boost current limit is programmable via the R_{EXT} resistor. The boost converter architecture will not allow the demand on the supply current to exceed the limit set by the R_{EXT} resistor; therefore, the DRV8662 is well-suited for portable applications. This feature also allows the user to optimize the DRV8662 circuit for a given inductor based on the desired performance requirements.

A typical start-up time of 1.5 ms makes the DRV8662 an ideal piezo driver for fast haptic responses. Thermal overload protection prevents the device from being damaged when overdriven.



For more information, please contact your local TI sales representative.

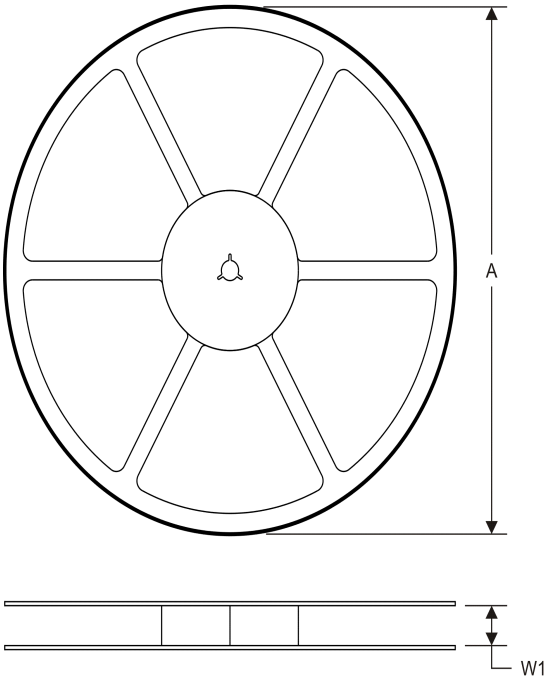
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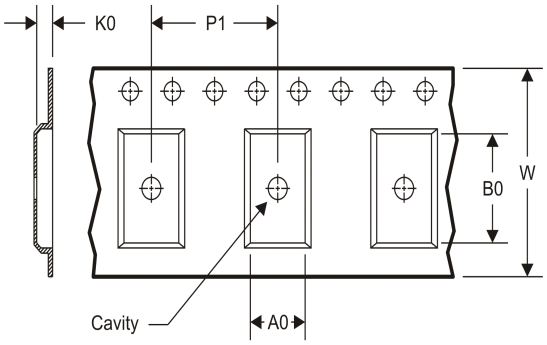
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TAPE AND REEL INFORMATION

REEL DIMENSIONS



TAPE DIMENSIONS



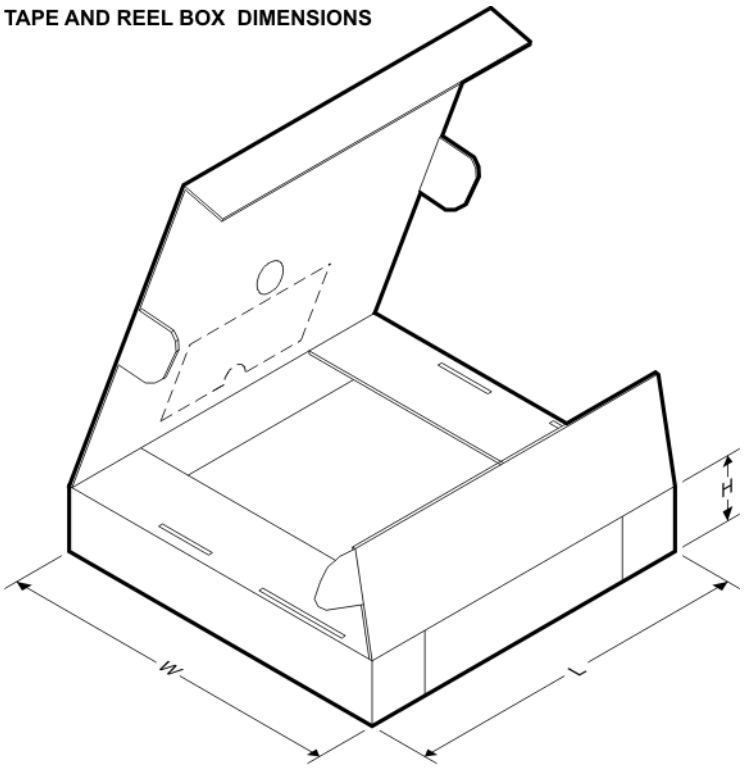
A0	Dimension designed to accommodate the component width
B0	Dimension designed to accommodate the component length
K0	Dimension designed to accommodate the component thickness
W	Overall width of the carrier tape
P1	Pitch between successive cavity centers

TAPE AND REEL INFORMATION

*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
DRV8662RGPR	QFN	RGP	20	3000	330.0	12.4	4.25	4.25	1.15	8.0	12.0	Q2
DRV8662RGPT	QFN	RGP	20	250	180.0	12.4	4.25	4.25	1.15	8.0	12.0	Q2

TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
DRV8662RGPR	QFN	RGP	20	3000	367.0	367.0	35.0
DRV8662RGPT	QFN	RGP	20	250	210.0	185.0	35.0

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