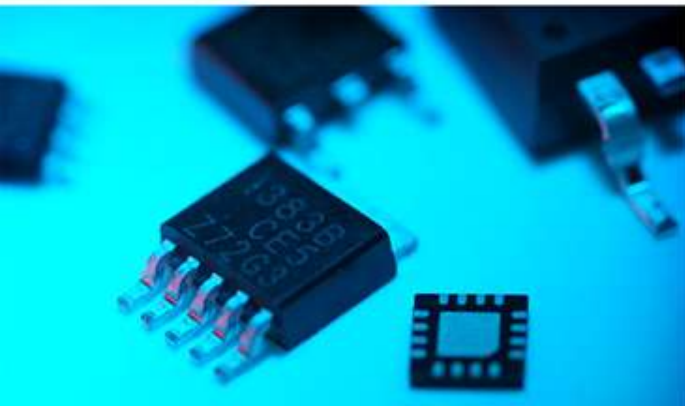




AIC Solutions for Wireless Speaker



Agenda

- Market Status & Trend
- Market Forecast
- Supply Chain (Core chip, IDH, Key player)
- New Product Feature
- Application Power Block
- Power Solutions
- Product Roadmap
- Promotion Strategy

Agenda

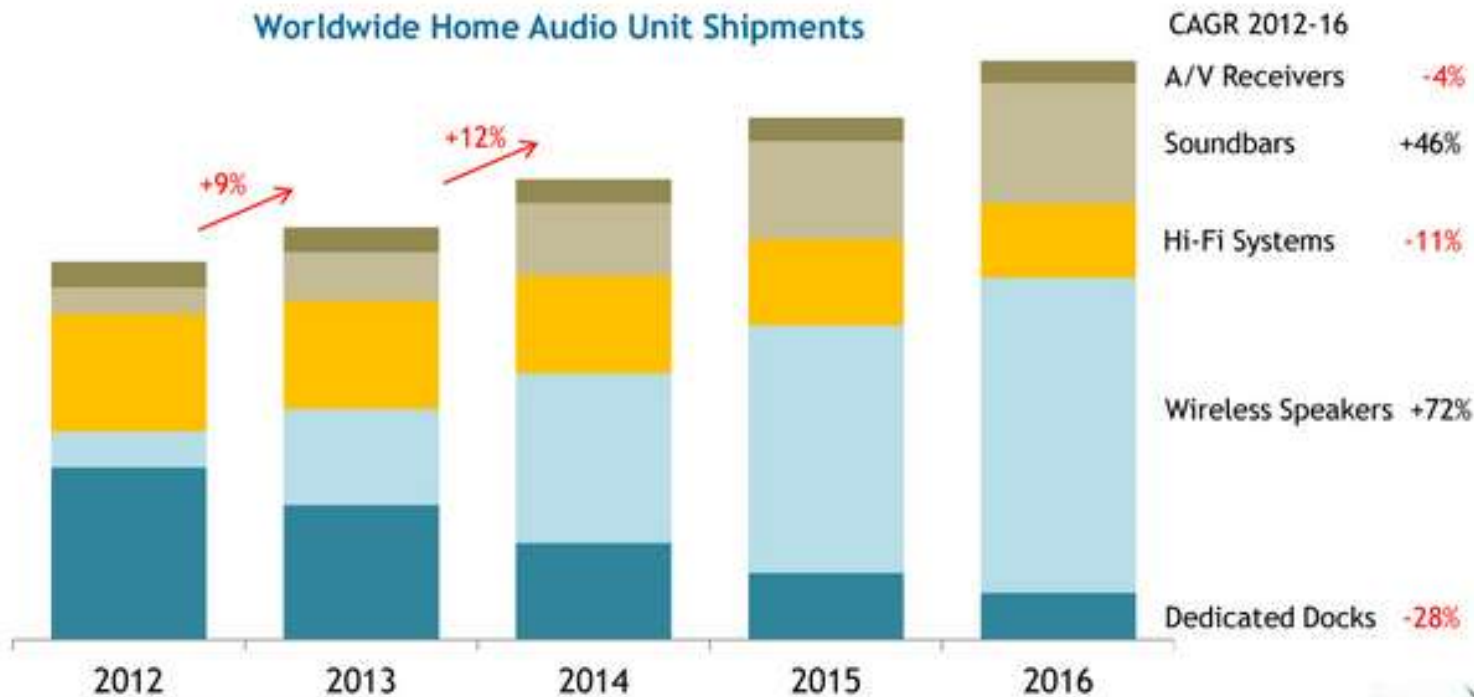
- • **Market Status & Trend**
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Market Status & Trend

HOME AUDIO MARKET ON THE RISE

Wireless Speakers & Soundbars outweigh decline in traditional audio and docks

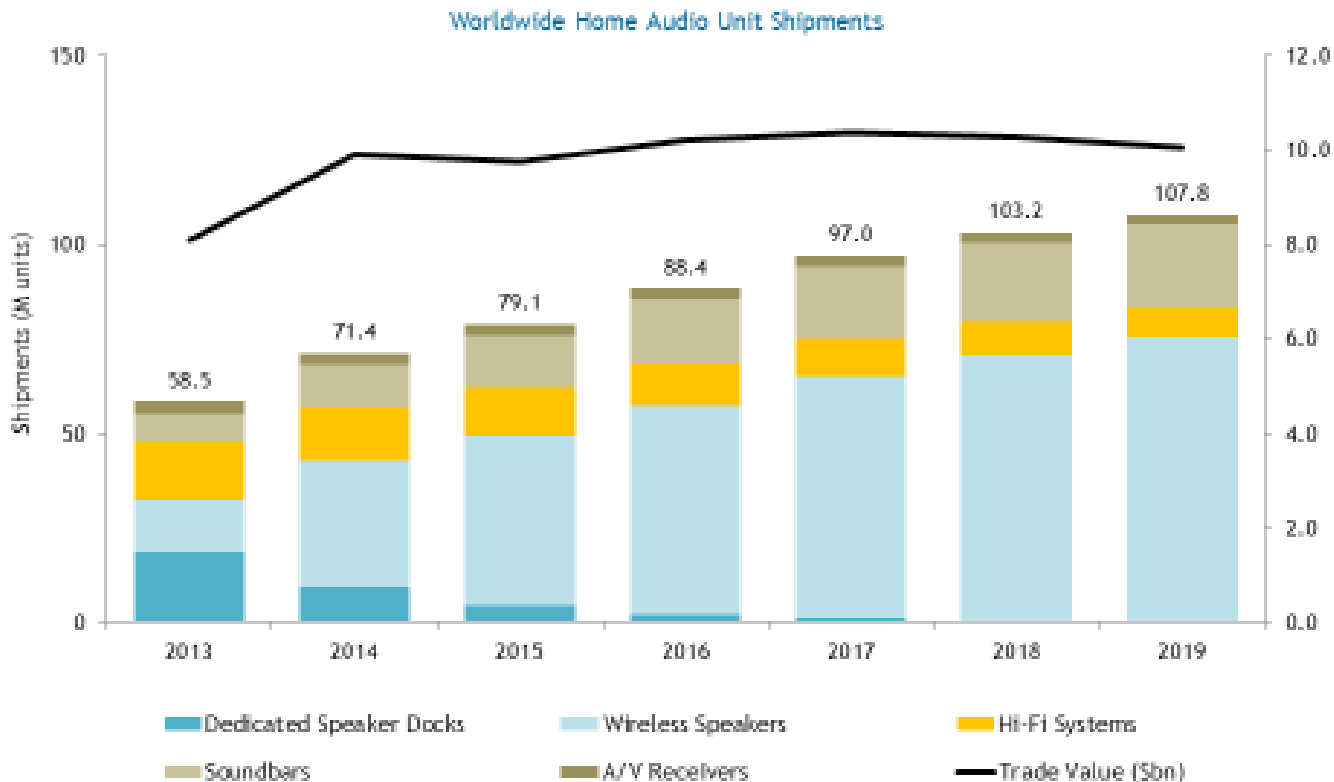
Worldwide Home Audio Unit Shipments



Market Status & Trend

HOME AUDIO HARDWARE MARKET OUTLOOK: BY DEVICE TYPE

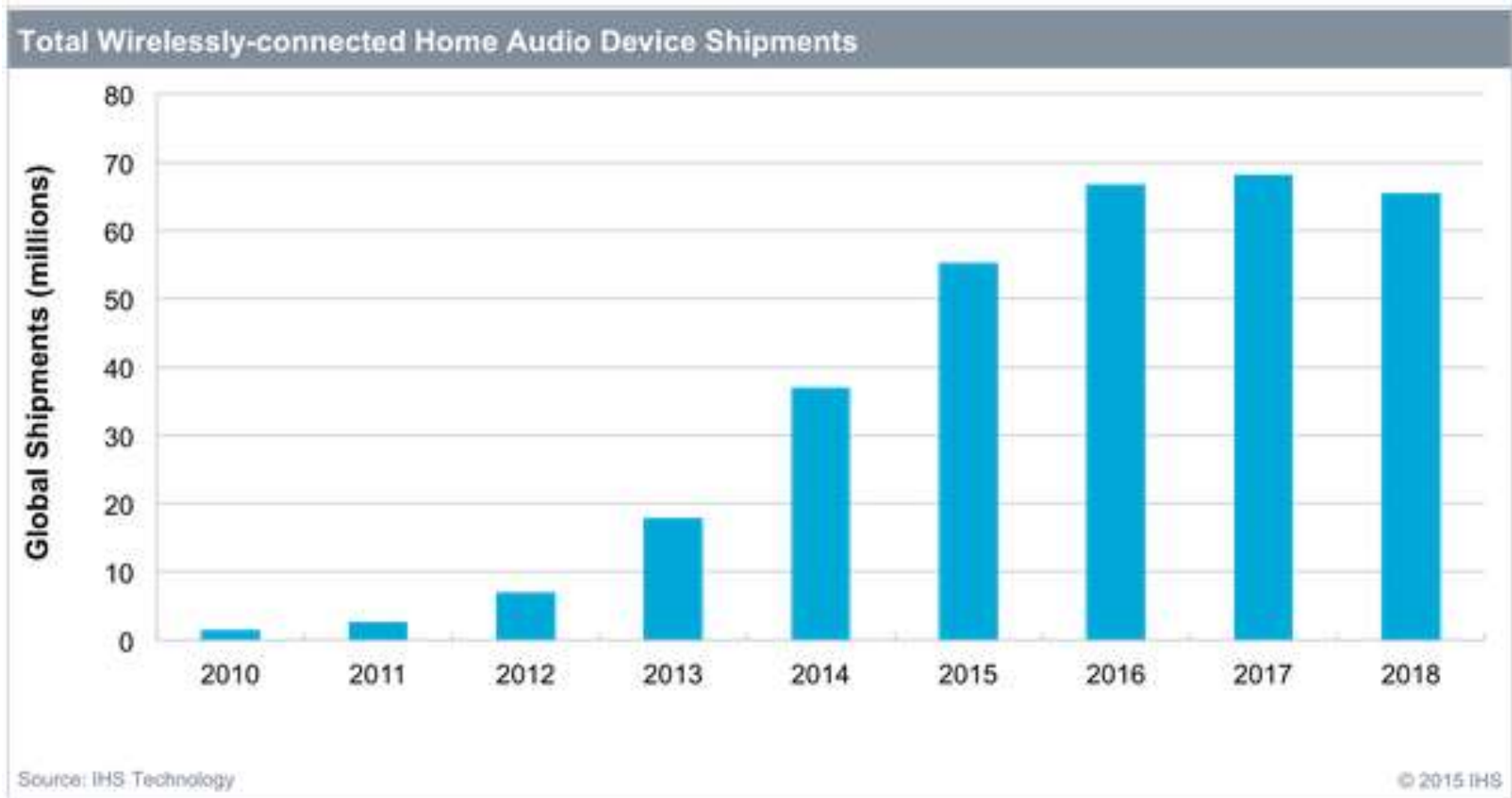
Wireless Speakers driving growth with CAAGR at 14%



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Market Forecast



Source: IHS Technology, 2015

Agenda

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- • **Supply Chain (Core chip, IDH, Key player)**
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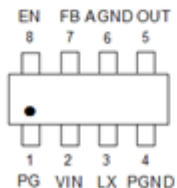
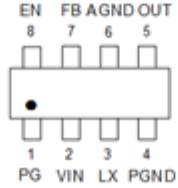
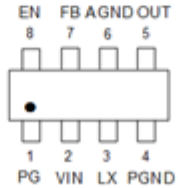
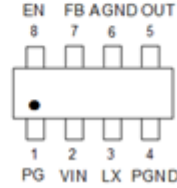
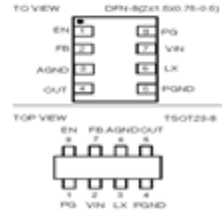
Supply Chain

Region	Key customer	Core chip vendor
Japan	  	      
China	 尼創電子(香港)有限公司  惠州市歐酷數碼科技有限公司 深圳市聚隆軒電子有限公司  深圳少年王科技有限公司	      
Korea	 	      

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New Product Feature

Part Number	AIC2253	AIC2256	AIC2259	AIC2258	AIC2262
Vin(Min)(V)	2.5	2.5	2.5	2.5	2.5
Vin(Max)(V)	6	6	6	6	6
Iout(Max)(A)	1	1	1	1	2
Switching Frequency(Min)(kHz)	1500	3000	1500	1500	1500
Switching Frequency(Max)(kHz)	1500	3000	1500	1500	1500
Iq(Typ)(uA)	8	17	17	17	17
Control Mode	AOT	AOT	AOT	AOT	AOT
Operating Temperature Range(C)	-40 to 85	-40 to 85	-40 to 85	-40 to 85	-40 to 85
Process	W/B	W/B	W/B	F/C	F/C
Package	TSOT-23-8	TSOT-23-8	TSOT-23-8	TSOT-23-8	DFN-8 TSOT-23-8
Remark	P2P MP2159 Sampling in Nov. 16'	P2P MP2159	P2P MP2159 Sampling now		参照MP2162 Sampling now
Outline	 <p>EN FB AGND OUT 8 7 6 5 1 2 3 4 PG VIN LX PGND</p>	 <p>EN FB AGND OUT 8 7 6 5 1 2 3 4 PG VIN LX PGND</p>	 <p>EN FB AGND OUT 8 7 6 5 1 2 3 4 PG VIN LX PGND</p>	 <p>EN FB AGND OUT 8 7 6 5 1 2 3 4 PG VIN LX PGND</p>	 <p>TO VIEW DFN-8(1.6x1.6x0.8)</p> <p>EN FB AGND OUT PG VIN LX PGND</p> <p>TOP VIEW TSOT-23-8</p> <p>EN FB AGND OUT PG VIN LX PGND</p>

New Product Feature

- **AOT**

A daptive O n Time control that provides a fast transient response without external compensation component.

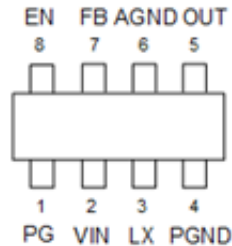
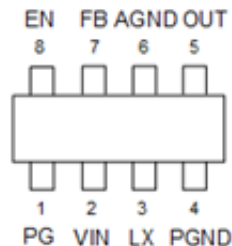
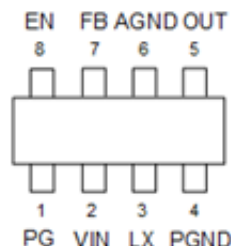
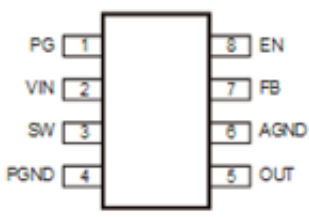
- **Sync.**

The device features an internal synchronous rectifier for high efficiency, it requires no external Schottky diode.

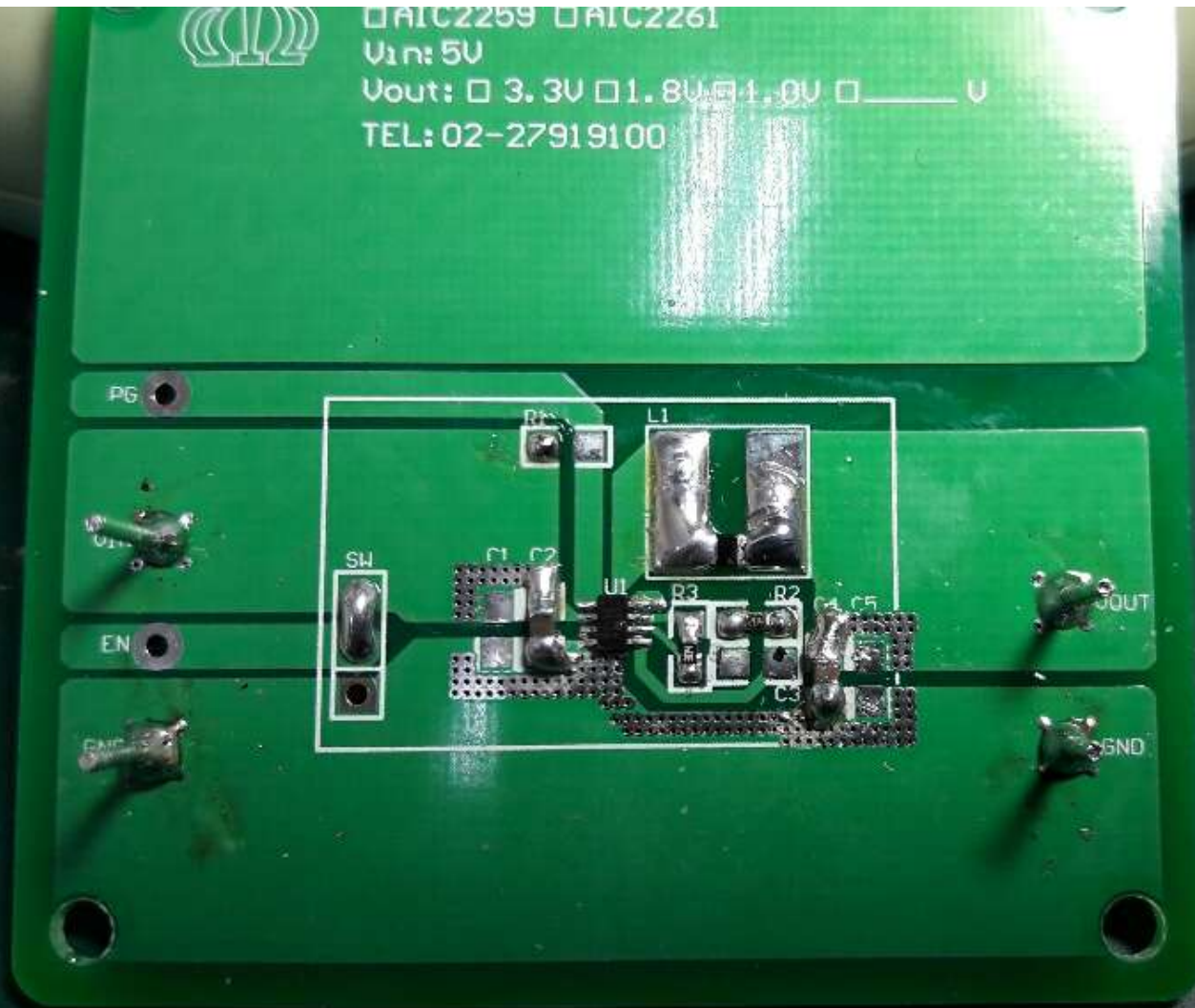
- **Small Package**

TSOT-23-8

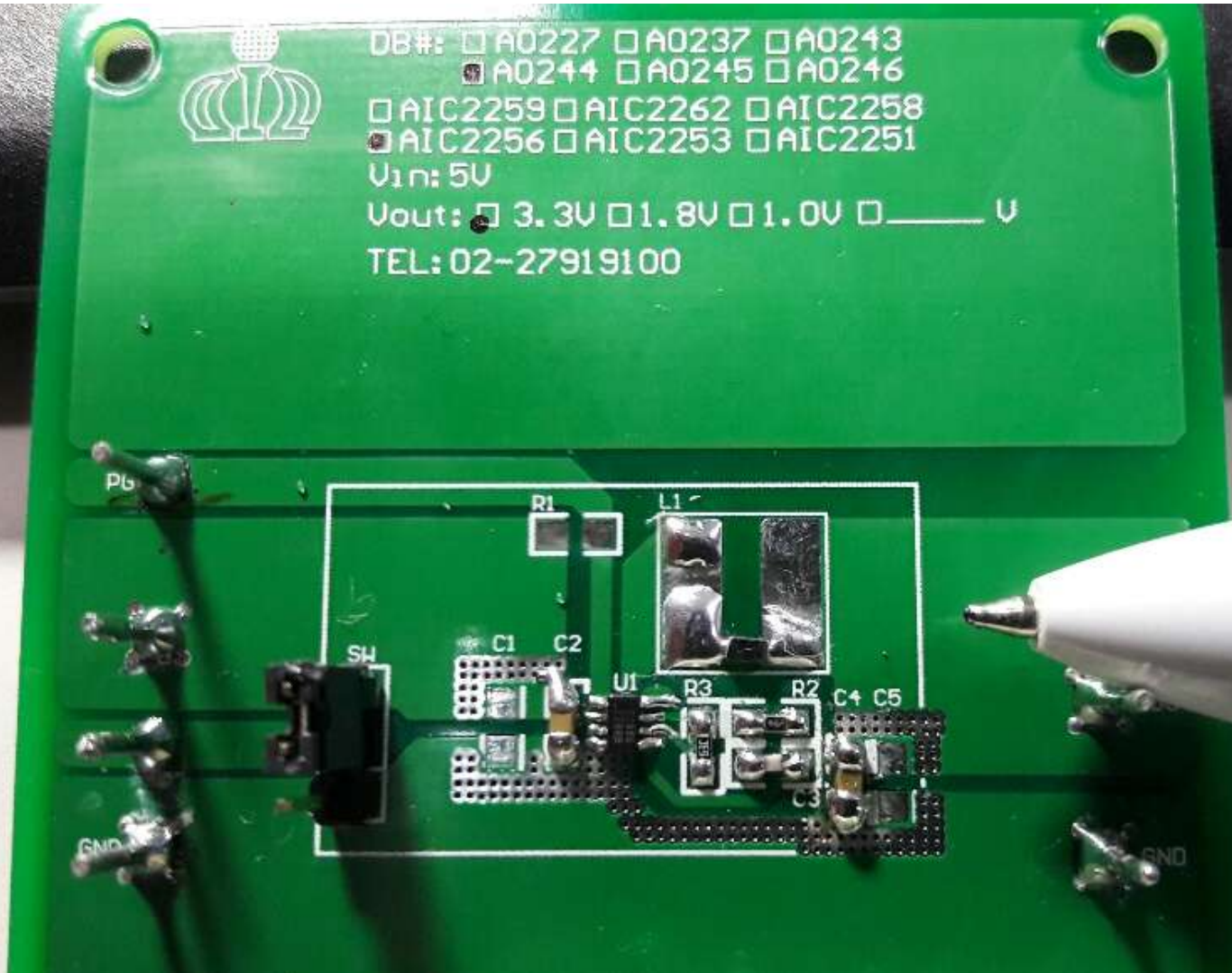
New Product Feature

Part Number	AIC2259	AIC2256	AIC2253	MP2159
Vin(Min)(V)	2.5	2.5	2.5	2.5
Vin(Max)(V)	6	6	6	6
Iout(Max)(A)	1	1	1	1
Switching Frequency(Min)(kHz)	1500	★ 3000	1500	1500
Switching Frequency(Max)(kHz)	1500	★ 3000	1500	1500
Iq(Typ)(uA)	17	17	★ 8	17
Control Mode	AOT	AOT	AOT	COT
Operating Temperature Range(C)	-40 to 85	-40 to 85	-40 to 85	-40 to 85
Package	TSOT-23-8	TSOT-23-8	TSOT-23-8	TSOT-23-8
Remark	P2P with MP2159 Sampling now	P2P with MP2159	P2P with MP2159 Sampling now	
Outline				

New Product Feature

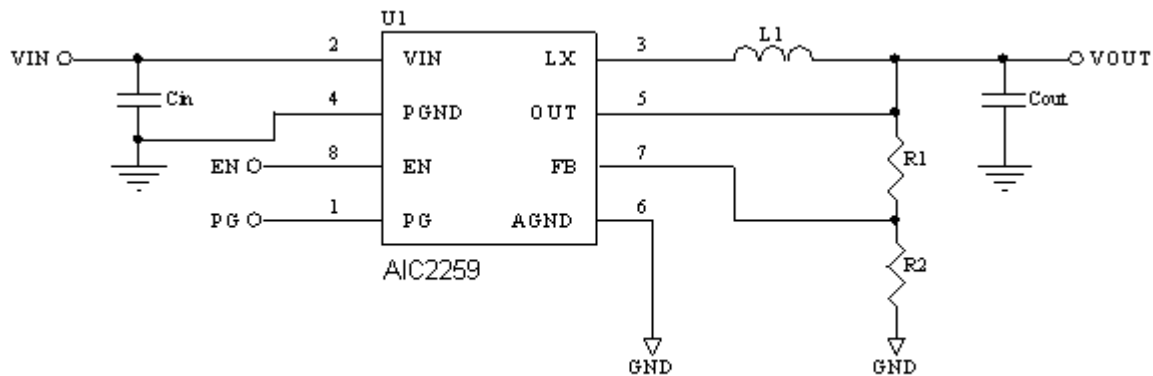


New Product Feature

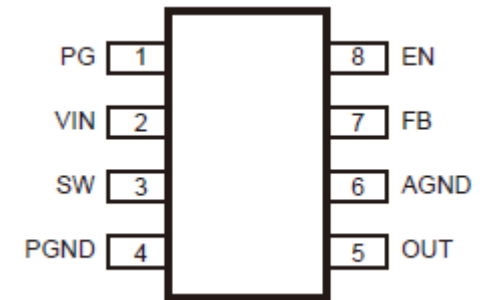


New Product Feature

Typical application circuit



PIN configuration

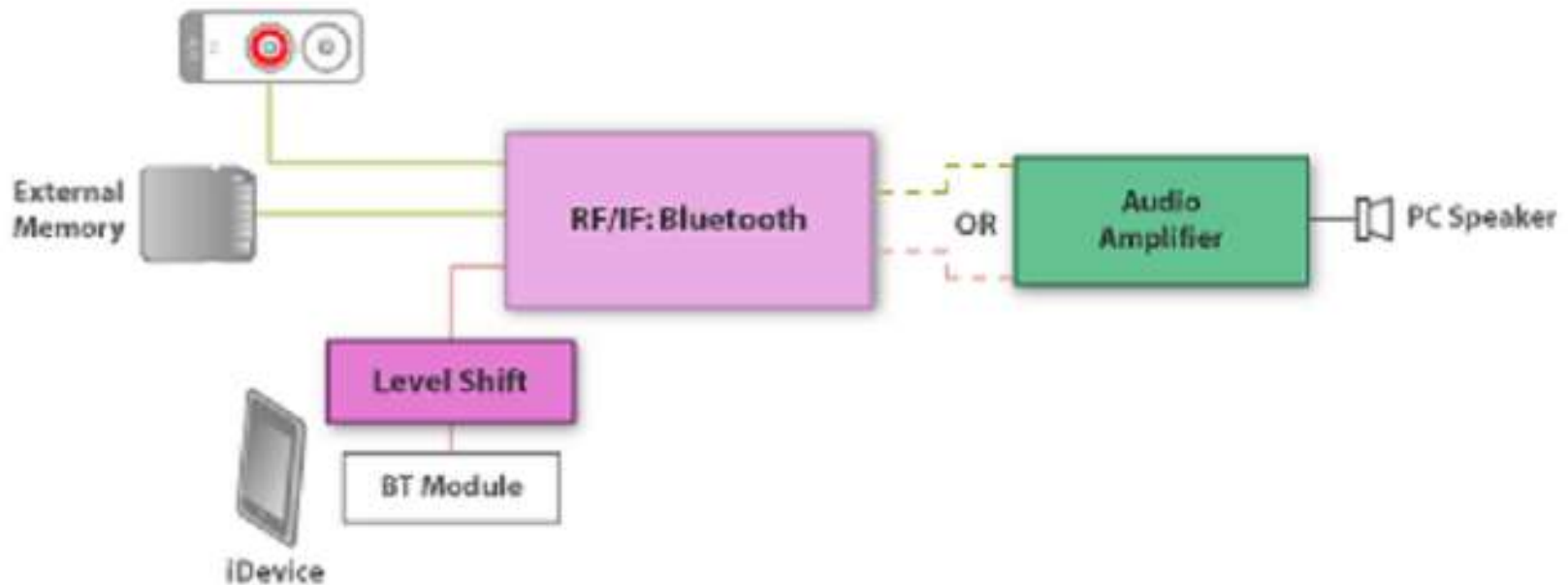


Agenda

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Application Power Block

BLE Speaker

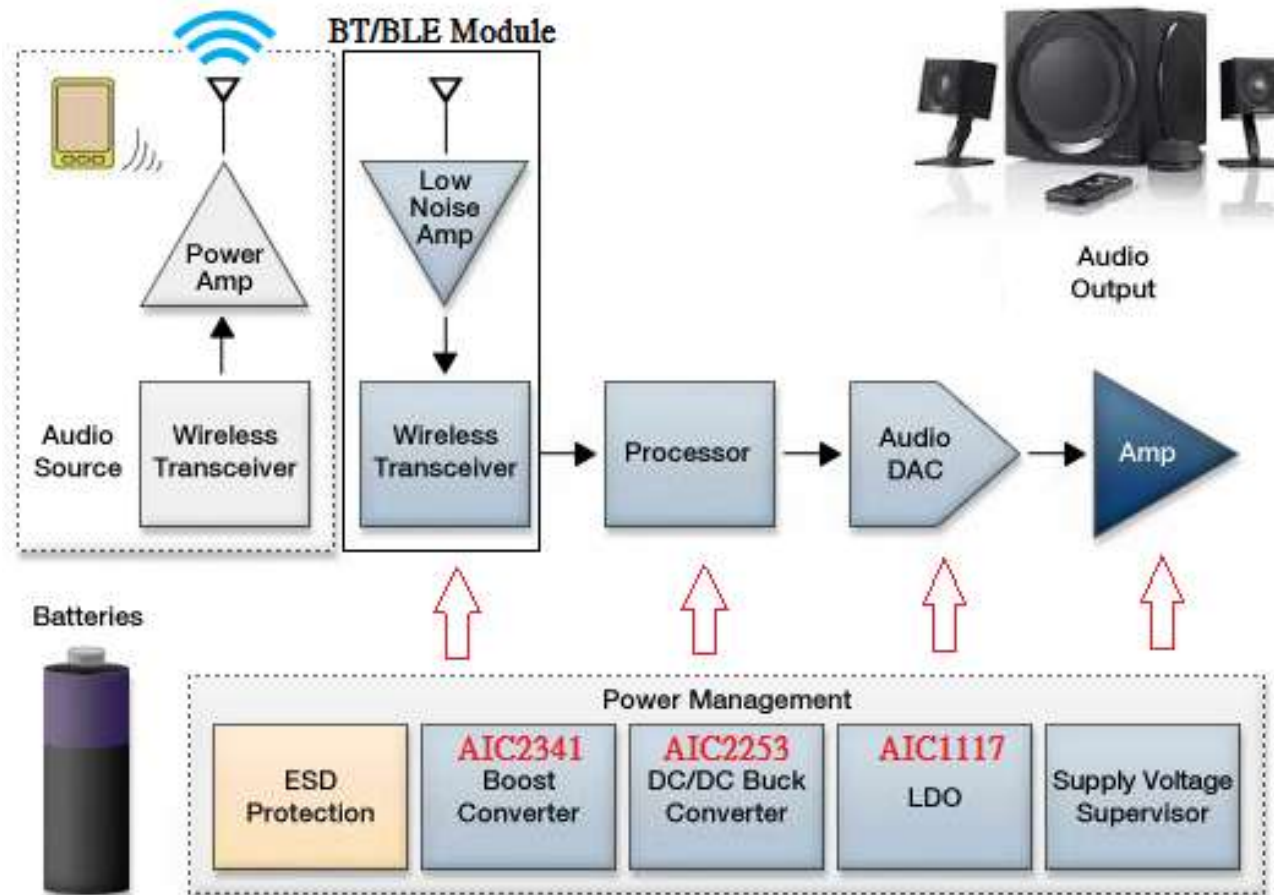


Agenda

- Market Status & Trend
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Power Solutions

BLE Speaker



Agenda

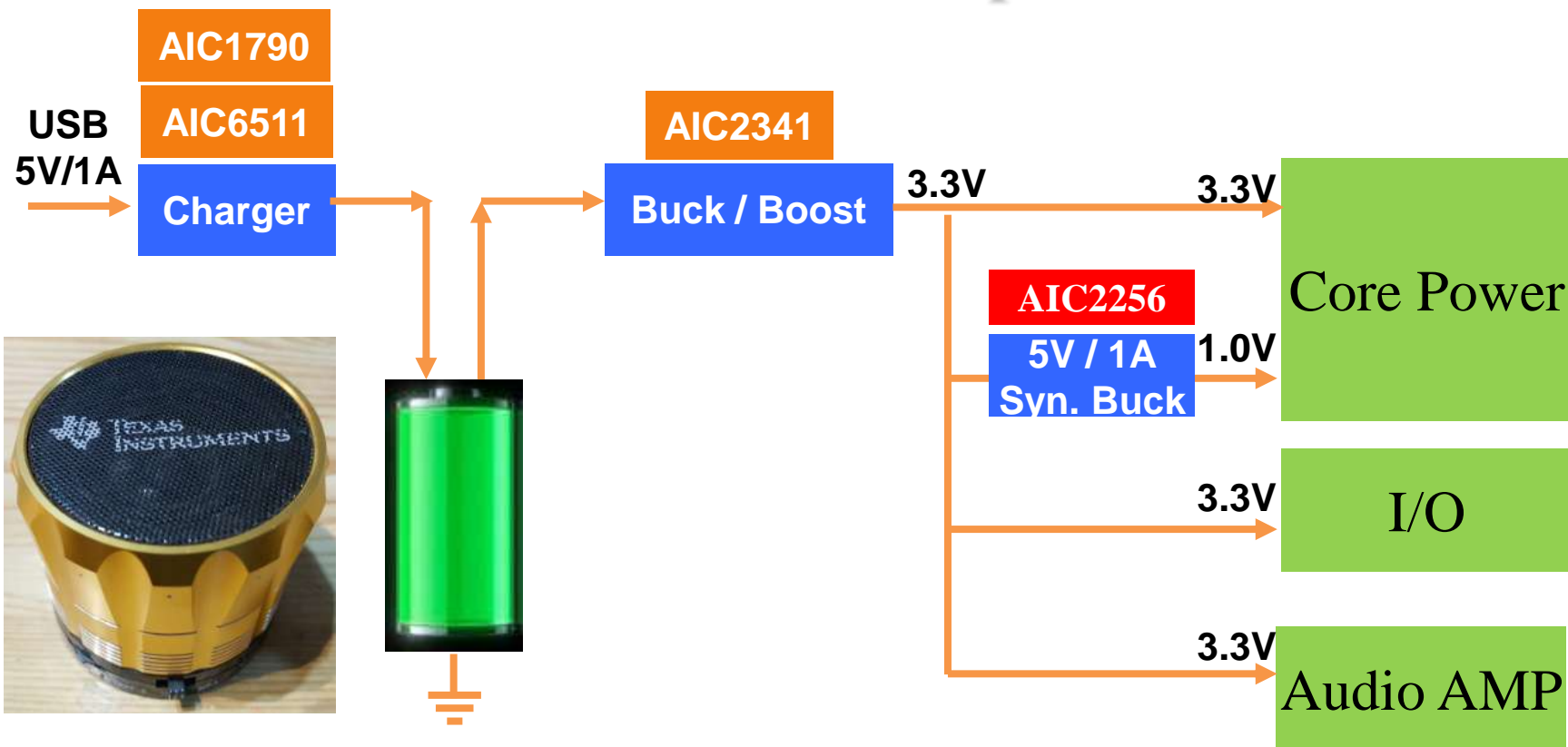
- Market Status & Trend
- Market Forecast
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- • **Promotion Strategy**

Promotion Strategy

- **AOT**
- **Competitive Performance**
 - **High Efficiency**
 - **Low Ripple**
 - **Low Quiescent Current**
- **Competitive Pricing**
- **P2P with main stream product**

Application Power Block

5W Bluetooth Speaker



- New product
- Existing product

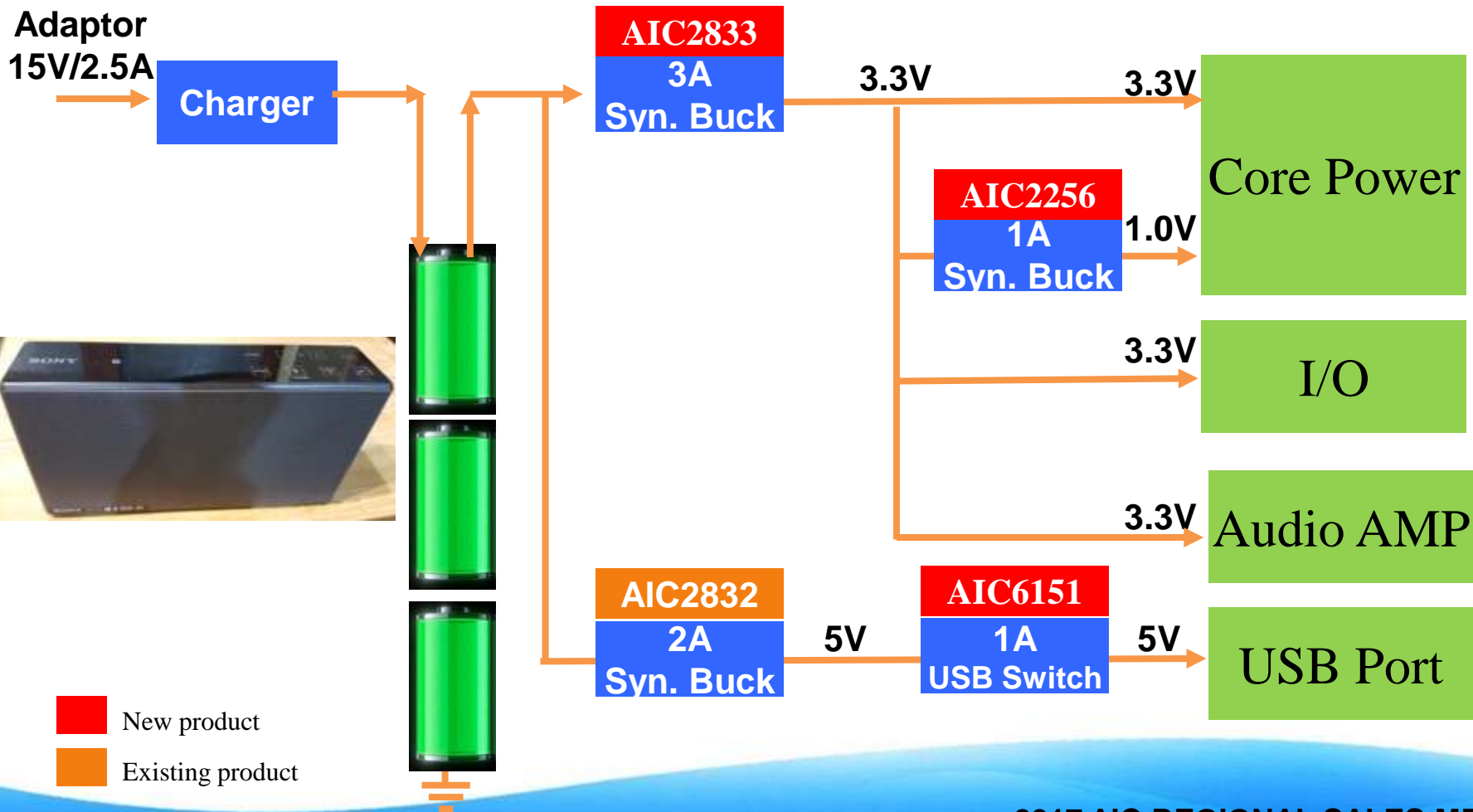
Application Power Block

5W Bluetooth Speaker



Application Power Block

30W Bluetooth Speaker



Application Power Block

30W Bluetooth Speaker



Application Power Block

30W Bluetooth Speaker



Application Power Block

30W Bluetooth Speaker

產品名稱:個人音響系統(無線喇叭) 進口商:台灣索尼股份有限公司
型號:SRS-X55 地址:104台北市長春路145號5樓
額定電壓:DC15V/輸入電流:2.5A 電話:4499111
機器號碼:如機體上標示 注意:請勿拆解
製造廠商:SONY CORPORATION
產地:中國大陸

제조연월: 2015-06
製造年份: 2015年
機器號碼: 3151908



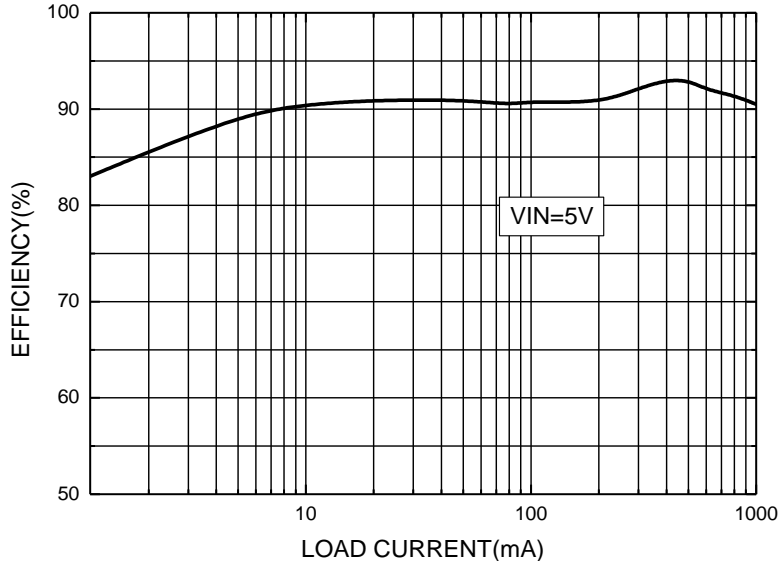
4-568-719-01

Application Power Block

30W Bluetooth Speaker



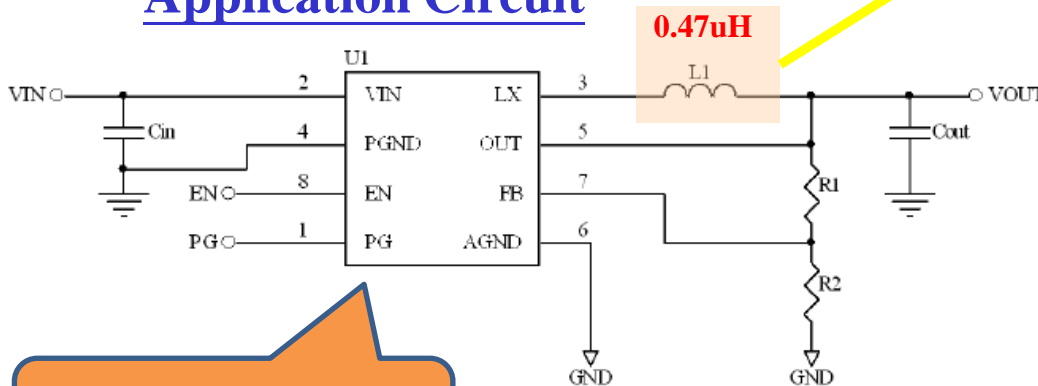
1A, 3MHz AOT Synchronous Step-Down DC/DC Converter



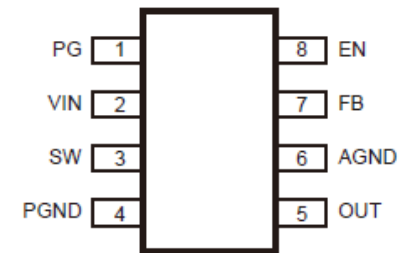
$V_{OUT}=3.3V, V_{IN}=5V$



Application Circuit



Package



TSOT-23-8

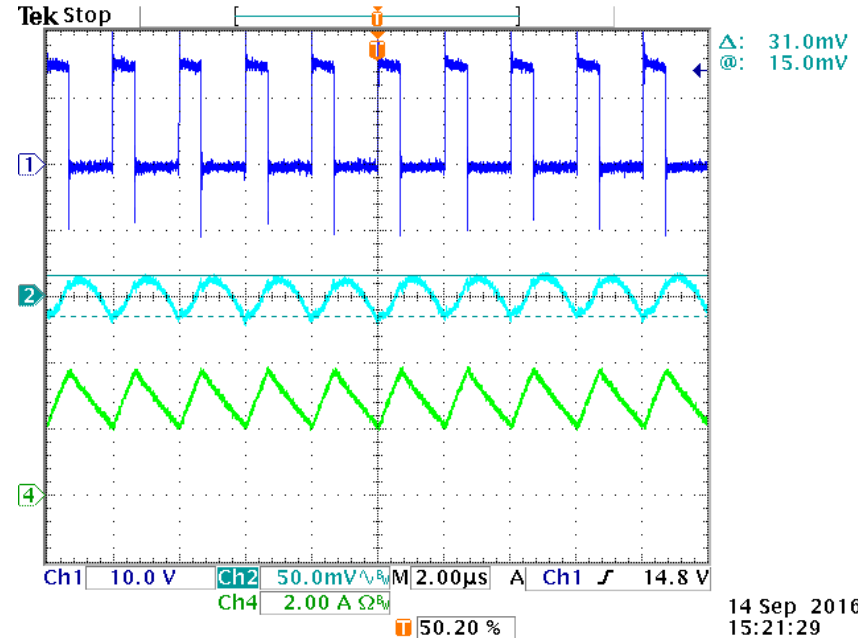
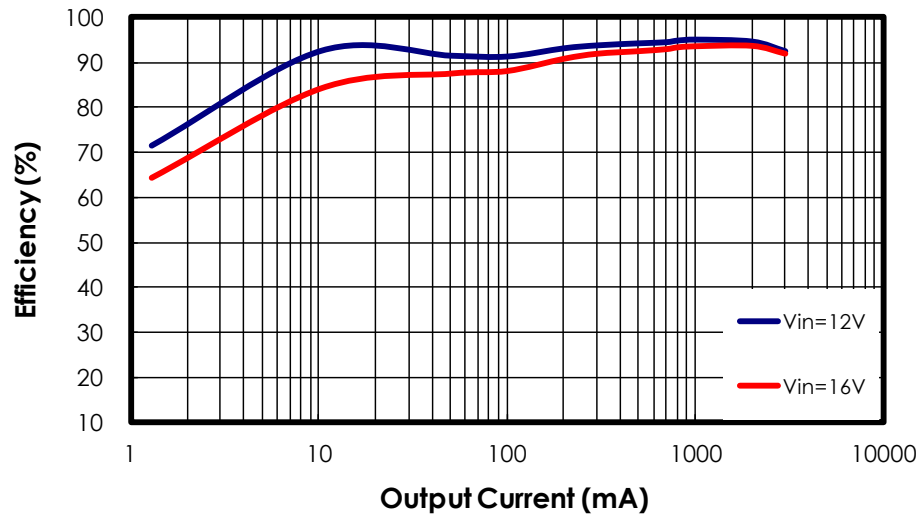
**MP2159
Compatible**

AIC22xx Product Series

Part Number	AIC2385	AIC2253	AIC2256	AIC2258	AIC2259	AIC2262
Input Voltage	2.5V~6V	2.5V~6V	2.5V~6V	2.5V~6V	2.5V~6V	2.5V~6V
Output Current	1.5A	1A	1A	1A	1A	2A
Switching Frequency	1.5MHz	1.5MHz	3MHz	1.5MHz	1.5MHz	1.5MHz
Quiescent Current	65uA	8uA	17uA	17uA	17uA	17uA
Control Mode	Current Mode PWM	AOT	AOT	AOT	AOT	AOT
Package	Wire-bond SOT23-5	Wire-bond TSOT23-8	Wire-bond TSOT23-8	Flip-chip TSOT23-8	Wire-bond TSOT23-8	Flip-chip TSOT23-8 DFN8
Remark	P2P TLV62565	P2P MP2158 MP2159	P2P MP2158 MP2159	P2P MP2158 MP2159	P2P MP2158 MP2159	P2P MP2161 MP2162

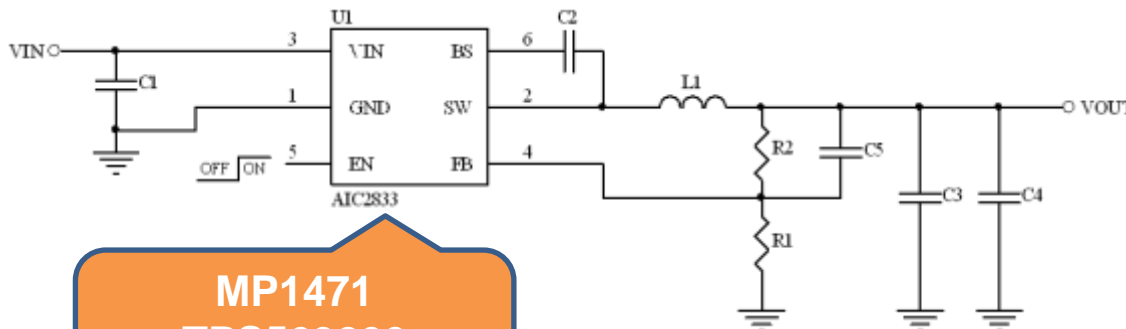
3A 16V 490kHz PWM/PSM Synchronous Step-Down Converter

Efficiency vs. Output Current



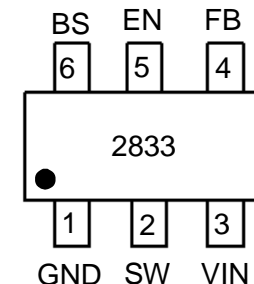
$V_{OUT}=5V, I_{OUT}=3A$ Ripple at $V_{IN}=12V$

Application Circuit



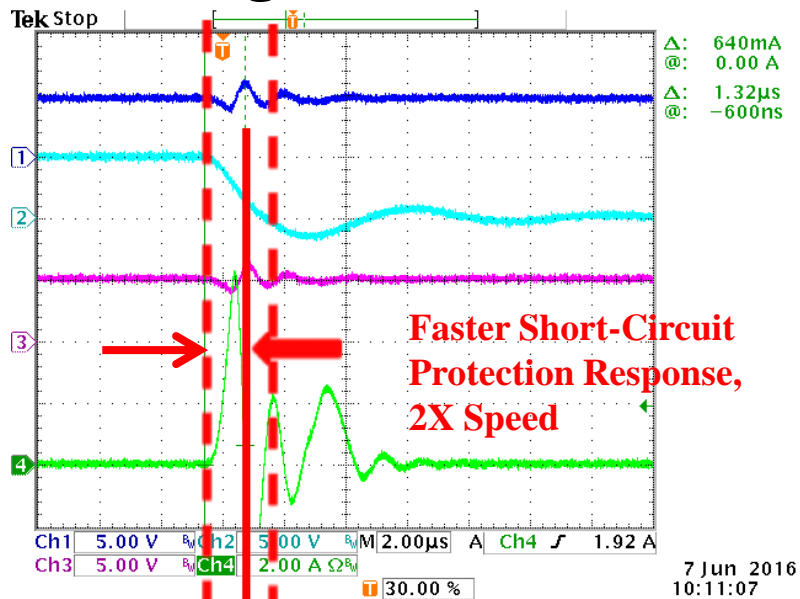
MP1471
TPS563200
Compatible

Package



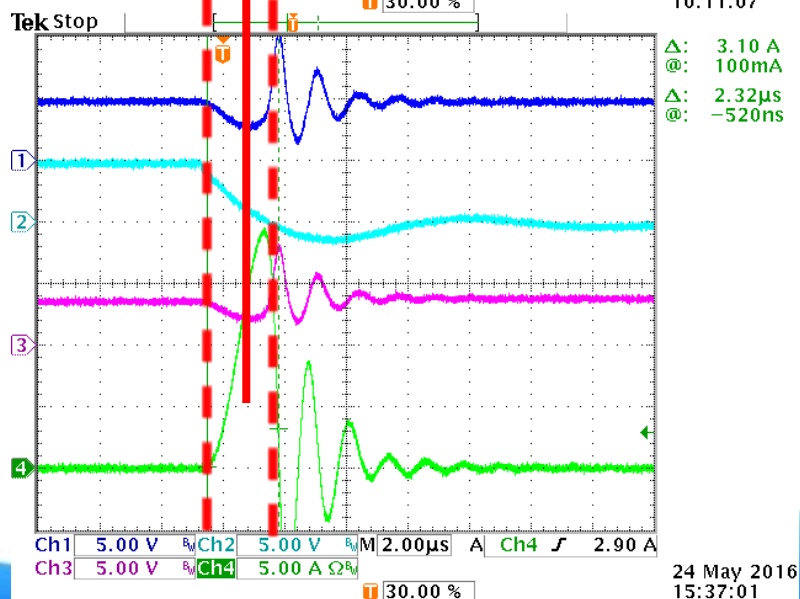
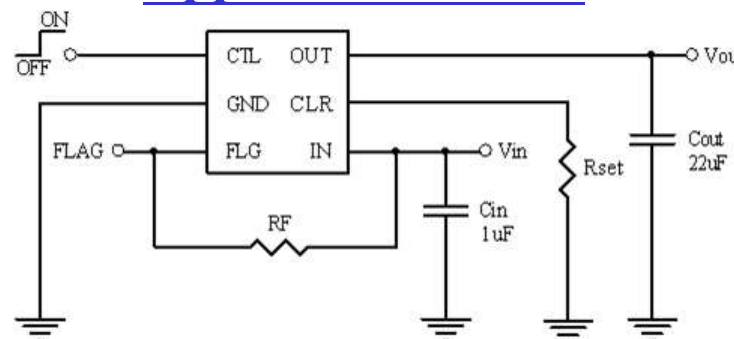
SOT-23-6

Single Channel USB Switch with Adjustable Current Limit



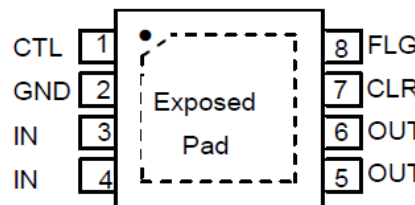
AIC6156 $V_{IN}=5V$, $I_{CL}=0.5A$, **Res. Time=1.32 μ S**
 (CH1: Input Voltage, CH2: Output Voltage, CH3: FLG, CH4: Input Current)

Application Circuit

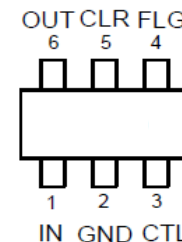


TPS2554 $V_{IN}=5V$, $I_{CL}=0.5A$, **Res. Time=2.32 μ S**
 (CH1: Input Voltage, CH2: Output Voltage, CH3: FLG, CH4: Input Current)

Package



SOP-8 EP



SOT-23-6

USB Power Switch at 3A

	AIC	TI	Rohm	On-Semi
Part Number	AIC6156	TPS2554 TPS2555	BD82024 BD82025	NCP383
Short Circuit Response Time(μS)	1.3	1.5	5	2
Continuous Load Current (A)	0.5~3 (Adj.)	0.5~2.5 (Adj.)	2.5 (Adj.)	0.5~2.1 (Adj.)
MOS R-DS-ON (mohm)	60	73	90	45
Supply current (μA)	85	90	95	99
Input Voltage Range (V)	3.5~5.5	4.5~5.5	2.8~5.5	2.7~5.5
Current Limit Threshold (mA)	3060/ 3600/ 4140 1700/ 2000/ 2300 425/ 500/ 575	2550/ 2840 / 3100 2150/ 2430/ 2650 420/ 480/ 530 185/ 230/ 265	2100/2500/3300	2580/2800/3010 900/1000/1100 500/600/700
Current Limit Accuracy (%)	±15	±12	±15	±8
High Side Switch	NMOS	NMOS	NMOS	NMOS
Flag Delay Time (mS)	9	8.5	12	7
Output discharge	Yes	Yes	Yes	No
Package	SOP-8/SOT23-6	VSON	SOP8	UDFN10

USB Power Switch at 2A

	AIC	TI	Rohm	On-Semi
Part Number	AIC6152	TPS2553	BD2222G BD2242G BD2243G	NCP380 NCV380
Short Circuit Response Time(μS)	1.3	2	5	2
Continuous Load Current (A)	0.5~2 (Adj.)	0.75~1.7 (Adj.)	0.2~1.7 (Adj.)	0.5~2.1 (Adj.)
MOS R-DS-ON (mohm)	60	85	89	70
Supply current (μA)	85	100	120	90
Input Voltage Range (V)	3.5~5.5	2.5~6.5	2.8~5.5	2.5~5.5
Current Limit Threshold (mA)	1700/ 2000/ 2300 425/ 500/ 575	1610/ 1700 / 1800 1215/ 1295/ 1375 490/ 520/ 550 100/ 130/ 150	1566/1696/1826 911/1028/1145 112/212/313	2100/2250/2500 1000/1150/1300 500/580/650
Current Limit Accuracy (%)	±15	±6	±8	±12
High Side Switch	NMOS	NMOS	NMOS	PMOS
Flag Delay Time (mS)	9	8	7	8
Output discharge	Yes	No	BD2242/43	No
Package	SOT23-6	SOT23-6	SSOP6	TSOP-6

Q & A !

