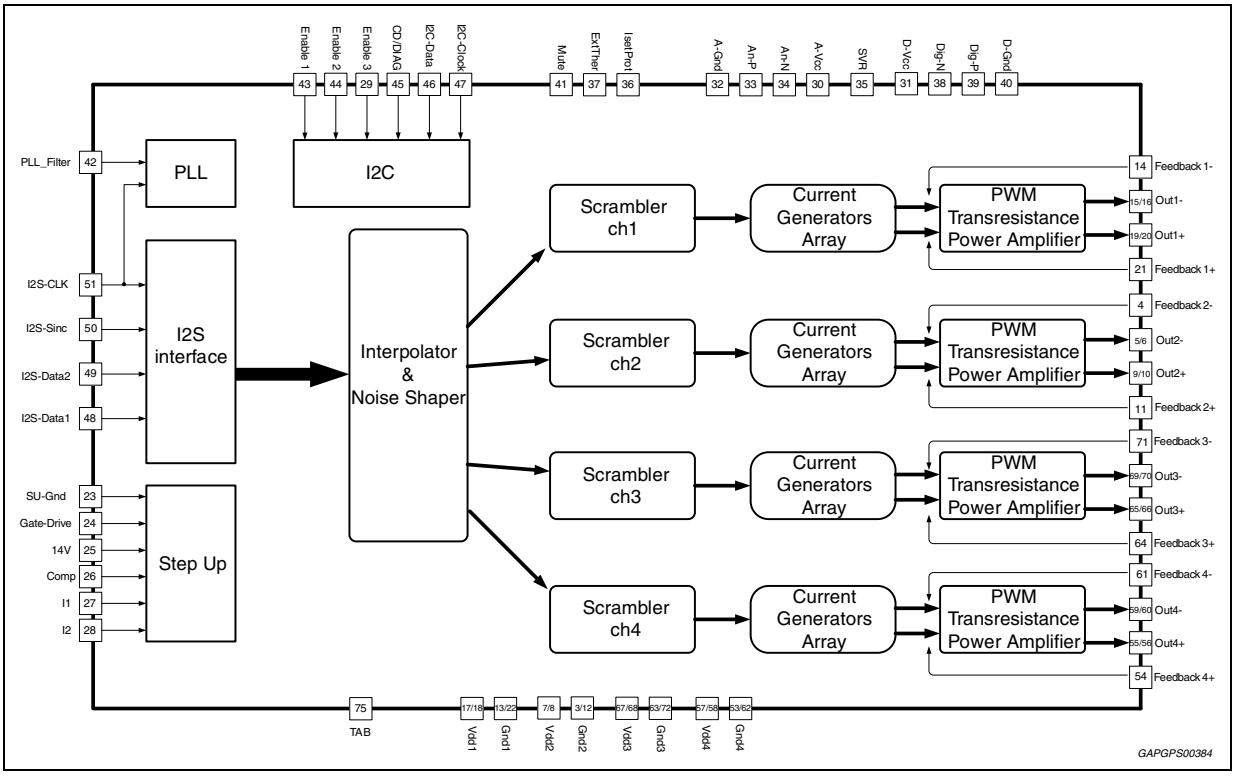
Contents

1 Block diagram

Figure 1. Block diagram



2 Pins description

Figure 2. Pins connection diagram (top view)

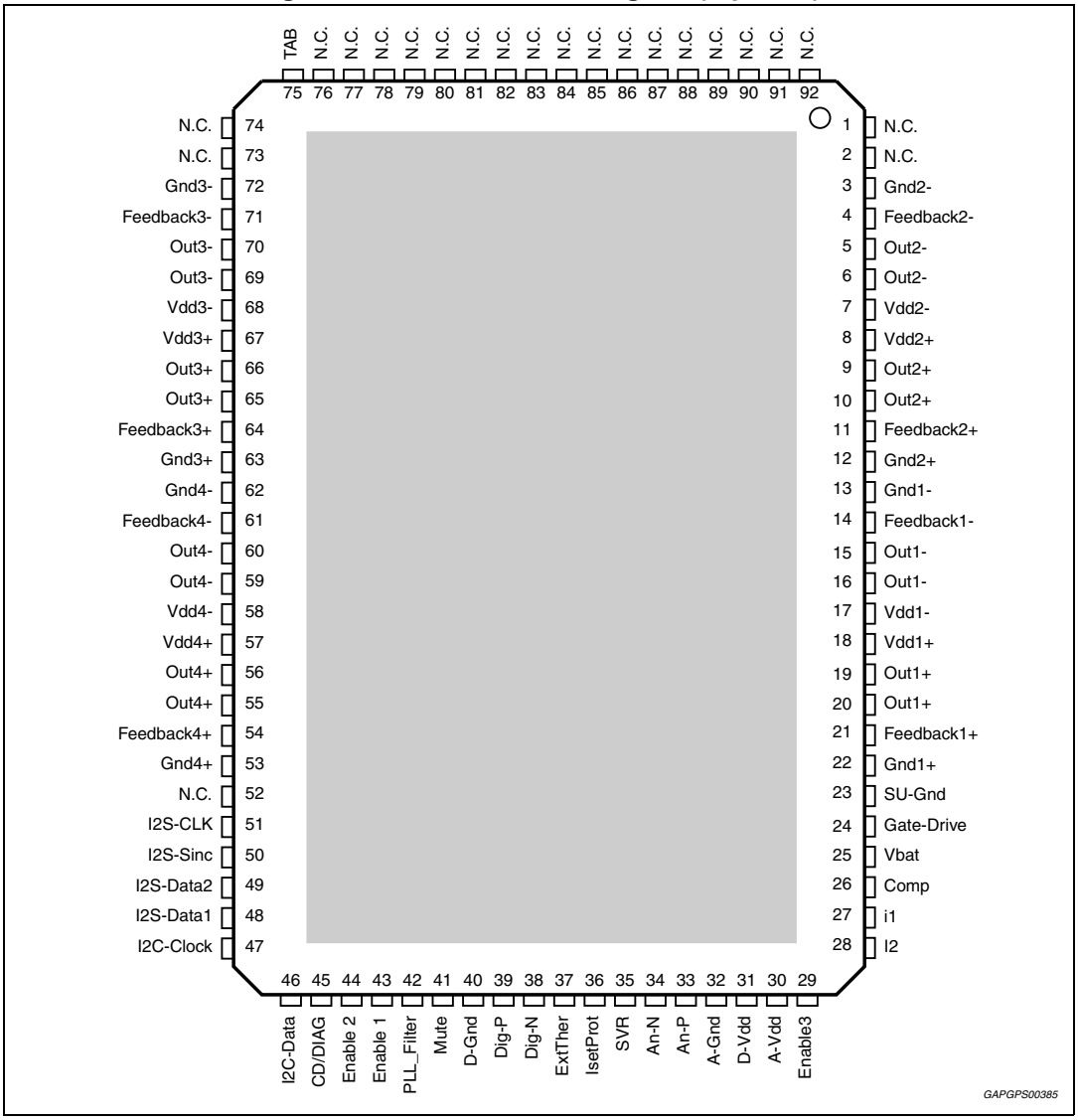


Table 2. Pins list description

Pin # (HiQUAD-92)	Pin name	Function
1	N.C.	Not connected
2	N.C.	Not connected
3	Gnd2-	Channel 2, half bridge power ground -
4	Feedback2-	Channel 2 half bridge feedback -
5	Out2-	Channel 2 half bridge output -
6	Out2-	Channel 2 half bridge output -

Table 2. Pins list description (continued)

Pin # (HiQUAD-92)	Pin name	Function
7	Vdd2-	Channel 2 half bridge power supply -
8	Vdd2+	Channel 2 half bridge power supply +
9	Out2+	Channel 2 half bridge output +
10	Out2+	Channel 2 half bridge output +
11	Feedback2+	Channel 2 half bridge feedback +
12	Gnd2+	Channel 2, half bridge power ground +
13	Gnd1-	Channel 1, half bridge power ground -
14	Feedback1-	Channel 1 half bridge feedback -
15	Out1-	Channel 1 half bridge output -
16	Out1-	Channel 1 half bridge output -
17	Vdd1-	Channel 1 half bridge power supply -
18	Vdd1+	Channel 1 half bridge power supply +
19	Out1+	Channel 1 half bridge output +
20	Out1+	Channel 1 half bridge output +
21	Feedback1+	Channel 1 half bridge feedback +
22	Gnd1+	Channel 1, half bridge power ground +
23	SU-Gnd	Step-up power ground
24	Gate-Drive	External PowerMOS gate drive output
25	Vbat	Power supply (battery)
26	Comp	Step-up compensation input
27	I1	Step-up current limiting input
28	I2	Step-up current limiting reference
29	Enable3	Chip enable 3
30	A-Vdd	Analog power supply
31	D-Vdd	Digital power supply
32	A-Gnd	Analog ground
33	An-P	Positive analog supply V(svr)+1.65 (internally generated)
34	An-N	Negative analog supply V(svr)-1.65 (internally generated)
35	SVR	Supply voltage ripple rejection capacitor
36	IsetProt	Current protection resistor setting
37	ExtTher	External thermal protection input
38	Dig-N	Negative digital supply V(svr)-1.65 (internally generated)
39	Dig-P	Positive digital supply V(svr)+1.65 (internally generated)
40	D-Gnd	Digital ground
41	Mute	Mute input (10 µA source current)

Table 2. Pins list description (continued)

Pin # (HiQUAD-92)	Pin name	Function
42	PLL_Filter	PLL filter network
43	Enable 1	Chip enable 1
44	Enable 2	Chip enable 2
45	CD/DIAG	Clip detector and diagnostic output: overcurrent protection, thermal warning, offset detection
46	I2C-Data	I2C data input
47	I2C-Clock	I2C data Clock
48	I2S-Data1	I2S/TDM data 1 Input
49	I2S-Data2	I2S/TDM data 2 Input
50	I2S-Sinc	I2S/TDM sinc Input DRAFT
51	I2S-CLK	I2S/TDM clock Input
52	N.C.	Not connected
53	Gnd4+	Channel 4, half bridge Power Ground +
54	Feedback4+	Channel 4 half bridge Feedback +
55	Out4+	Channel 4 half bridge Output +
56	Out4+	Channel 4 half bridge Output +
57	Vdd4+	Channel 4 half bridge Power Supply +
58	Vdd4-	Channel 4 half bridge Power Supply -
59	Out4-	Channel 4 half bridge Output -
60	Out4-	Channel 4 half bridge Output -
61	Feedback4-	Channel 4 half bridge Feedback -
62	Gnd4-	Channel 4, half bridge Power Ground -
63	Gnd3+	Channel 3, half bridge Power Ground +
64	Feedback3+	Channel 3 half bridge Feedback +
65	Out3+	Channel 3 half bridge Output +
66	Out3+	Channel 3 half bridge Output +
67	Vdd3+	Channel 3 half bridge Power Supply +
68	Vdd3-	Channel 3 half bridge Power Supply -
69	Out3-	Channel 3 half bridge Output -
70	Out3-	Channel 3 half bridge Output -
71	Feedback3-	Channel 3 half bridge Feedback -
72	Gnd3-	Channel 3, half bridge Power Ground -
73, 74	N.C.	Not connected
75	TAB	-
76-92	N.C.	Not connected

3 Package information

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.

3.1 HiQUAD-92 slug-up (14 x 20 mm) package information

Figure 3. HiQUAD-92 slug-up (14 x 20 mm) package outline

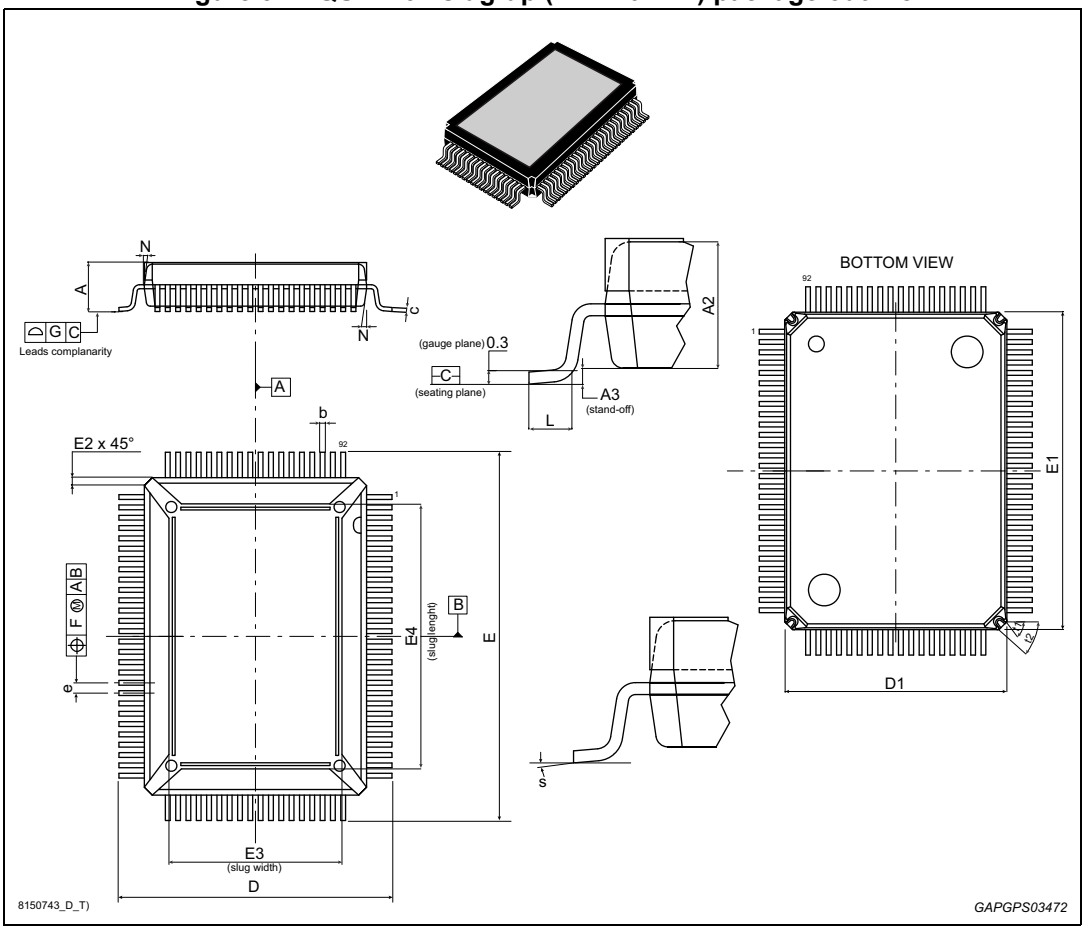


Table 3. HiQUAD-92 slug-up (14 x 20 mm) package mechanical data

Ref	Dimensions					
	Millimeters			Inches[1]		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	-	3.05	-	-	0.1201
A2	2.50	-	2.90	0.0984	-	0.1142
A3	-0.05	-	0.05	-0.0019	-	0.0019
b	0.22	-	0.38	0.0087	-	0.0150
c	0.23	-	0.32	0.0091	-	0.0126
D	17.00	-	17.40	0.6693	-	0.6850
D1[2]	13.90	14.00	14.10	0.5472	0.5512	0.5551
E	23.00	-	23.40	0.9055	-	0.9213
E1[2]	19.90	20.00	20.10	0.7835	0.7874	0.7913
E2	-	0.500	-	-	0.0197	=
E3	10.70	-	11.10	0.4213	-	0.4370
E4	16.50	-	16.90	0.6496	-	0.6654
e	-	0.65	-	-	0.0256	-
F	-	0.12	-	-	0.0047	-
G	-	0.10	-	-	0.0039	-
L	0.80	-	1.10	0.0315	-	0.0433
N	-	-	10°	-	-	10°
s	0°	-	8°	0°	-	8°
t1	53°			53°		
t2	42°			42°		

1. Values in inches are converted from mm and rounded to 4 decimal digits.
2. Dimensions D and E1 do not include mold flash or protrusions. Mold flash or protrusions shall not exceed 0.15 mm (.006 inches).

4 Revision history

Table 4. Document revision history

Date	Revision	Changes
19-Jul-2013	1	Initial release.
18-Sep-2013	2	Updated Disclaimer.
28-Nov-2016	3	Added “automotive” in the title in cover page. Added in cover page the feature “AEC-Q100 qualified and car logo. Added new order code in *Table 1: Device summary on page 1*. Updated *Section 3: Package information on page 7*.