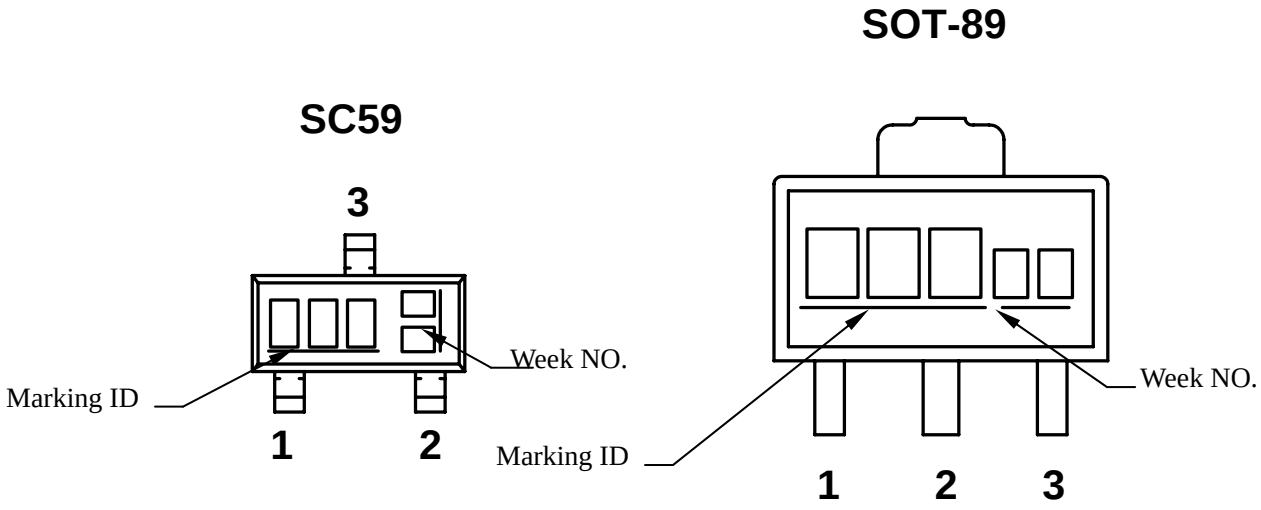
400mA Super LDO Linear Regulator　　400mA 超低壓差綫性調整器 FH5119

DESCRIPTION & FEATURES　概述及特點	
The FH5119 is an efficient linear voltage regulator ,it has extra low dropout .At light loads the typical dropout voltage is 15mV, at full load the typical dropout voltage is 600mV, The output voltage accuracy is better than 2%. The FH5119 has low ground current at 120uA,so it can help prolong battery life .The FH5119 is specially designed for hand-held , battery –powered devices.	FH5119 是一高效的、具有超低壓差的線性電壓調整器，在輕負載條件下的典型壓差是 15mV，滿載條件下的典型壓差爲 600 mV，輸出電壓的精度可控制在 2%以內。FH5119 具有 120 uA 的低漏電流，因此它能夠延長電池的壽命，FH5119 是專爲手提電器及電池充電器特別設計的器件。
· Typical 175mV dropout voltage at 150mA. · Low Ground current at 120uA. · Guaranteed 400mA output over the full operating temperature range. · Extremely tight load and line regulation. · Low temperature coefficient. · Current and thermal limiting. · No-load stability.	· 150mA 時的典型壓差是 175 mV. · 120uA 漏電流. · 在正常操作溫度範圍內，提供 400mA 電流. · 極嚴的負載調整率及線性調整率. · 低溫度係數. · 具有電流及溫度限定. · 無負載穩定性.
Applications　應用	
· Active SCSI terminators. · Post regulators for switching supplies. · Battery chargers. · High-efficiency linear power supplies. · Computer motherboard, display, graphic card DC/DC converter, such as 5V to 3.3V, 3.3V to 2.8V or 3.3V to 2.5V.	· 應用於 SCSI 終端器 · 開關應用的快速 · 充電器 · 提供高效率的線性能量 · 電腦主板、顯示器、圖解板、DC/DC轉換器：例可由 5V轉至3.3V、3.3V轉至2.8V或由3.3V 轉至2.5V.
Marking Information and Pin Configuration　打標資訊及管腳配置	

Pin configuration　引腳排列圖



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Ordering Information 訂購資訊

Package 封裝類型	Temperature Range 溫度範圍	Part Number 產品型號	Pin configuration 管腳配置			Marking ID 打標	Packing Type 包裝類型
			1	2	3		
SC59	-10°C ~ 125°C	FH5119-AN-UE	GND	OUT	IN	5AN	Tape
		FH5119-BN-UE	GND	OUT	IN	5BN	Tape
		FH5119-CN-UE	GND	OUT	IN	5CN	Tape
		FH5119-DN-UE	GND	OUT	IN	5DN	Tape
		FH5119-EN-UE	GND	OUT	IN	5EN	Tape
		FH5119-FN-UE	GND	OUT	IN	5FN	Tape
		FH5119-GN-UE	GND	OUT	IN	5GN	Tape
		FH5119-AG-UE	OUT	IN	GND	5AG	Tape
		FH5119-BG-UE	OUT	IN	GND	5BG	Tape
		FH5119-CG-UE	OUT	IN	GND	5CG	Tape
		FH5119-DG-UE	OUT	IN	GND	5DG	Tape
		FH5119-EG-UE	OUT	IN	GND	5EG	Tape
		FH5119-FG-UE	OUT	IN	GND	5FG	Tape
		FH5119-GG-UE	OUT	IN	GND	5GG	Tape
SOT89		FH5119-AN-RE	GND	IN	OUT	5AN	Tape
		FH5119-BN-RE	GND	IN	OUT	5BN	Tape
		FH5119-CN-RE	GND	IN	OUT	5CN	Tape
		FH5119-DN-RE	GND	IN	OUT	5DN	Tape
		FH5119-EN-RE	GND	IN	OUT	5EN	Tape
		FH5119-FN-RE	GND	IN	OUT	5FN	Tape
		FH5119-GN-RE	GND	IN	OUT	5GN	Tape
		FH5119-AG-RE	OUT	GND	IN	5AG	Tape
		FH5119-BG-RE	OUT	GND	IN	5BG	Tape
		FH5119-CG-RE	OUT	GND	IN	5CG	Tape
		FH5119-DG-RE	OUT	GND	IN	5DG	Tape
		FH5119-EG-RE	OUT	GND	IN	5EG	Tape
		FH5119-FG-RE	OUT	GND	IN	5FG	Tape
		FH5119-GG-RE	OUT	GND	IN	5GG	Tape

FH5119 - X X -R E

- Type 產品型號
- Lead free 無鉛
- Package code 封裝代碼：R：SOT89 U：SC59
- Pin configuration Code 管腳排列代碼
- Voltage Rank 輸出電壓檔級： A :1.5V　B: 1.8V　C: 2.5V　D: 2.8V　E: 3.0V　F: 3.3V　G: 5.0V

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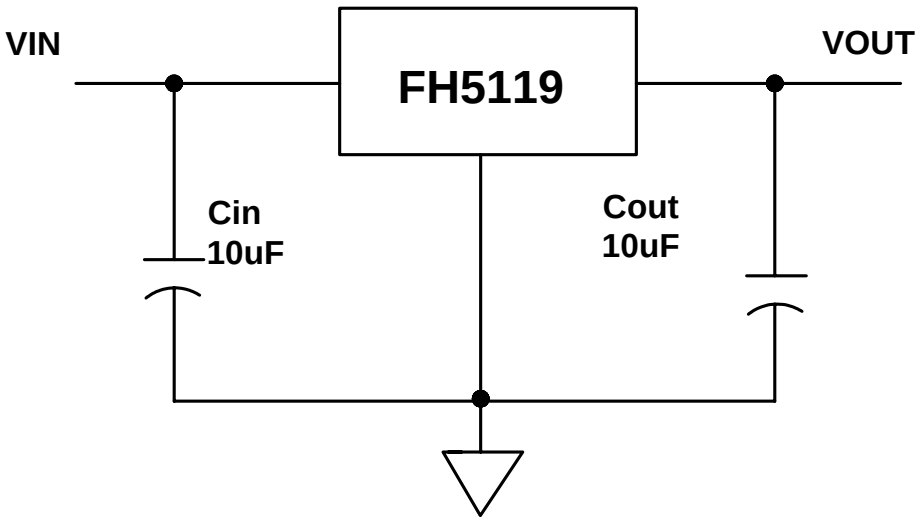
Typical Application　典型應用圖



MAXIMUM RATINGS (T_a=25℃) 最大額定值 (Note 1)				
Characteristic 特性參數	Symbol 符號	Maximum 最大值	Operating ratings(Note 2) 建議使用範圍	Unit 單位
Supply Input Voltage (vin)	V_{IN}	+6	+2.8～5.5	V
MAX Load Current 最大負載電流	$I_{load(max)}$	400		mA
Junction Temperature工作結溫	T_J	150	0～125	°C
Thermal Impedance (Note 3)熱阻	θ_{JA}	180 (SOT-89) 230 (SOT-23)		°C / W
Storage Temperature Range儲存溫度	T_{STG}	-10～150		°C
LeadTemperature (Soldering)10 Seconds 上錫溫度（10S）	T_{LEAD}	260		°C
Power Dissipation 耗散功率	PD	Internally limited (note3)		

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ELECTRICAL CHARACTERISTICS 電特性

Vin=Vout+1.0V;Cin=10UF;Cout=10uF;Iout=10mA;Tj=25°C unless otherwise noted
如無特殊說明，溫度爲 25°C Vin=Vout+1.0V;Cin=10UF;Cout=10uF;Iout=10mA;

Parameter 參數	Symbol 符號	Test Conditions 測試條件	Min. 最小值	Typ. 典型值	Max. 最大值	Unit 單位
Output voltage Accuracy 輸出電壓精度	VOUT	FH5119-1.5V	1.470	1.5	1.530	V
		FH5119-1.8V	1.764	1.8	1.836	
		FH5119-2.5V	2.45	2.5	2.55	
		FH5119-2.8V	2.744	2.8	2.856	
		FH5119-3.0V	2.96	3.0	3.06	
		FH5119-3.3V	3.234	3.3	3.366	
		FH5119-5.0V	4.9	5.0	5.1	
Output Voltage Temperature Coefficient 輸出電壓溫度係數	ΔVOUT/ΔT	note4		50		ppm/℃
Line Regulation 線性調整率	ΔVOUT/VOUT	VIN=VOUT+1 to 5.5V		1		%
Load Regulation(note5) 負載調整率	ΔVOUT/VOUT	I_{OUT}=10mA to 250 mA		1		%
		I_{OUT}=10mA to 400 mA		1.5		
Dropout Voltage(note6) 壓差	VIN-VOUT	I_{OUT}=10mA		15		mV
		I_{OUT}=150mA		175		
		I_{OUT}=250mA		320		
		I_{OUT}=400mA		600		
Ripple Rejection 紋波抑制	PSRR	f=120HZ		51		dB
Ground Current 接地端電流	I_{ground}	I_{OUT}=10 mA		120		μA
Current Limit 限制電流	I_{LIMIT}	V_{OUT}=0V		600		mA

Note 1: Exceeding the absolute maximum rating may damage the device.
Note 2: The device is not guaranteed to function outside its operating rating.
Note 3: The maximum allowable power dissipation at any TA (ambient temperature) is calculated using: PD(MAX) = (TJ(MAX)- TA)/θJA. Exceeding the maximum allowable power dissipation will result in excessive die temperature, and theregulator will go into thermal shutdown. See Table 1 and the “Thermal Considerations” section for details.
Note 4: Output voltage temperature coefficient is the worst-case voltage change divided by the total temperature range.
Note 5: Regulation is measured at constant junction temperature using low duty cycle pulse testing. Parts are tested for load regulation in the load range from 100μA to 400mA. Changes in output voltage due to heating effects are covered by the thermal regulation specification.
Note 6: Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below it’s nominal value measured at 1V differential.