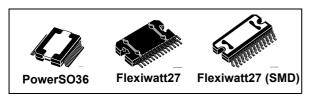


High efficiency digital input quad power amplifier with built-in diagnostics features, 'start stop' compatible

Data brief - production data



Features

- 24-bit resolution
- 110 dB dynamic range (A-weighted)
- SB-I (SB improved) high efficiency operation the highest 'non - class D' efficiency
- 1 Ohm driving capability (only in PowerSO36 package)
 - High output power capability: $4 \times 28 \times 4 \Omega \otimes 14.4 \text{ V}$, 1 kHz, THD = 10 %
 - Max output power: 4 x 72 W 2 Ω
- Flexible mode control:
 - Full I²C bus driving 1.8V/3.3V) with four addresses selectable (only for PowerSO36 package option)
 - Independent front/rear play/ mute
 - Four selectable gains for very-low noise line-out function
 - Digital diagnostic with DC and AC load detections
- Optional H/W control (no I²C bus)
- Start-stop compatibility (operation down to 6V)
- Sample rates: 44.1 kHz, 48 kHz, 96 kHz, 192 kHz
- Flexible serial data port (1.8 V / 3.3 V):
 - I²S standard, TDM 4Ch, TDM 8Ch, TDM 16Ch
- Offset detector (play or mute mode)
- Independent front/rear clipping detector
- Programmable diagnostic pin
- CMOS compatible enable pin
- Thermal protection

Description

The TDA7802 is a single chip quad bridge amplifier in advanced BCD technology integrating: a full D/A converter, digital input for direct connection to I²S (or TDM) and powerful MOSFET output stages.

The integrated D/A converter allows the performance to reach an outstanding 115 dB S/N ratio with more than 110 dB of dynamic range.

Moreover the TDA7802 integrates an innovative high efficiency concept, optimized also for uncorrelated music signals, that makes it the most suitable device to simplify the thermal management in high power sets.

Thanks to this concept, the dissipated outputpower under average listening conditions can be reduced up to 50% when compared to the conventional class AB solutions.

The TDA7802 integrates also a programmable PLL that is able to lock at the input frequencies of 64*Fs and 50*Fs for all the input configurations.

The device is equipped with a full diagnostics array that communicates the status of each speaker through the I²C bus. The same I²C bus allows to control several configurations of the device.

The TDA7802 is able to play music down to 6 V supply voltage - so it is compatible with the so called 'start stop' battery profile recently adopted by several car makers (thus reducing the fuel consumption and and the impact over the environment).

Table 1. Device summary

| Order code | Package | Packing | |
|-------------|------------------------|-------------|--|
| TDA7802 | Flexiwatt27 (Vertical) | Tube | |
| TDA7802SM | Flexiwatt27 (SMD) | Tube | |
| TDA7802SMTR | Flexiwatt27 (Sivid) | Tape & reel | |
| TDA7802PD | PowerSO36 | Tube | |
| TDA7802PDTR | FowerSO30 | Tape & reel | |

Contents TDA7802

Contents

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| 2 | Package information | > | | | | | | | |
| 3 | Revision history9 |) | | | | | | | |



Block diagram and pins description 1

Block diagram 1.1

 I^2C CD/DIAG VCC 23 7 21 I²C PLLLFilter/ ENABLE ▶ 10 OUT1+ Thermometric 64 x 2 Current Diagn. Fully Balanced PLL generators 8 OUT1array DDWA Thermometric ▶6 OUT2+ 64 x 2 Code Fully Balanced WS Current Conversiio Interpol. 64Fs generators 4 OUT2-SCK array DDWA 128 Noise 18 _{OUT3+} SD2 4 64 x 2 Current shaper Code Fully Balanced Conversion generators SD1_3 13 ≥20 _{OUT3-} array DDWA ermometric Code 22 _{OUT4+} 64 x 2 Current Fully Balanced Conversion ST-BY Transresistand Power Filter generators 24 _{OUT4-} array DDWA A2D T_{VCC} 16 14 25 19 9 3 17 1 D3V Dgnd PW GND A3V TAB Agnd GAPGPS00795

Figure 1. Block diagram (Flexiwatt27)

Pins description 1.2

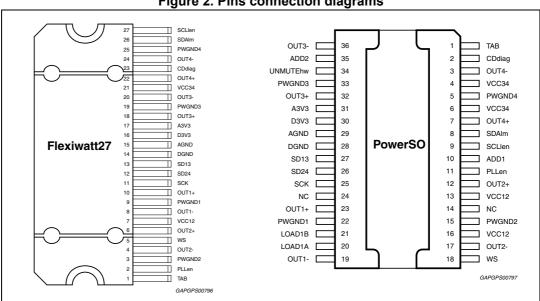


Figure 2. Pins connection diagrams

Table 2. Flexiwatt27 pins description

| N° | Pin | Function | |
|----|--------|---|---------------------|
| 1 | TAB | TAB connection | Ground |
| 2 | PLLen | PII loop filter / ENABLE | Input |
| 3 | PWGND2 | Power ground channel 2 | Power Ground |
| 4 | OUT 2- | Channel 2 (Left Rear) negative output | Power Output |
| 5 | WS | Word select (I2S bus) | Logic Input |
| 6 | OUT 2+ | Channel 2 (Left Rear) positive output | Power Output |
| 7 | VCC12 | Channel 1 and 2 positive supply | Battery |
| 8 | OUT 1- | Channel 1 (Left Front) negative output | Power Output |
| 9 | PWGND1 | Power ground channel 1 | Power Ground |
| 10 | OUT 1+ | Channel 1 (Left Front) positive output | Power Output |
| 11 | SCK | Serial clock (I2S bus) | Logic Input |
| 12 | SD24 | Serial data channels 2 and 4 (I2S bus) | Logic Input |
| 13 | SD13 | Serial data channels 1 and 3 (I2S bus) | Logic Input |
| 14 | DGND | Digital ground | Signal Ground |
| 15 | AGND | Analog ground | Signal Ground |
| 16 | D3V3 | Digital 3.3 V supply filter | Digital Regulator |
| 17 | A3V3 | Analog 3.3 V supply filter | Analog Regulator |
| 18 | OUT3+ | Channel 3 (right front) positive output | Power Output |
| 19 | PWGND3 | Power ground channel 3 | Power Ground |
| 20 | OUT3- | Channel 3 (right front) negative output | Power Output |
| 21 | VCC34 | Channels 3 and 4 positive supply | Battery |
| 22 | OUT4+ | Channel 4 (right rear) positive output | Power Output |
| 23 | CDdiag | Clip detector and diagnostic output: Overcurrent protection intervention Thermal warning POR Output DC offset Output short to VCC/GND | Open Drain Output |
| 24 | OUT4- | Channel 4 (right rear) negative output | Power Output |
| 25 | PWGND4 | Power ground channel 4 | Power Ground |
| 26 | SDAIm | I ² C data/legacy mode mute | Signal Input/Output |
| 27 | SCLlen | I ² C clock/enable legacy mode | Signal Input |



Table 3. PowerSO36 pins description

| N° | Pin | Function | | | | | |
|----|----------|--|---------------------|--|--|--|--|
| 1 | TAB | TAB connection | - | | | | |
| 2 | CDdiag | Clip detector and diagnostic output: Overcurrent protection intervention Thermal warning POR | Open Drain Output | | | | |
| 3 | OUT4- | Channel 4 (right rear) negative output | Power Output | | | | |
| 4 | VCC34 | Channels 3 and 4 positive supply | Battery | | | | |
| 5 | PWGND4 | Power ground channel 4 | Power Ground | | | | |
| 6 | VCC34 | Channels 3 and 4 positive supply | Battery | | | | |
| 7 | OUT4+ | Channel 4 (right rear) positive output | Power Output | | | | |
| 8 | SDAIm | I ² C data/legacy mode mute | Signal Input/Output | | | | |
| 9 | SCLlen | I ² C clock/enable legacy mode | Signal Input | | | | |
| 10 | ADD1 | I2C Address - First Pin | Logic Input | | | | |
| 11 | PLLen | Pll loop filter / ENABLE | Input | | | | |
| 12 | OUT 2+ | Channel 2 (Left Rear) positive output | Power Output | | | | |
| 13 | VCC12 | Channel 1 and 2 positive supply | Battery | | | | |
| 14 | NC | Not Connected | - | | | | |
| 15 | PWGND2 | Power ground channel 2 | Power Ground | | | | |
| 16 | VCC12 | Channel 1 and 2 positive supply | Battery | | | | |
| 17 | OUT 2- | Channel 2 (Left Rear) negative output | Power Output | | | | |
| 18 | WS | Word select (I2S bus) | Logic Input | | | | |
| 19 | OUT 1- | Channel 1 (Left Front) negative output | Power Output | | | | |
| 20 | LOAD1A | Load Selection (channels 1 and 2) | Logic Input | | | | |
| 21 | LOAD1B | Load Selection (channels 3 and 4) | Logic Input | | | | |
| 22 | PWGND1 | Power ground channel 1 | Power Ground | | | | |
| 23 | OUT 1+ | Channel 1 (Left Front) positive output | Power Output | | | | |
| 24 | NC | Not Connected | - | | | | |
| 25 | SCK | Serial clock (I2S bus) | Logic Input | | | | |
| 26 | SD24 | Serial data channels 2 and 4 (I2S bus) | Logic Input | | | | |
| 27 | SD13 | Serial data channels 1 and 3 (I2S bus) | Logic Input | | | | |
| 28 | DGND | Digital ground | Signal Ground | | | | |
| 29 | AGND | Analog ground | Signal Ground | | | | |
| 30 | D3V3 | Digital 3.3 V supply filter | Digital Regulator | | | | |
| 31 | A3V3 | Analog 3.3 V supply filter | Analog Regulator | | | | |
| 32 | OUT3+ | Channel 3 (right front) positive output | Power Output | | | | |
| 33 | PWGND3 | Power ground channel 3 | Power Ground | | | | |
| 34 | UNMUTEhw | Unmute Hardware | Logic input | | | | |
| 35 | ADD2 | I2C Address - Second Pin | Logic Input | | | | |
| 36 | OUT3- | Channel 3 (right front) negative output | Power Output | | | | |



TDA7802 Package information

Package information 2

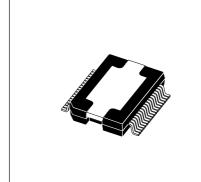
In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com.

ECOPACK® is an ST trademark.

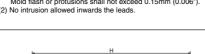
Figure 3. PowerSO36 (slug up) mechanical data and package dimensions

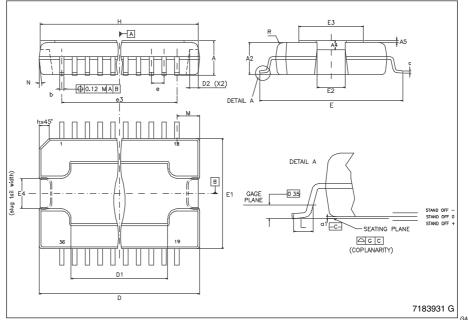
| DIM. | | mm | | inch | | |
|--------|---|-----------|-------------|-----------|--------|--------|
| DIIVI. | MIN. | TYP. | MAX. | MIN. | TYP. | MAX |
| Α | 3.270 | - | 3.410 | 0.1287 | - | 0.134 |
| A2 | 3.100 | • | 3.180 | 0.1220 | • | 0.125 |
| A4 | 0.800 | - | 1.000 | 0.0315 | - | 0.039 |
| A5 | - | 0.200 | - | - | 0.0079 | - |
| a1 | 0.030 | • | -0.040 | 0.0012 | • | -0.001 |
| b | 0.220 | - | 0.380 | 0.0087 | - | 0.015 |
| С | 0.230 | - | 0.320 | 0.0091 | - | 0.012 |
| D | 15.800 | - | 16.000 | 0.6220 | - | 0.629 |
| D1 | 9.400 | - | 9.800 | 0.3701 | - | 0.385 |
| D2 | - | 1.000 | - | - | 0.0394 | - |
| E | 13.900 | - | 14.500 | 0.5472 | - | 0.570 |
| E1 | 10.900 | - | 11.100 | 0.4291 | - | 0.437 |
| E2 | - | - | 2.900 | - | - | 0.114 |
| E3 | 5.800 | - | 6.200 | 0.2283 | - | 0.244 |
| E4 | 2.900 | - | 3.200 | 0.1142 | - | 0.126 |
| е | - | 0.650 | - | - | 0.0256 | - |
| еЗ | - | 11.050 | - | - | 0.4350 | - |
| G | 0 | - | 0.075 | 0 | - | 0.003 |
| Н | 15.500 | - | 15.900 | 0.6102 | - | 0.626 |
| h | - | - | 1.100 | - | - | 0.043 |
| L | 0.800 | - | 1.100 | 0.0315 | - | 0.043 |
| N | - | - | 10° | - | - | 10° |
| S | - | - | 8° | - | - | 8° |
| Mold | d E1" do n flash or pi trusion allo | rotusions | shall not e | exceed 0. | | 006"). |

OUTLINE AND MECHANICAL DATA



PowerSO36 (SLUG UP)





TDA7802 Package information

Figure 4. Flexiwatt27 (vertical) mechanical data and package dimensions

| A 4 B 1 C C C E C C C E C C C E C C C E C C C E C C C E C C C E C C C C E C | 4.45 4. 1.80 1. 1.0.75 0. 0.37 0. 0.80 1. 25.75 26 28.90 29 17 12 2.0.7 22 18.57 18 15.50 15 7.70 7. 3.370 4. 3.60 4. 2. 1. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. | 3 20 45 on not include | 6 0.175 0 0.070 6 0.029 2 0.014 7 0.869 7 0.731 0 0.145 0 0.142 0 0.142 0 0.145 0 0.149 0 0.149 0 0.149 0 0.791 0 0.149 0 0.149 | 0.055 0.035 0.015 0.040 1.023 1.150 0.669 0.503 0.031 0.884 0.747 0.618 | 0.079 0.041 0.016 0.022 0.047 1.033 1.153 | | OUTLINE AND MECHANICAL DATA Flexiwatt27 (vertical) |
|--|--|---|--|---|---|----|---|
| B 1 C C D C C C C C C C C C C C C C C C C | 1.80 1. 1.00.75 0. 0.75 0. 0.80 1. 25.75 26. 28.90 29 17 12 0 22.07 22 18.57 18 15.50 15 7.70 7. 3 3.70 4. 3.60 4. 2. 3.60 4. 1. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. | .90 2.0 .40404040505060 | 0 0.070 0 0.029 2 0.014 7 7 0.869 7 0.731 6 0.303 6 0.303 7 0.442 0 0 0.145 0 0.145 0 0.142 0 0 0.747 0 0.797 0 0.797 0 0.797 0 0.797 0 0.797 | 0.074 0.055 0.035 0.015 0.015 0.015 0.040 1.023 1.150 0.669 0.503 0.031 0.884 0.747 0.618 0.309 0.197 0.197 0.197 0.197 0.067 0.066 0.006 | 0.079 0.041 0.016 0.022 0.047 1.033 1.153 0.904 0.762 0.626 0.313 | | MECHANICAL DATA |
| C D C G C G C G C G C G C G C G C G C G | 1.0.75 0.0.37 0. | .40 .90 .1.0 .39 .0.39 .0.4 .0.5 .0.0 .1.2 .0.0 .26.2 .9.23 .29.3 .7.00 .2.80 .80 .80 .80 .89 .7.00 .80 .80 .80 .80 .80 .80 .80 .80 .80 | 7 0.869 7 0.731 7 0.869 7 0.731 0 0.145 0 0.145 0 0.145 0 0.145 0 0.146 0 0.146 0 0.147 0 0.147 0 0.147 0 0.147 0 0.147 0 0.147 0 0.147 | 0.055 0.035 0.015 0.040 1.023 1.150 0.669 0.503 0.031 0.844 0.747 0.618 0.309 0.197 0.197 0.157 0.157 0.066 0.079 0.067 | 0.041 0.016 0.022 0.047 1.033 1.153 0.904 0.762 0.626 0.313 | | |
| D C E C C C C C C C C C C C C C C C C C | 0.75 0. 0.37 0. 0.80 1. 25.75 26 28.90 29 17 12 0.0 18.57 18 15.50 15 7.70 7. 3.3.70 4. 3.60 4. 1.0 0. 0.0 0. 0.0 0. 0.0 0. 0.0 0. 0.0 0. 0.0 0. 0.0 0. | 0.90 | 2 0.014 7 0.031 5 1.014 0 1.139 7 0.869 7 0.731 0 0.610 6 0.303 0 0.145 0 0.142 1 (Typ.) 6 (Typ.) 6 (Typ.) | 0.035 0.015 0.040 1.023 1.150 0.669 0.503 0.031 0.884 0.747 0.618 0.309 0.197 0.157 0.057 0.067 0.02 0.02 | 0.016 0.022 0.047 1.033 1.153 0.904 0.762 0.626 0.313 | | Flexiwatt27 (vertical) |
| F (1) G C G1 2: H1 (2) 2: H1 H2 H3 L (2) 2: L1 1: L3 7 L4 L5 M 3 N 0 R R R1 R2 R3 R4 V V1 V2 V3 (1): dam-ba | 0.80 1.25.75 26.28.90 29.28.90 17.12 0 17.12 0 17.12 18.57 18.15.50 15.7.70 7 18.15.50 15.30 | 0.5 0.00 1.2 0.600 26.2 0.9.23 29.3 0.80 0.80 0.2.47 22.6 8.97 19.3 5.70 15.9 5.5 3.5 0.00 4.3 0.100 4.4 0.200 2 0.5 0.3 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.70 0.5 0.70 0.5 0.70 0.70 | 7 0.031 5 1.014 0 1.139 7 0.869 7 0.731 0 0.610 6 0.303 0 0.142 0 0.142 0 (Typ.) ° (Typ.) | 0.040 1.023 1.150 0.669 0.503 0.031 0.884 0.747 0.618 0.309 0.197 0.157 0.157 0.086 0.086 0.096 0.096 0.096 0.096 0.02 | 0.022 0.047 1.033 1.153 0.904 0.762 0.626 0.313 | | Flexiwatt27 (vertical) |
| G C G1 2: H (2) 2: H (2) 2: H (3) 4: H (2) 2: L (3) 2: L (4) L (5) M (3) M (3) N (5) C R R R R R R R R R V V V 1 V 2 V 3 (1): dam-ba (1): dam-ba (1): dam-ba (1): C R (1): C R R R R R R R R R R R R R R R R R R | 25.75 26 28.90 29 17 12 0.22.07 22 18.57 18 15.50 15 7.70 7. 3 3.70 4. 3.60 4. 2. 11. 0.0 | 1.00 1.26 1.00 26.26 1.00 26.29 1.00 26.29 1.00 26.29 1.00 26.29 1.00 26.29 1.00 4.3 1.00 4.4 1.00 4.4 1.00 4.3 1.00 4.3 1.00 4.3 1.00 4.3 1.00 4.3 1.00 4.4 1.00 4.4 1.0 | 0 0.031 5 1.014 0 1.139 7 0.869 7 0.731 0 0.610 6 0.303 0 0.145 0 0.142 0 0.142 0 0.142 0 0.145 0 0.791 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 1.023 1.150 0.669 0.503 0.031 0.884 0.747 0.618 0.309 0.197 0.157 0.086 0.079 0.067 0.02 0.12 | 0.047 1.033 1.153 0.904 0.762 0.626 0.313 | | Flexiwatt27 (vertical) |
| G1 2: H (2) 2: H1 H2 H3 L (2) 2: L1 H1 L2 (2) L3 7 L4 L5 M S N O R R R1 R2 R3 R4 V V V1 V2 V3 (1): dam-ba (1): dam-ba (1): C (1): dam-ba (1): C (1): dam-ba (1): C | 25.75 26 28.90 29 17 12 0.22.07 22 18.57 18 15.50 15 7.70 7. 3 3.70 4. 3.60 4. 2. 11. 0.0 | 6.00 26.2 9.23 29.3 29.32 29.3 29.80 2.80 2.80 2.47 22.8 5.70 15.5 7.85 7.9 15.5 7.85 7.9 15.5 1.00 4.3 1.00 4.4 1.20 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 5 1.014 0 1.139 7 0.869 7 0.731 0 0.610 6 0.303 0 0.145 0 0.142 0 (Typ.) ° (Typ.) | 1.023 1.150 0.669 0.503 0.031 0.884 0.747 0.618 0.309 0.197 0.157 0.086 0.079 0.067 0.02 0.12 | 1.033 1.153 0.904 0.762 0.626 0.313 | | Flexiwatt27 (vertical) |
| H (2) 2: H1 H2 H3 L (2) 2: L1 1: L2 (2) 1: L3 7 L4 L5 M 3 N 0 R R1 R2 R3 R4 V V1 V1 V2 V3 (1): dam-ba | 28.90 29 17 12 | 9.23 29.3 7.00 8.80 8.80 8.87 9.36 8.87 19.3 8.87 19.3 8.87 19.3 8.85 7.9 5 3.5 4.00 4.3 8.00 4.3 8.00 6.00 6.00 6.00 6.00 6.00 6.00 6.00 | 0 1.139 7 0.869 7 0.731 0 0.610 6 0.303 0 0.145 0 0.142 0 (Typ.) 0 (Typ.) 0 (Typ.) | 1.150 0.669 0.503 0.031 0.884 0.747 0.618 0.309 0.197 0.157 0.057 0.066 0.079 0.067 0.02 | 0.904 0.762 0.626 0.313 | | Flexiwatt27 (vertical) |
| H1 H2 H3 L(2) 2: L1 1: L2 (2) 1: L3 7 L4 L5 M 3 N O R R R1 R2 R3 R4 V V1 V1 V2 V3 (1): dam-ba (1): dam | 17 12 0 17 18 0 18.57 18.57 18.57 18.57 18.67 19 | 7.00 2.80 2.80 2.80 2.80 2.80 2.47 22.8 2.70 3.5 3.5 3.5 3.5 3.5 3.6 3.70 3 | 7 0.869 7 0.731 0 0.610 6 0.303 0 0.145 0 0.142 0 (Typ.) ° (Typ.) ° (Typ.) | 0.669 0.503 0.031 0.884 0.747 0.618 0.309 0.197 0.138 0.157 0.086 0.079 0.067 0.02 0.12 | 0.904 0.762 0.626 0.313 | | Flexiwatt27 (vertical) |
| H3 | 0.22.07 22 18.57 18 15.50 15 7.70 7. 3 3.70 4. 3.60 4. 2. 1. 0. 0. | 0.80 22.8 22 | 7 0.731 0 0.610 6 0.303 0 0.145 0 0.142 0 0.142 0 0.167 0 (Typ.) 0 (Typ.) | 0.031 0.884 0.747 0.618 0.309 0.197 0.138 0.157 0.086 0.079 0.067 0.02 0.12 | 0.762 0.626 0.313 0.169 | | Flexiwatt27 (vertical) |
| L (2) 2: L1 1: L2 (2) 1: L3 7 L4 L5 | 22.07 | 2.47 22.8 8.97 19.3 15.5 8.85 7.9 5 3.5 1.00 4.3 1.00 4.3 1.00 4.3 1.00 5 1.70 0.5 1.70 0.5 1. | 7 0.731 0 0.610 6 0.303 0 0.145 0 0.142 0 0.142 0 0.167 0 (Typ.) 0 (Typ.) | 0.884 0.747 0.618 0.309 0.197 0.138 0.157 0.057 0.086 0.079 0.067 0.02 0.12 | 0.762 0.626 0.313 0.169 | | Flexiwatt27 (vertical) |
| L1 1; L2 (2) 1; L3 7 L4 L5 M 3 M1 3 N 0 R R R1 R2 R3 R4 V V1 V1 V2 V3 (1); dam-ba | 18.57 | 8.97 19.3 5.70 15.85 7.9 5.5 3.5 3.5 4.00 4.3 2.20 2 2 .770 0.5 0.5 5 3.25 0.50 5 4.4 0.50 4.4 0.50 6 2.20 4.4 0.50 6 2.20 4.4 0.50 6 3.50 6 4.50 6 4.50 6 5.50 6 5.50 6 6.50 | 7 0.731 0 0.610 6 0.303 0 0.145 0 0.142 0 0.142 0 0.167 0 (Typ.) 0 (Typ.) | 0.747 0.618 0.309 0.197 0.138 0.157 0.086 0.079 0.067 0.02 0.12 | 0.762 0.626 0.313 0.169 | | Flexiwatt27 (vertical) |
| L2 (2) 1: L3 7 L4 L5 M 3 M1 3 N 0 R R1 R2 R3 R4 V V1 V2 V3 (1): dam-ba | 15.50 15 7.70 7. 3 3.70 4. 3.60 4. 1. 0. 1. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. | 5.70 15.8 8.85 7.9 5 3.5 1.00 4.3 1.00 4.4 1.00 4.4 1.00 4.4 1.00 4.4 1.00 4.5 1.00 5 1.00 5 | 0 0.610 0 0.303 0 0.145 0 0.142 0 0.142 0 0.142 0 0.142 | 0.618 0.309 0.197 0.138 0.157 0.157 0.086 0.079 0.067 0.02 0.12 | 0.626 0.313 0.169 | | Flexiwatt27 (vertical) |
| L3 7 L4 L5 M 3 M1 3 N 0 R R1 R2 R3 R4 V V1 V1 V2 V3 (1): dam-ba | 7.70 7. | 7.85 7.9 5 5 3 20 4.4 4.220 2 2 | 0.303 0 0.145 0 0.142 0 0.142 0 (Typ.) 0 (Typ.) 0 (Typ.) | 0.309 0.197 0.138 0.157 0.157 0.086 0.079 0.067 0.02 0.12 0.049 | 0.313 | | Flexiwatt27 (vertical) |
| L4 L5 M 3 M1 3 N 0 R 8 R1 R2 R3 R4 V V1 V2 V3 (1): dam-ba | 3.70 4.3.60 4.1 1.1 0.0 0.1 1.1 0.0 0.0 0.0 0.0 0.0 0 | 5 3.5 | 0 0.145 0 0.142 0 (Typ.) 0 (Typ.) 0 (Typ.) 0 (Typ.) | 0.197 0.138 0.157 0.157 0.086 0.079 0.067 0.02 0.12 0.049 | 0.169 | | Flexiwatt27 (vertical) |
| M 3 M1 3 N 0 R R1 R2 R3 R4 V V1 V2 V3 (1): dam-ba | 3.70 4. 3.60 4. 2.: 1 0 0 1 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. | 1.00 4.3 1.00 4.4 2.20 2 2 1.70 0.5 0.3 1.25 0.50 5 3 20 44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | 0.142 (Typ.) (Typ.) (Typ.) (Typ.) | 0.157 0.086 0.079 0.067 0.02 0.12 0.049 | | | Flexiwatt27 (vertical) |
| M1 3 N 0 R R1 R2 R3 R4 V V1 V2 V3 (1): dam-ba | 3.60 4. 2. 1. 1. 0. 0. 0. 1. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. | 1.00 4.4 2.20 2 1.70 0.5 0.3 1.25 0.50 5 3 20 44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | 0.142 (Typ.) (Typ.) (Typ.) (Typ.) | 0.157 0.086 0.079 0.067 0.02 0.12 0.049 | | | Flexiwatt27 (vertical) |
| N O R R1 R2 R3 R4 V V1 V2 V3 (1): dam-ba | 2 1 0 0 0 1 0 0 0 0 | 2.20 2 1.70 0.5 0.3 2.25 0.50 5 3 20 41 | ° (Typ.) ° (Typ.) ° (Typ.) ° (Typ.) | 0.086 0.079 0.067 0.02 0.12 0.049 | 0.173 | | Flexiwatt27 (vertical) |
| O R R1 R2 R3 R4 V V1 V2 V3 (1): dam-ba | 1. 0 0 0 1.: | 2 1.70 0.5 0.3 1.25 0.50 5 20 44 on not include | ° (Typ.) ° (Typ.) ° (Typ.) | 0.079 0.067 0.02 0.12 0.049 | | | Flexiwatt27 (vertical) |
| R R1 R2 R3 R4 V V1 V2 V3 (1): dam-ba | 1. 0 0 1. 0. | 1.70 0.5 0.3 1.25 0.50 5 3 20 4! | ° (Typ.) ° (Typ.) ° (Typ.) | 0.067 0.02 0.12 0.049 | | | Flexiwatt27 (vertical) |
| R2 R3 R4 V V1 V2 V3 (1): dam-ba | 0 1.: | 0.3 1.25 0.50 5 3 20 45 on not include | ° (Typ.) ° (Typ.) ° (Typ.) | 0.02 0.12 0.049 | | | Flexiwatt27 (vertical) |
| R3 R4 V V1 V2 V3 (1): dam-ba | 1 0 | 1.25 0.50 5 3 20 45 on not include | ° (Typ.) ° (Typ.) ° (Typ.) | 0.049 | | | Flexiwatt27 (vertical) |
| R4 V V1 V2 V3 (1): dam-ba | 0. | 0.50 5 3 20 48 on not include | ° (Typ.) ° (Typ.) ° (Typ.) | | | | Flexiwatt27 (vertical) |
| V V1 V2 V3 (1): dam-ba | par protusion | 5 3 20 45 n not include | ° (Typ.) ° (Typ.) ° (Typ.) | 0.010 | | | Flexiwatt27 (vertical) |
| V2 V3 (1): dam-ba | | 3 20 45 on not include | ° (Typ.) ° (Typ.) ° (Typ.) | | | | riexiwattzi (verticai) |
| V3 (1): dam-ba | | 45 on not include | ° (Typ.) | | | | |
| (1): dam-ba | | n not include | | | | 1 | |
| | | | | | | | |
| | | ninciuaea | - | | | | |
| 7 | V | v3 | — H3 | H H1 | R3 | R4 | R2 L1 V1 R1 R1 E |

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Figure 5. Flexiwatt27 (SMD) mechanical data and package dimensions

| DIM. | MINI | mm | MAY | MINI | inch | MAY | |
|---|--|--|----------------------------|------------------------------------|------------------------------|-----------|--|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. | OUTLINE AND |
| | 4.45 | 4.50 | 4.65 | 0.1752 | 0.1772 | 0.1831 | |
| В | 2.12 | 2.22 | 2.32 | 0.0835 | 0.0874 | 0.0913 | MECHANICAL DATA |
| С | | 1.40 | | | 0.0551 | \vdash | |
| D | | 2.00 | | | 0.0787 | | |
| E | 0.36 | 0.40 | 0.44 | 0.0142 | 0.0157 | 0.0173 | |
| F(**) | 0.47 | 0.51 | 0.57 | 0.0185 | 0.0201 | 0.0224 | |
| G(*) | 0.75 | 1.00 | 1.25 | 0.0295 | 0.0394 | 0.0492 | |
| G1 | 25.70 | 26.00 | 26.30 | 1.0118 | 1.0236 | 1.0354 | |
| G2(*) | 1.75 | 2.00 | 2.25 | 0.0689 | 0.0787 | 0.0886 | |
| H(**) | 28.85 | 29.23 | 29.40 | 1.1358 | 1.1508 | 1.1575 | |
| H1 | | 17.00 | | | 0.6693 | | |
| H2 | | 12.80 | | | 0.5039 | | |
| H3 | | 0.80 | | | 0.0315 | | _ |
| L(**) | 15.50 | 15.70 | 15.90 | 0.6102 | 0.6181 | 0.6260 | |
| L1 | 7.70 | 7.85 | 7.95 | 0.3031 | 0.3091 | 0.3130 | |
| L2 | 14.00 | 14.20 | 14.40 | 0.5512 | 0.5591 | 0.5669 | |
| L3 | 11.80 | 12.00 | 12.20 | 0.4646 | 0.4724 | 0.4803 | |
| L4 | 1.30 | 1.48 | 1.66 | 0.0512 | 0.0583 | 0.0654 | |
| L5 | 2.42 | 2.50 | 2.58 | 0.0953 | 0.0984 | 0.1016 | |
| L6 | 0.42 | 0.50 | 0.58 | 0.0953 | 0.0984 | 0.1016 | |
| M | 0.42 | 1.50 | 0.00 | 0.0100 | 0.0197 | 0.0220 | |
| N | | 2.20 | | _ | 0.0866 | \vdash | |
| N1 | 1.00 | | 1.00 | 0.0510 | | 0.0654 | |
| | 1.30 | 1.48 | 1.66 | 0.0512 | 0.0583 | 0.0654 | *** |
| N2(*) | 2.73 | 2.83 | 2.93 | 0.1075 | 0.1114 | 0.1154 | |
| P(*) | 4.73 | 4.83 | 4.93 | 0.1862 | 0.1902 | 0.1941 | |
| R | | 1.70 | | | 0.0669 | | |
| R1 | | 0.30 | | | 0.0118 | | |
| R2 | 0.35 | 0.40 | 0.45 | 0.0138 | 0.0157 | 0.0177 | |
| R3 | 0.35 | 0.40 | 0.45 | 0.0138 | 0.0157 | 0.0177 | |
| R4 | | 0.50 | | | 0.0197 | | |
| T(*) | -0.08 | | 0.10 | -0.0031 | | 0.0039 | |
| aaa(*) | | 0.1 | | | 0.0039 | | |
| V | | 45° | | | 450 | | |
| V1 | | | | | 45° | | |
| | | 3° | | | 3° | | Eleviwe#27 |
| V2 | 3° | 5° | 7° | 3° | 3° 5° | 7° | Flexiwatt27 |
| | 3° 12° | | 7° 18° | 3° 12° | 3° | 7° 18° | |
| V2 V3 V4 | | 5° 15° 5° | | | 3° 5° 15° 5° | | Flexiwatt27 (SMD) |
| V2 V3 V4 V5 Golden (i) – Dime | 12° parameters | 5° 15° 5° 20° | 18° | 12° protrusion. sh or protru | 3° 5° 15° 5° 20° | | (SMD) |
| V2 V3 V4 V5) Golden (**) – Dime | narameters asion "F" do | 5° 15° 5° 20° | 18° | 12° | 3° 5° 15° 5° 20° | 18° | (SMD) Detail "A" Rotated 90° CCW L5 V3 GAUGE PLANE SEATING PLAN N2 P N2 P S S S S S S S S S S S S |
| V2 V3 V4 V5 *) Golden **) – Dime | 12° Darameters sion "F" do sions "H" a | 5° 15° 5° 20° pesn't includind "L" including "L" includin | 18° le dam-bar de mold fla | protrusion. sh or protru | 3° 5° 5° 15° 5° 20° sions. | 18° | CSMD) Detail 'A' Rotated 90' CCW L5 QAUGE PLANE SEATING PLAN S N2 P Detail 'A' Rotated 90' CCW GAUGE PLANE SEATING PLAN S COMMON SEATING PLA |



TDA7802 Revision history

3 Revision history

Table 4. Document revision history

| Date | Revision | Changes |
|-------------|----------|------------------|
| 18-Jul-2013 | 1 | Initial release. |

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