

ESMT

Elite Semiconductor Memory Technology Inc.

晶豪科技股份有限公司

ESMT

Audio/Power Product BU

音訊/電源產品事業處

www.esmt.com.tw

選型指南 – 2017.Q2

Selection Guide



About ESMT

Elite Semiconductor Memory Technology Inc. ('ESMT'), a Taiwan-based memory IC design company. Business activities consist of R&D, manufacturing, marketing, and the provision of design services for a variety of memories and mixed signal products. We have initially defined ourselves as a provider of various memory ICs. In contrast to main memory, i.e., DRAM used for PCs, servers, and workstations, our DRAM products focus on specialty DRAM memories, which are used in sectors such as PC peripherals, IA products, consumer products, optical devices, and communication devices. We have been positioning ourselves to market a full range density (from 1Mb to 256Mb) and a wide variety of specialty DRAM products (including FPM, EDO, SDRAM, DDR, Mobile SD/DDR and etc.). Furthermore, in 2002 we entered the flash memory business. A number of NOR flash products, ranging from 2Mb to 32Mb with parallel and/or serial interface, are now available for mass production. To serve the rising market demand of System-in-Package(SiP) and Multi-Chip-Package (MCP), ESMT has successfully established the Know-Good-Die(KGD) product line of above products.

關於晶豪科技

晶豪科技股份有限公司 (Elite Semiconductor Memory Technology Inc., ESMT) 為一專業 IC 設計公司，主要業務包含 IC 產品之研究、開發、製造、銷售及相關技術服務。公司自創立時便以成為客戶各類型記憶體產品及技術之供應者為職志。有別於搭配於電腦系統應用之主記憶體，本公司研發之 DRAM 產品以特定型記憶體為主，可廣泛應用於 PC 週邊、資訊家電、光儲存設備及消費性、通訊等系統，目前已成功建立各種容量 (1Mb 至 256Mb) 的特定型 DRAM 產品線 (包括 FPM、EDO、SDRAM、DDR 等)，和低耗電之 Mobile DRAM；在快閃記憶體方面，目前以 NOR Flash 為主，已先後推出一系列不同容量和介面的 Flash 產品 (含 2Mb 至 32Mb, Parallel 及 Serial Flash)。另外，由於系統級封裝 (System in Package ; SiP) 及多晶片模組封裝 (Multi-Chip Package ; MCP) 之需求快速增加，晶豪科技也已經成功開發上述各項產品之「良品晶粒」產品 (Known-Good-Die; KGD)，以因應市場之發展。

About Audio/Power Product BU

Audio/Power Product BU of Elite Semiconductor Memory Technology Inc. was formed by Class D product line and Elite Micropower Inc. on August, 2008 and locates at the Hsinchu Science-Based Industrial Park in Taiwan. Business activities consist of R&D, manufacturing, marketing and sales. ESMT's product lines include Power Management IC, Audio Power Amplifier, Battery Management IC, Lighting Management IC, and intelligent Power Management Unit. ESMT provide power management and audio amplifier total solution of consumer electronics, computer and peripherals and communication system.

關於音訊/電源產品事業處

晶豪/音訊/電源產品事業處由D類功放產品線與晶鎂電子的電源管理IC於2008年8月所組成，是以台灣為基地深耕於電源相關產品積體電路設計。音訊/電源產品事業處位於新竹科學園區，業務活動涵括研發與設計、製造、行銷。產品線包含電源及音頻功率放大器積體電路、電池管理元件、照明管理元件及智慧型電源模組。晶豪科技音訊/電源產品事業處可提供各類消費型電子產品、電腦及其週邊、通訊產品系統之電源管理及音頻放大的解決方案。

品質認證 Quality Certification

提供卓越產品,滿足顧客對品質的要求。

To provide excellent products that meet the quality requirements of our customers

透過全員參與,實現公司對品質的承諾。

To fulfill the quality commitment through the involvement of all corporate members in all activities

ISO-9001 / ISO-14000 Certified



CERTIFICATE OF APPROVAL

This is to certify that the Quality Management System of:

**Elite Semiconductor Memory Technology Inc.
Elite Memory Technology Inc.
Elite Flash Storage Technology Inc.
Elite Micropower Inc.
No.23, Industry E Road IV, Hsinchu Science Park,
Hsinchu, 300, Taiwan**

has been approved by Lloyd's Register Quality Assurance to the following Quality Management System Standards:

ISO 9001:2008

The Quality Management System is applicable to:

Design and Management of manufacture of integrated circuit.

Approval Certificate No: TWN0200111	Original Approval: 17 August 2000
	Current Certificate: 08 August 2015
	Certificate Expiry: 14 August 2018



Issued by: Lloyd's Register Inspection Limited Taiwan Branch for and on behalf of Lloyd's Register Quality Assurance Limited



Rm. 1102, 11th Floor, Worldwide House, 129 Min Sheng East Road, Sec. 3, Taipei 105, Taiwan, R.O.C. for and on behalf of 1 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES, United Kingdom. Registration number 1879370
This approval is carried out in accordance with the LRQA assessment and certification procedures and monitored by LRQA.
The use of the UKAS Accreditation Mark indicates Accreditation in respect of those activities covered by the Accreditation Certificate Number 001.



CERTIFICATE OF APPROVAL

This is to certify that the Environmental Management System of:

**Elite Semiconductor Memory Technology Inc.
No. 23, Industry E. Road IV, Hsinchu Science Park
Hsinchu City, Taiwan**

has been approved by Lloyd's Register Quality Assurance to the following Environmental Management System Standard:

ISO 14001:2004

The Environmental Management System is applicable to:

Design and management of manufacture of integrated circuits.

Approval Certificate No: TWN6003045	Original Approval: 18 March 2008
	Current Certificate: 18 February 2014
	Certificate Expiry: 19 February 2017



Issued by: Lloyd's Register Inspection Limited Taiwan Branch for and on behalf of Lloyd's Register Quality Assurance Limited



Rm 1102, 11th Floor, Worldwide House, 129 Min Sheng East Road, Sec. 3, Taipei 105, Taiwan, R.O.C. for and on behalf of Hizenford MidResearch Office Village Siskin Drive Coventry CV3 4EF United Kingdom. Registration number 1879370
This approval is carried out in accordance with the LRQA assessment and certification procedures and monitored by LRQA.
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目標市場 Target Market



LCD-TV

LCD Monitor



PC Cam



Smart Phone



CAR AVN



Car Charger



Traffic recorder



CAR rearview mirror



Sound Bar



BT Speaker



Tablet PC



Notebook

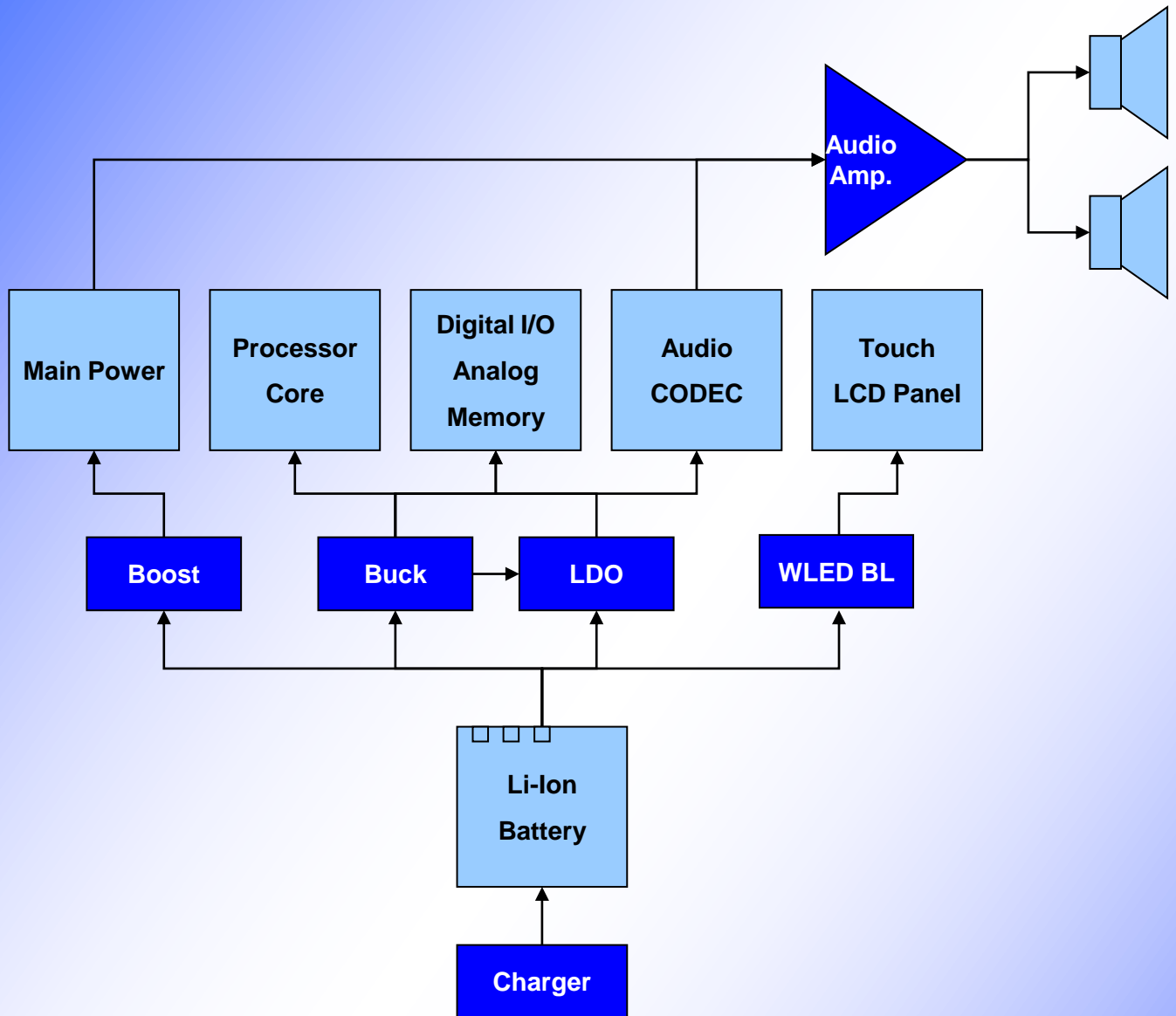


STB



All Products are Lead-Free, RoHS / Green Compliant

Handheld Devices Solution 手持式產品解決方案



Charger EMC575X/EMC504X/
EMC5050/ EMC5090

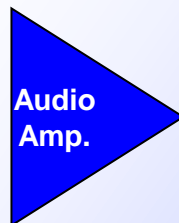
Boost EMH7601/EMH7070
EMH7080B/EMH7090

Buck EML302X/EML317X/EML3276

LDO EMP8731/EMP8021/EMP8130/
EMP8965/EMP8042

WLED BL EMD2050/EMD2055
EMD2095/EMD3001

Power Switch EMS6030/40/50



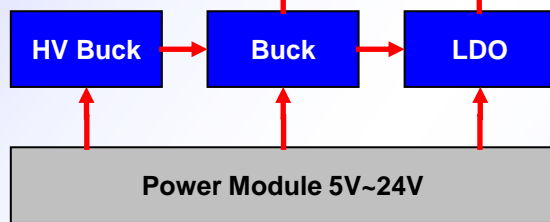
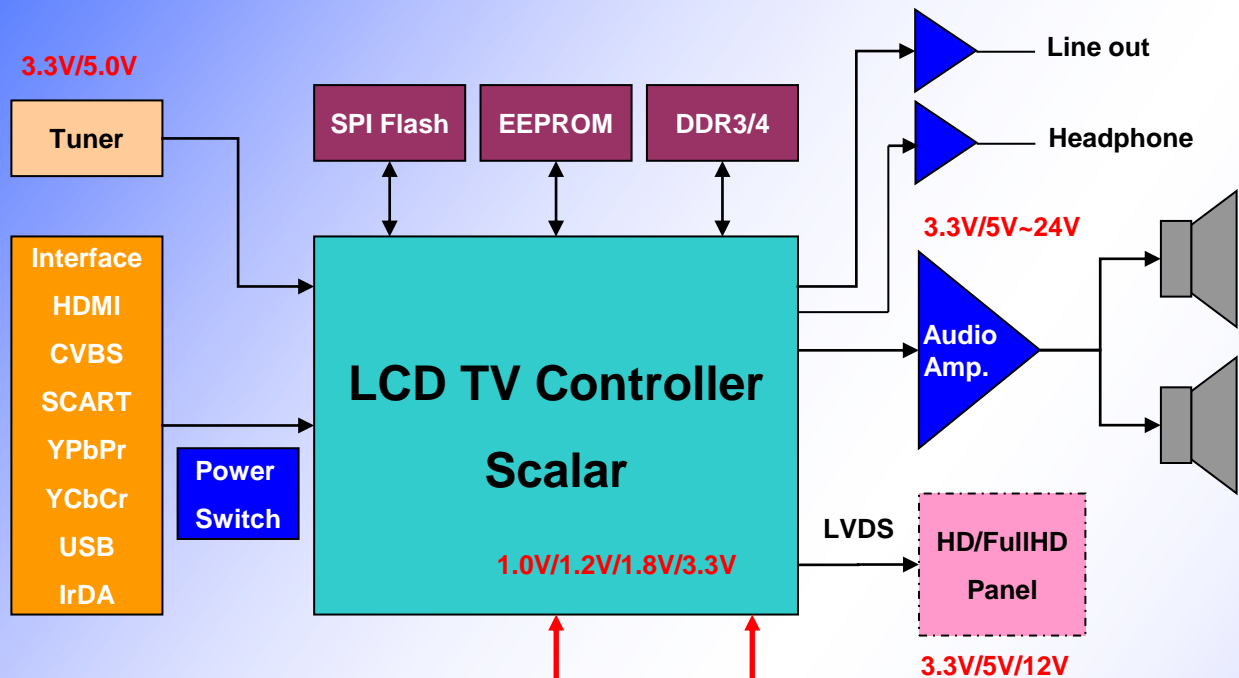
Mono:

AD51652/AD51653/AD51040

Stereo:

AD52651C/AD52656/AD52010

LCD-TV Solution 液晶電視解決方案



LDO EMP8965/EMP804X/EMP8021/EMP8110
EMP8130/EMP8731

Buck EML302X
EML317X/EML3276

HV-Buck EML3230

Power Switch EMS6030/40/50



Analog Input Amp:

AD52580/ AD52060

Digital Input Amp:

AD82584D/AD82585

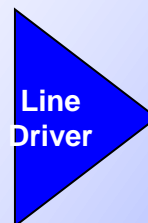
AD82586C/AD82587D

AD82010/AD87588

AD87589/AD83586B

PWM input/Power Stage:

AD92580



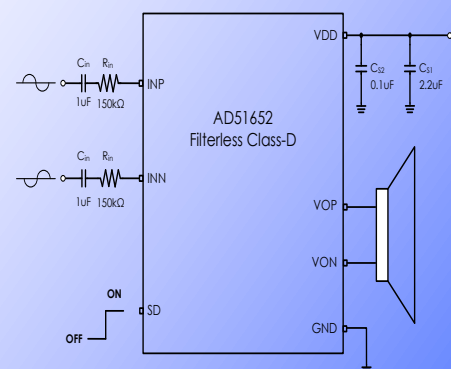
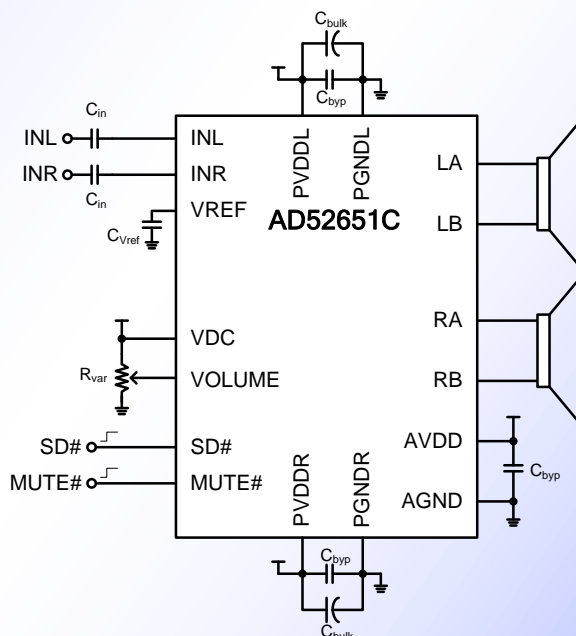
Line driver:

AD22650/AD22653B/

AD22654/AD22657B

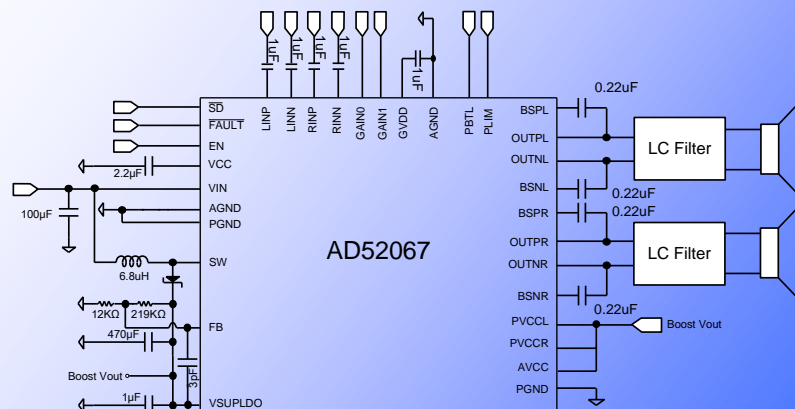
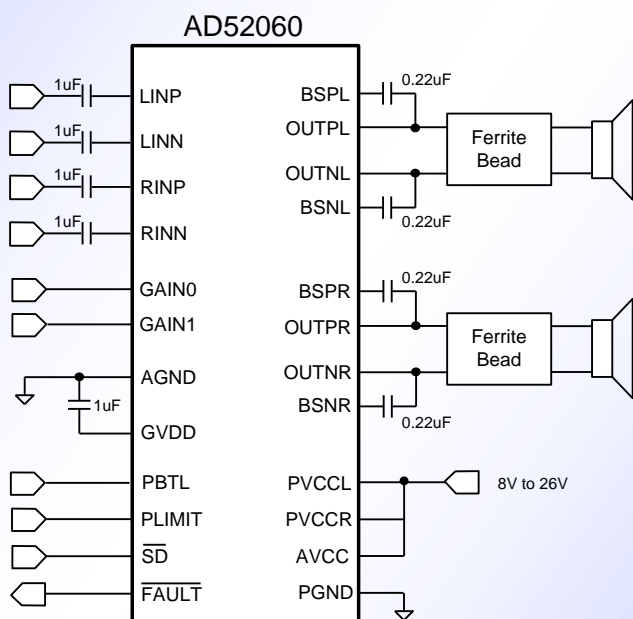
D類低功率音頻放大器 Low Power Class D

Product ID	Ch	VDD (V)	Power (W)	Load (ohm)	Package	Features	Status
EMA2011-50FF08NRR EMA2011-50MA08GRR	1	5	2.5	4	TDFN-3x3-8 MSOP-8L	Fully Diff.	MP
EMA2012-50FF08NRR	1	5	2.5	4	TDFN-3x3-8	Fully Diff. Fix-Gain	MP
AD51040-MH08NRR AD51040-WL09NRR	1	5	3.5	4	MSOP-8L WCSP-9	Fully Diff. NCN	MP
AD51041-MG08NRR	1	5	3.3	4	MSOP-8L	Fully Diff. NCN Class AB/D	MP
AD51652-MH08NRR AD51652-FH08NRR AD51652-WL09NRR	1	5	3	4	MSOP-8L TDFN-3x3-8 WCSP-9	Fully Diff.	MP
AD51653-QG14NRR AD51653-HH20NRR AD51653-WL12NRR	1	5.5	4.2	4	E-TSSOP-14L TQFN-3x3-20 WCSP-12	Class K ,NCN Charge pump	MP
AD52651C-ST24NAT	2	5	3	4	SSOP-24L (150mil)	Vol. Ctrl. New VDC ratio	MP
AD52652-ST24NAT	2	5	3	4	SSOP-24L (150mil)	Vol. Ctrl. Earphone	MP
AD52655-ST24NAT	2	5	2.5	4	SSOP-24L (150mil)	Vol. Ctrl. Power Limit	MP
AD52656-ST24NAT	2	5	2.5	4	SSOP-24L (150mil)	Vol. Ctrl. Power Limit Headphone	MP
AD82550A-CG	2	5	2.9	4	SSOP-24L (209mil)	I ² S In Vol. Ctrl. Headphone	MP
AD52010-QG14NRT	2	5	3	4	E-TSSOP-14L	Fully Diff.	MP
AD52040-SG16NRT AD52040-SG16NRR	2	5	3.3	4	SOP-16L	Fully Diff. NCN Class AB/D	MP



D類高功率音頻放大器 High Power Class D

Product ID	Ch	VDD (V)	Power (W)	Load (ohm)	Package	Features	Status
AD52060-QG28NAT	2	8~26	20	8/4	E-TSSOP-28L	Analog In Fixed gain Power Limit Filter-less P2P solution	MP
AD52066B-26QG28NRT	2	2.9~12	7	8/4	E-TSSOP-28L	Analog In Fixed gain Filter-less Boost	MP
AD52067-26QG28NRT AD52067-32QG28NRT AD52067-00LG48NRY	2	2.9~12	15	8/4	E-TSSOP-28L E-TSSOP-28L E-LQFP48L	Analog In Fixed gain Power Limit Filter-less Boost	MP
AD52068-QG28NAT	2	4.5~26	20	8/4	E-TSSOP-28L	Analog In Fixed gain Power Limit P2P solution Filter-less	MP
AD52660A-LEG	2	8~16.5	15	8/6	E-LQFP-48L	Analog In Vol. Ctrl.	MP
AD52580-QG28NAT	2	8~26	20	8/4	E-TSSOP-28L	Analog In Fixed gain Power Limit DTC P2P solution	MP
AD92580C-QG24NAT	2	5~26	20	8	E-TSSOP-24L	PWM input	MP



D類高功率音頻放大器 High Power Class D

Product ID	Ch	VDD (V)	Power (W)	Load (ohm)	Package	Features	Status
AD8256A-LEG	2	3~12	16	4	E-LQFP-48L	I ² S In/I ² C; 3* I ² S input 5 Bands EQ Headphone	MP
AD82583-HJ32NRY AD82583-QG24NRT	2	5~26	20	8	E-QFN-32L E-TSSOP-24L	I ² S In; power limit Closed loop	MP
AD82584D-LG48NAY	2	10~26	25	8	E-LQFP-48L	I ² S In/I ² C; Vol./Mute 16 Bands EQ; Noise Gate Dual Band DRC/Clipping P2P solution	MP
AD82585-LG48NAY	2	10~26	20	8	E-LQFP-48L	I ² S In/I ² C Vol./Mute; Noise Gate DRC/Clipping/DTC P2P solution 0.125dB/Step	MP
AD82586C-QG24NAT	2	10~26	20	8	E-TSSOP-24L	I ² S In/I ² C; Vol./Mute 20 Bands EQ; Noise Gate Dual Band DRC/Clipping Channel mixing	MP
AD82587D-QG24NAT	2	10~26	20	8	E-TSSOP-24L	I ² S In/I ² C; Vol./Mute DRC/Clipping/DTC Noise Gate 0.125dB/Step	MP
AD82588B-LG48NAY	2	10~26	20	8	E-LQFP-48L	I ² S In/I ² C; Vol./Mute 20 Bands EQ Dual Band DRC/Clipping Noise Gate Channel Mixing	MP
AD82589-LG48NAY	2	5~26	20	8	E-LQFP-48L	I ² S In/I ² C; Vol./Mute 24 Bands EQ; Noise Gate Closed-Loop Dual Band DRC	MP
AD83584D-LG48NAY	2 2.1	10~26	25x2 / 10x2+30	8	E-LQFP-48L	I ² S In/I ² C; Vol./Mute 20 Bands EQ; Noise Gate Dual Band DRC/Clipping P2P solution; 2.1Ch	MP
AD83586B-LG48NAY	2 2.1	7~26	40x2 /20x2 +40	8/4	E-LQFP-48L	I ² S In/I ² C; Vol./Mute 20 Bands EQ Dual Band DRC Noise Gate Channel Mixing	MP
AD82010-QG24NRT	2	8~26	20	8/4	E-TSSOP-24L	I ² S In/I ² C; Vol./Mute DRC/Clipping Noise Gate/Filter-Less Closed-Loop/MCLK-Less	MP
AD82072-LG48NRY	2	10~26	25	8	E-LQFP-48L	I ² S In/I ² C; Vol./Mute 20 Bands EQ Dual Band DRC/Clipping With post DRC Noise Gate/3D	MP
AD82584F-LG48NRY AD82584F-QG24NRT	2	8~26	25	8	E-LQFP-48L E-TSSOP-24L	I ² S In/I ² C; Vol./Mute 30 Bands EQ Three Band DRC Clipping With post DRC Noise Gate/3D I ² S Out/MCLK-Less	MP:2017/6

D類高功率音頻放大器 High Power Class D

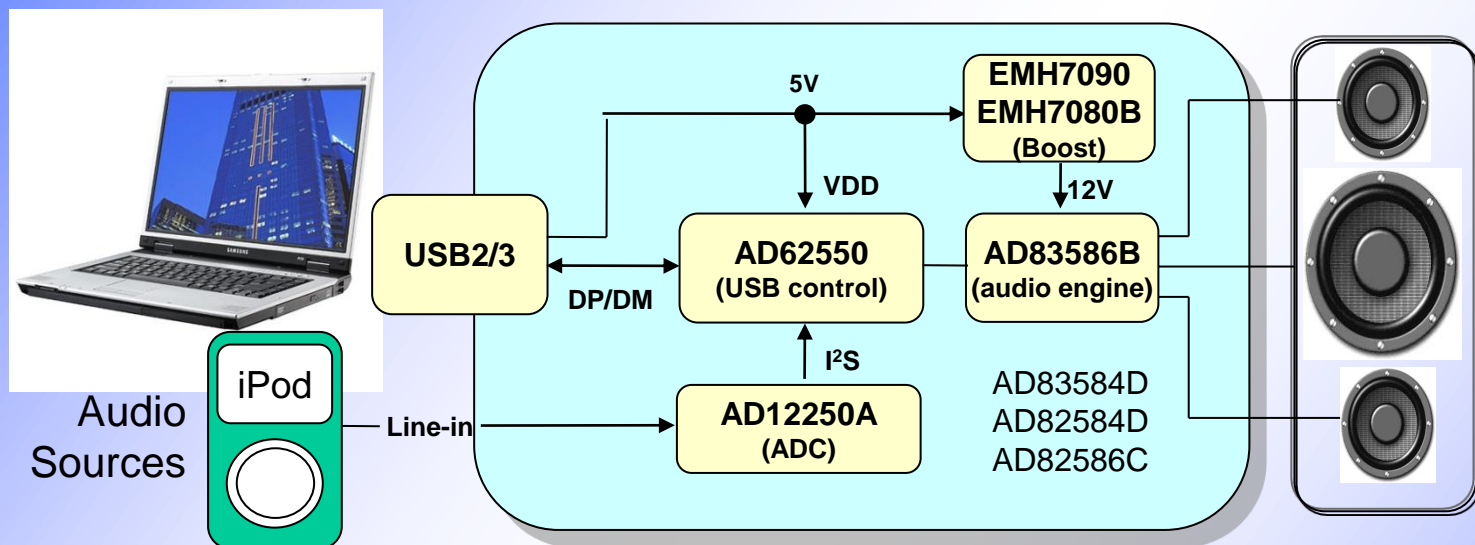
Product ID	Ch	VDD (V)	Power (W)	Load (ohm)	Package	Features	Status
AD87586-LG48NAY	2	10~26	20	8	E-LQFP-48L	I ² S In/I ² C; Vol./Mute Dual Band DRC/Clipping Noise Gate Line Driver	MP
AD87587-LG48NAY	2	10~26	20	8	E-LQFP-48L	I ² S In/I ² C; Vol./Mute DRC/Clipping/DTC Line Driver; Noise Gate	MP
AD87588-LG48NAY	2	10~26	20	8	E-LQFP-48L	I ² S In/I ² C ; Vol./Mute 20 Bands EQ; Noise Gate Dual Band DRC/Clipping Line Driver	MP
AD87589-LG48NAY	2	5~26	20	8	E-LQFP-48L	I ² S In/I ² C ; Vol./Mute 24 Bands EQ; Noise Gate Dual Band DRC Line Driver; Closed-Loop	MP
AD87010-LG48NRY	2	8~26	20	8/4	E-LQFP-48L	I ² S In/I ² C; Vol./Mute DRC/Clipping Noise Gate/Filter-Less Closed-Loop/MCLK-Less Line Driver	MP
AD87072-LG48NRY	2	5~26	20	8	E-LQFP-48L	I ² S In/I ² C; Vol./Mute 20 Bands EQ Dual Band DRC/Clipping With post DRC MCLK-Less Noise Gate/3D Line Driver	MP

音頻類比數位轉換器 USB Audio & Audio ADC

Product ID	Ch	VDD (V)	Power (W)	Load (ohm)	Package	Features	Status
AD12250A-SG	NA	3.3	NA	NA	TSSOP-16	24 bits I ² S out	MP
AD22650-QH14NAT AD22650-QH14NAR	2	5/3.3	NA	NA	TSSOP-14	3 Vrms Line Driver Popless	MP
AD22653-QH14NAT AD22653-QH14NAR	2	3.3	NA	NA	TSSOP-14	2 Vrms Line Driver Popless	MP
AD22653B-QH14NAT AD22653B-QH14NAR	2	3.3	NA	NA	TSSOP-14	2 Vrms Line Driver Popless	MP
AD22654-MH10NAT AD22654-MH10NAR	2	5/3.3	NA	NA	MSOP-10	3 Vrms Line Driver Popless	MP
AD22654B-MG10NAT AD22654B-MG10NAR	2	5/3.3	NA	NA	E-MSOP-10	3 Vrms Line Driver Popless	MP
AD22657B-MH10NAT AD22657B-MH10NAR	2	3.3	NA	NA	MSOP-10	2 Vrms Line Driver Popless	MP
AD62550-LA32NAY	2	5	2.0	4	LQFP-32	USB interface Class D Amp. I ² S in/out Win7 Logo	MP
AD62553-LH64NAY	2	5.5	2.1	4	LQFP-64L	USB interface Microphone/Line in I ² S in/out Earphone Win7 Logo Recording Class D Amp.	MP
AD62555-QE24NAT	2	5	2.0	4	TSSOP-24	USB interface Class D Amp. Win7 Logo	MP
AD62556-LG48NAY	2	5.5	NA	NA	E-LQFP-48L	USB interface Microphone/Line in I ² S in/out Earphone Win7 Logo Recording	MP
AD62557-LG48NAY	2	5.5	2.1	4	E-LQFP-48L	USB interface Microphone/Line In I ² S in/out Class D Amp. Win7 Logo Recording	MP

USB ^{Boom}

USBoom™ Technology



- **High Output Power:** ESMT's USBoom™ technology allows an impressive 6Wx2 (8Ω)+12W (4Ω) output (Max. Instantaneous Power) using limited power supply from USB2/3 port

- **ESMT's Dynamic Range Control (DRC) technology** prevents excessive current drawn from a USB port, thus minimizing distortion

單通道低壓差線性穩壓器 1-Ch LDO

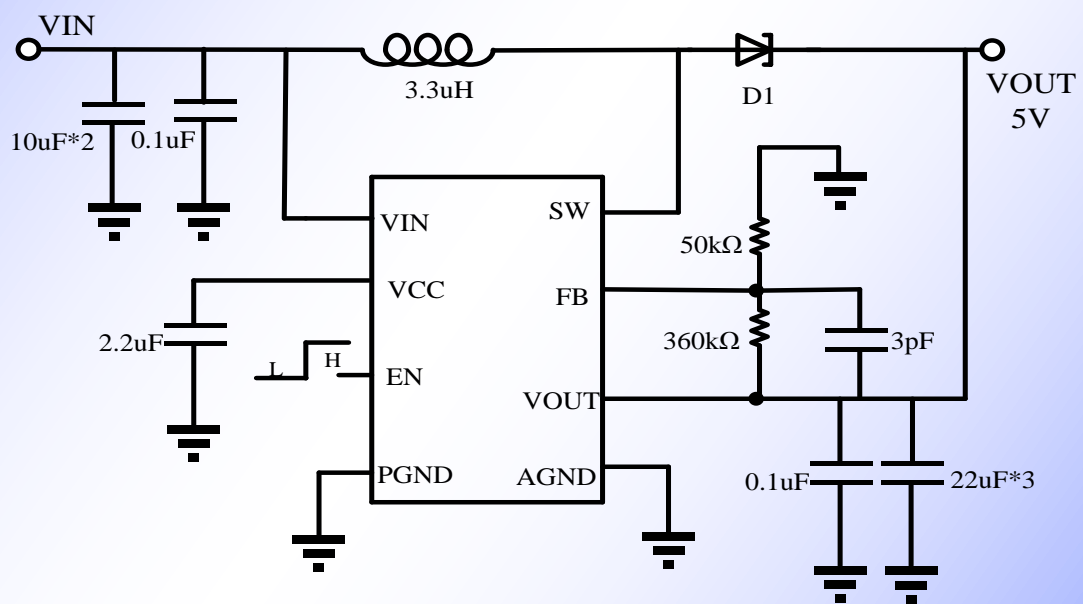
Product ID	Iout (A)	Vin (V)	Vout (V)	Vdo (mV)	Feature	Package	Status
EMP8040-00VF05NRR	0.15	3.0~36	Adj(1.2V)	450	HV, Low Iq	SOT-23-5	MP
EMP8041-xxVF05NRR EMP8041-xxVG03NRR	0.15	3.0~36	3.3/5.0	450	HV, Low Iq	SOT-23-5 SOT-89-3	MP
EMP8042-xxVF05NRR EMP8042-xxVG03NRR	0.15	3.0~20	Adj(1.2V)/3.3/5.0	450	HV, Low Iq	SOT-23-5 SOT-89-3	MP
EMP8020-xxVF05NRR EMP8020-XXVIO5NRR	0.3	2.2~5.5	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.1/3.3	270	High PSRR	SOT-23-5 SC-70-5	MP
EMP8021-xxVF05NRR	0.6	2.2~5.5	1.8/2.5/2.8/3.0/3.3	610	High PSRR	SOT-23-5	MP
EMP8021-xxVIO5NRR	0.6	2.2~5.5	3.3	610	High PSRR	SC-70-5	MP
EMP8021-xxVG03NRR	0.6	2.2~5.5	1.8/2.5/2.8/3.3	610	High PSRR	SOT-89-3	MP
EMP8110-xxVE#3NRR EMP8110-xxSG08NRR	1.5	2.5~6.5	1.2/1.5/1.8/2.5/3.3	300	High Current	SOT-223 E-SOP8	MP
EMP8130-xxVU05NRR EMP8130-xxVN05NRR EMP8130-xxFJ04NRR EMP8130-xxVIO5NRR EMP8130-xxVJ04NRR	0.3	1.7~5.5	0.8/1.0/1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	260	High PSRR	TSOT-23-5 SOT-23-5 TDFN-1x1-4 SC-70-5 SC-82-4	MP
EMP8130-xxVN03NRR EMP8130-xxFK06NRR	0.3	1.7~5.5	1.2/1.8/2.8/3.0/3.3	260	High PSRR	SOT23 DFN2X2-6	MP
EMP8731-06VF05NRR	0.3	2.2~5.5	ADJ	275		SOT23-5	MP
EMP8733-xxVB03GRR	0.3	2.2~5.5	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	290		SOT-23-3	MP
EMP8734-xxFE06NRR	0.3	2.2~5.5	1.2/1.8/2.5/3.0/3.3	290	Small Package	TDFN-2x2-6	MP
EMP8734-xxVF05GRR	0.3	2.2~5.5	1.0/1.2/1.5/1.8/2.5/2.8/3.0/3.3	290		SOT-23-5	MP
EMP8734-xxVIO5NRR	0.3	2.2~5.5	1.2/1.3/1.8/2.5/2.8/3.3	290	Small Package	SC-70-5	MP
EMP8965-xxVF05NRR	0.6	2.5~5.5	1.2/1.5/1.8/2.5/3.0/3.3	270	Low Vdo	SOT-23-5	MP
EMP8966-00VF05GRR EMP8966-00VC06GRR	0.6	2.5~5.5	Adj(1.19V)	270	Low Vdo	SOT-23-5 SOT-23-6	MP

降壓式開關穩壓器 DC/DC Buck Converter

Product ID	Iout (A)	Vin (V)	Vout (V)	Vfb (V)	Freq. (MHz)	Control	Package	Status
EML3020-00FE06NRR EML3020-00VF05NRR	1.0	2.5~5.5	Adj	0.6	1.5	Sync./PSM/PWM	TDFN-2x2-6 SOT-23-5	MP
EML3020-xxFE06NRR	1.0	2.5~5.5	1.2/18/3.3	---	1.5	Sync./PSM/PWM	TDFN-2x2-6	MP
EML3023-00VF05NRR	1.0	2.5~5.5	Adj	0.6	1.5	Sync./PSM/PWM	SOT-23-5	MP
EML3380	1.0	2.5~5.5	Adj	0.6	1.5	Sync./PSM/PWM	SOT-23-5	17'Q3
EML3026-00VF05NRR	1.3	2.5~5.5	Adj	0.6	1.5	Sync./PSM/PWM	SOT-23-5	MP
EML3412-00FF06NRR	1.2	2.5~5.5	Adj	0.6	1.3	Sync./PWM	TDFN-3x3-6	MP
EML3416-00FF08NRR	1.5	2.5~5.5	Adj	0.6	1.3	Sync./PWM	TDFN-3x3-8	MP
EML3417-00FF06NRR	1.5	2.5~5.5	Adj	0.6	1.3	Sync./PWM	TDFN-3x3-6	MP
EML3418-00FF08NRR EML3418-00SE08GRR	2.0	2.5~5.5	Adj	0.6	1.3	Sync./PWM	TDFN-3x3-8 SOP-8-E	MP
EML3171-00FH08NRR	2.0	2.6~5.5	Adj	0.8	1.4	Sync./PSM/PWM	TDFN-3x3-8	MP
EML3320	2.0	2.5~5.5	Adj	0.6	1	Sync./PSM/PWM	SOT23-5, SOT23-6	17'Q3
EML3172-00VT06NRR	3.0	2.6~5.5	Adj	0.8	1.4	Sync./PSM/PWM	SOT23-6	MP
EML3173-00SG08NRR	3.0	2.6~5.5	Adj	0.8	1.4	Sync./PWM	SOP-8-E	MP
EML3175-00FH08NRR	3.0	2.6~5.5	Adj	0.8	1.4	Sync./PSM/PWM	TDFN-3x3-8	MP
EML3176-00SG08NRR	3.0	2.6~5.5	Adj	0.8	1.4	Sync./PSM/PWM/ Power Good/ Mode	E-SOP-8L	MP
EML3276-00SG08NRR	5.0	2.6~5.5	Adj	0.8	1.4	Sync./PSM/PWM/ Power Good/ Mode	E-SOP-8L	MP
EML3210-00FH10NRR	1.0/1.0	2.5~5.5	Adj	0.6	1.5	Sync./PSM/PWM/ Power Good	TDFN-3x3-10	MP
EML3300-00SG08NRR	2.5	4.5~18	Adj	0.92	0.34	Sync./PWM	E-SOP-8L	MP
EML3330	6	4.5~18	Adj	0.76	650	Sync./COT	E-SOP-8L	17'Q3
EML3230-00SG08NRR	3.0	4.5~23	Adj	0.92	0.34	Sync./PWM	E-SOP-8L	MP
EML3190-00SG08NRR	5	4.5~36	Adj	0.808	0.42	Non-Sync PWM Power Good Sync Clock	E-SOP-8L	MP
EML3191-00SG08NRR	5	4.5~36	Adj	0.808	Adj	Non-Sync PWM External Freq. Adj	E-SOP-8L	MP
EML3191B-00SG08NRR	5	4.5~36	Adj	0.808	Adj	Non-Sync PWM External Freq. Adj OVP	E-SOP-8L	17'Q2
EML3192-00SG08NRR	3	4.5~36	Adj	0.808	0.42	Non-Sync PWM Power Good Sync Clock	E-SOP-8L	MP
EML3192B-00SG08NRR	3	4.5~36	Adj	0.808	0.42	Non-Sync PWM Power Good Sync Clock, OVP	E-SOP-8L	17'Q2
EML3193-00SG08NRR	3	4.5~36	Adj	0.808	Adj	Non-Sync PWM External Freq. Adj	E-SOP-8L	MP
EML3193B-00SG08NRR	3	4.5~36	Adj	0.808	Adj	Non-Sync PWM External Freq. Adj OVP	E-SOP-8L	MP
EML3290	3	4.5~36	Adj	0.808	Adj	Sync PWM External Freq. Adj OVP	E-SOP-8L	17'Q3

升壓式開關穩壓器 DC/DC Boost Converter

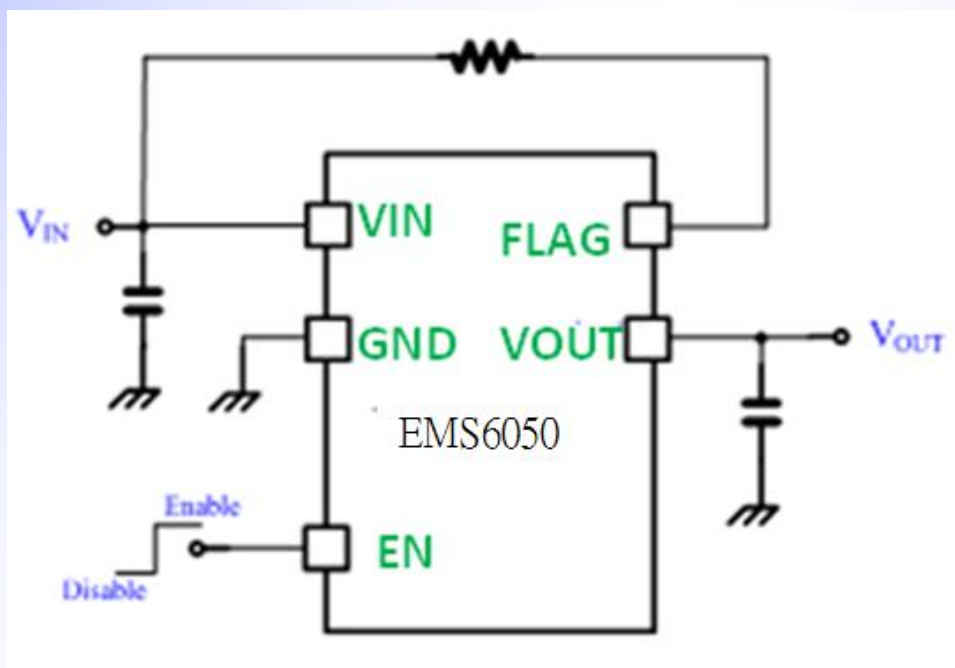
Product ID	Current limit (A)	Vin (V)	Vout (V)	Freq. (kHz)	Control	Package	Feature	Status
EMH7601-00FE06NRR EMH7601-00VF05GRR	1	0.9~5.5	Adj(1.195V)	150	Sync./PFM	TDFN-2x2-6 SOT-23-5	OCP	MP
EMH7070-00VN06NRR	2.5	2.6~5.5	Adj(0.6V) Vout(12V)	1000	Async PWM	SOT-23-6	OVP, OCP,OTP	MP
EMH7080B-00SG08NRR	4.5	2.9~12	Adj(0.6V) Vout(14V)	500	Async PWM	E-SOP-8L	OVP, OCP,OTP	MP
EMH7090-00SG08NRR	6.0	2.9~12	Adj(0.6V) Vout(14V)	500	Async PWM	E-SOP-8L	OVP, OCP,OTP	MP



EMH7090 application circuit

開關電源 Power Switch IC

Product ID	Ch	Iout (A)	Operation Vin (V)	Ron (m Ohm)	Iq (uA)	Package	Features	Status
EMS6030A/B	1	2	2.5~5.5	60	65	SOT-23-5	OC Flag,& EN(A:L / B:H)	MP
EMS6030C/D	1	2.5	2.5~5.5	60	65	SOT-23-5	OC Flag,& EN(C:L / D:H)	MP
EMS6040A/B	1	3	2.5~5.5	58	65	MSOP8	OC Flag,& EN(A:L / B:H)	MP
EMS6050A/B	1	3.0	2.5~5.5	40	65	SOT-23-5	OC Flag,& EN(A:L / B:H)	MP
EMS6050C/D	1	3.4	2.5~5.5	40	65	SOT-23-5	OC Flag,& EN(C:L / D:H)	MP

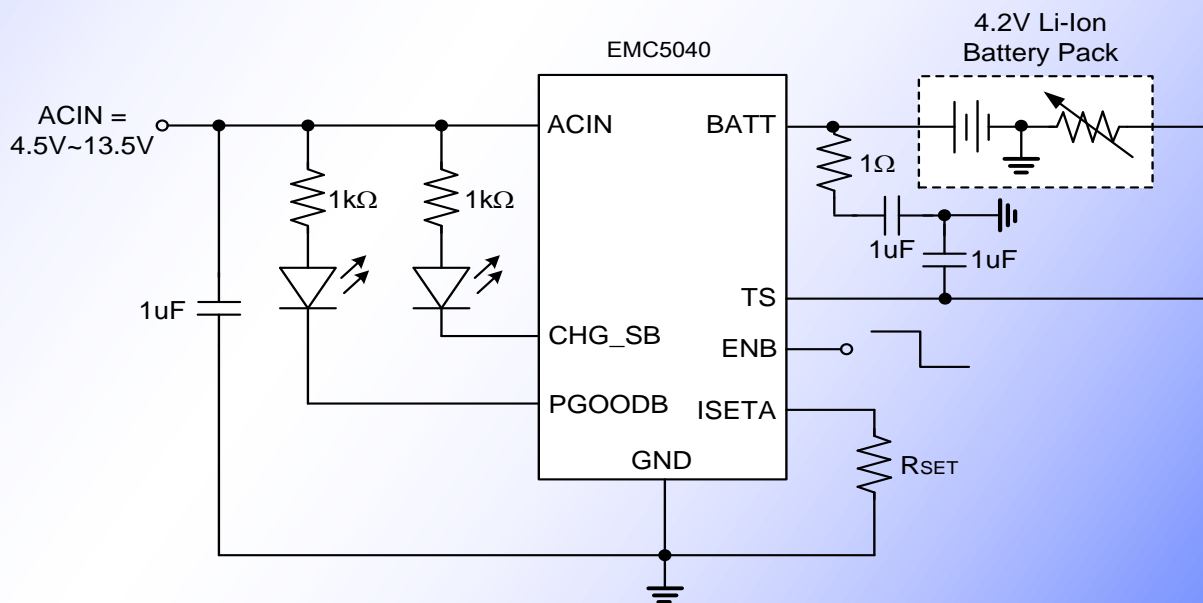


電池充電IC Battery Charger

Product ID	Cell	Iout (A)	Operation Vin (V)	Vbat (V)	Vout (V)	Accuracy	Package	Features	Status
EMC5754-xxVF05GRR EMC5754-xxSG08NRR	1	1.0	4.25~5.5	4.1 4.2 4.35	---	±1%	SOT-23-5 SOP-8-E	Linear	MP
EMC5755-xxFF06NRR	1	1.2	4.25~5.5	4.1 4.2 4.35	---	±1%	TDFN- 3x3-6	Linear	MP
EMC5040-42FF10NRR EMC5040-42SG08NRR	1	1.2	4.5~6.5 (MaxRating- 13.5V)	4.2	---	±1%	TDFN-3x3-10 E-SOP-8L	Linear TS	MP
EMC5042-84FF10NRR	2	1.2	9.0~13.5 (MaxRating- 15V)	8.4	---	±1%	TDFN-3x3-10	Linear TS	MP
EMC5046-84SG08NRR	2	1.2	9.0~13.5 (MaxRating- 15V)	8.4	---	±1%	E-SOP-8L	Linear	MP
EMC5050-42HH16NRR EMC5050-42HC16NRR	1	1.5	4.6~5.5	4.2	---	±1%	TQFN-3x3-16 TQFN-4x4-16	Linear Timer TS	MP
EMC5051-42HC16NRR	1	2	4.6~5.5	4.2	---	±1%	TQFN-4x4-16	Linear Timer TS	MP
EMC5090-xxHI16NRR EMC5090-xxQG16NRR	1	2.5	4~5.5	4.2 4.35	---	±1%	TQFN-4x4-16 E-TSSOP-16L	Switching TS Timer	MP

Note :

1. TS : Battery Temp Sense

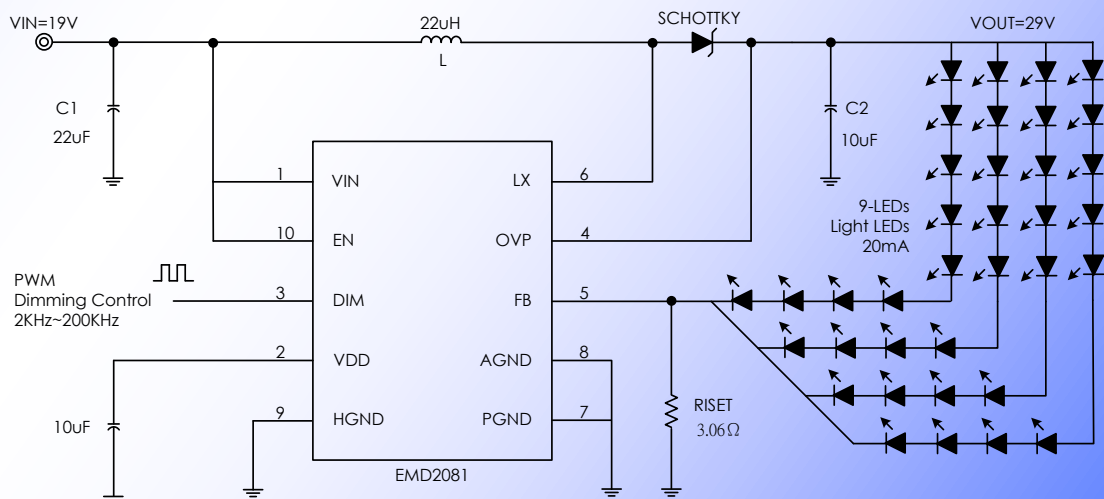
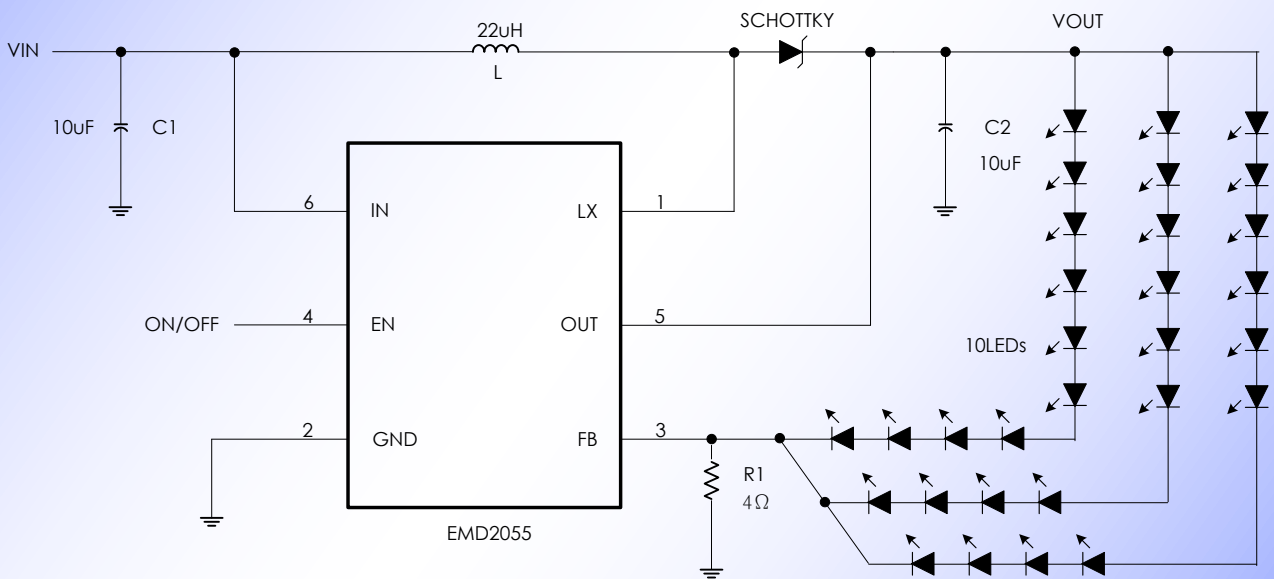


DC/DC LED Driver

Product ID	Topology	Vin (V)	Ch.	Dimm	OVP (V)	Max. Iout/Ch (mA)	Package	Features	Status
EMD2050-00VC06NRR	Boost	2.5~5.5	1	PWM	15	*1	SOT-23-6	3S13P	MP
EMD2055-00VC06NRR EMD2055-00FK08NRR	Boost	2.5~5.5	1	PWM	36	*1	SOT-23-6 TDFN-2x2-8	10S3P	MP
EMD2095-00VC06NRR	Boost	2.5~5.5	1	PWM	31	*1	SOT-23-6	8S3P	MP
EMD3001-50FE06GRR EMD3001-50VC06GRR	Charge Pump	2.7~4.5	1	PWM	---	100	TDFN-2x2-6 SOT-23-6		MP
EMD2081-00MH10NRR	Boost	8~30	1	PWM	36	350	MSOP-10	For MR-16 For BL	MP
EMD2160-00VN05NR	Linear	3~5.5	1	----	---	300	SOT23-5	UVP	MP
EMD2161-00VN05NRR	Linear	3~5.5	1	----	---	100	SOT23-5	UVP	MP

Note :

1. It depends on Vin and LEDs series/parallel configuration



Car Peripheral Power Solutions

Car Power

HV Buck Converter
EML319X (5A/3A),
HV LDO
EMP8040/1/2

1 Cell LI-ION

Linear Charger
EMC5754/5,
EMC5040,
EMC5050,
EMC5090

1/2Cell Alkaline

Boost Converter
EMH7601,
or
EMD3001 For 5V
Application



System Power

For RF: GPS/BT/GPRS.....LDO → EMP8130 ,EMP8965
 For Core/MCU/DSP.. LV DCDC Buck → EML3020/3,EML3210, EML3172
 For Panel backlight.....LED Drivers → EMD2050/55/95, EMD2081
 For Audio amp..... Boost → EMH7090, EMH7070,EMH7080B
 For USB Port -----Power Switch → EMS6030/40/50

AC/DC & DC/DC LED Driver

Product ID	Topology	Vin (V)	Ch.	Dimming Method	PCR *2	Max. Iout (mA)	Package	Protection	Status
EMD25010-00SH08NRR	Linear	90~130	1	No	No	100/200(EXT)	E-SOP-8L	OTP	MP
EMD2155-00SG08NRR	Linear	90~130 200~240	3	TRIAC PWM/ Analog	Yes	100	E-SOP-8L	OVP/OTP/ UVLO	MP
EMD2530-00SG08NR	Linear	90~240	2	TRIAC PWM/ Analog	Yes	120	E-SOP-8L	OVP/OTP/ UVLO	MP
EMD2531-00SG16NRR	Linear	90~240	3	TRIAC PWM/ Analog	Yes	120	E-SOP-16L	OVP/OTP/ UVLO	MP
EMD2181-00SG08NRR	Linear	90~130 200~240	1	10-State	Yes	60/350 *1	E-SOP-8L	OVP/UVL O	MP
EMD2182-00SG08NRR	Linear	90~130 200~240	1	PWM	Yes	60/350 *1	E-SOP-8L	OVP/UVL O	MP
EMD2183-00SG08NRR	Linear	90~130 200~240	1	3-State	Yes	60/350 *1	E-SOP-8L	OVP/UVL O	MP
EMD2230-00VN06NRR	Buck Controller	90~240	1	No	Yes	>500mA	SOT23-6	OVP/OTP/ UVLO	MP

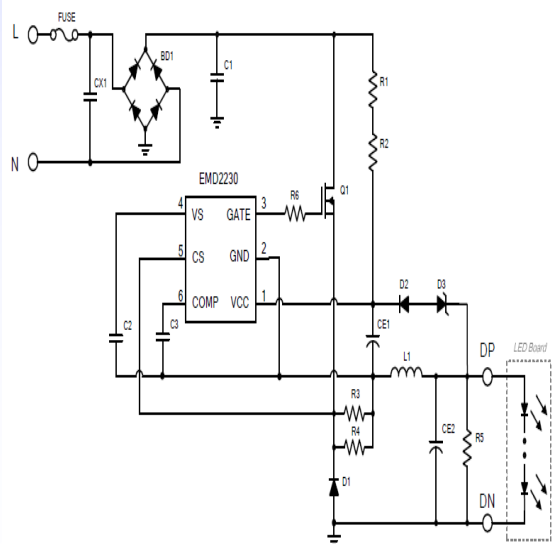
Note :

1. EMD218X can support external Power MOSFET, driving current can be up to 350mA.
2. PCR – Power Compensation

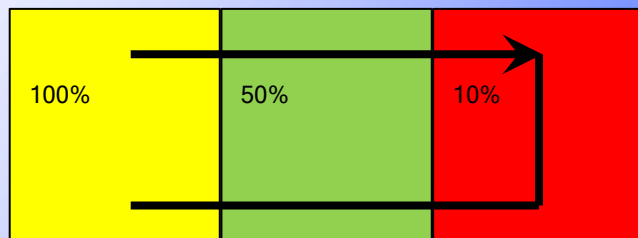
Product ID	Topology	Vin (V)	Ch.	Dimming Method	Max. Iout (mA)	Package	Protection	Status
EMD2540-10QG14NRR	Linear	2.2~5.5	3	PWM/Each	300/Each	E-TSSOP-14	OTP	MP

EMD2230 - HPF switching LED application

Typical Application



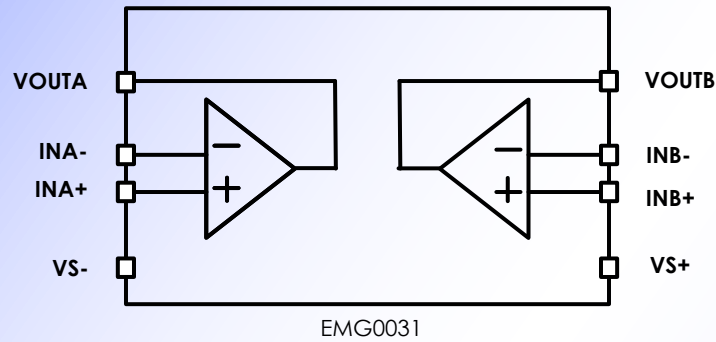
EMD2183 - 3 Steps Switch Dimmer



3 steps brightness dimming adjustable by switch ON/OFF. MODE pin setting to GND.

OP放大器 Rail to Rail Operational Amplifiers

Product ID	Ch.	Vin (V)	Iout (mA)	Isc (mA)	IQ (mA)	SR (V/us)	BW (MHz)	GBWP (MHz)	Package	Status
EMG0030-00VF05NRR	1	6-24	+/-45	+/-200	2.0	65	30	30	SOT-23-5	MP
EMG0031-00MA08NRR	2	6-20	+/-45	+/-200	4.0	65	30	30	MSOP-8	MP



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