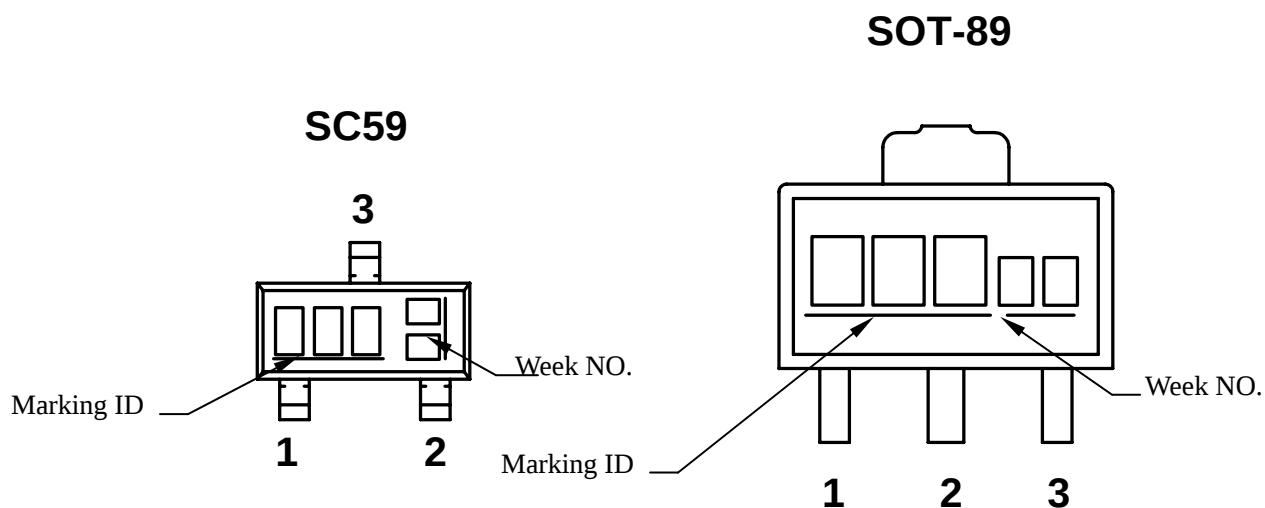


200mA Super LDO Linear Regulator

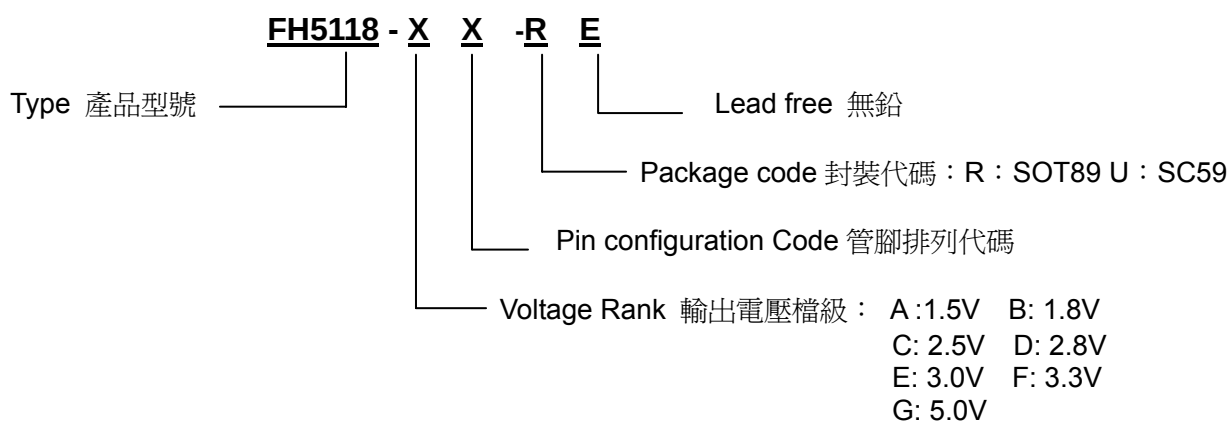
200mA 超低壓差線性調整器 FH5118

DESCRIPTION & FEATURES 概述及特點	
The FH5118 series of fixed output low dropout linear regulators are designed for portable battery powered applications, which require low dropout voltage and low ground current. Each device contains a voltage reference unit, an error amplifier, a PMOS power transistor, and resistors for setting output voltage, and current limit and temperature limit protection circuits. The FH5118 has been designed to be used with low cost capacitor and requires a minimum output capacitor of $1.0 \mu F$. Standard voltage versions are 1.5V, 1.8V, 2.5V, 2.8V, 3.0V, and 3.3V.	固定輸出低壓差線性調整器 FH5118 系列產品主要是應用於保護電池電源,該產品有低壓差及低漏電流的特點。FH5118 器件由一個電壓基準源、一個誤差信號放大器、一個 PMOS 功率三極管、用於設定輸出電壓的電阻網以及電流溫度限定保護回路組成。 FH5118 器件在使用時要求在輸出端接一個 $1.0 \mu F$ 的電容。 FH5118 標準的輸出電壓版本有 1.5V, 1.8V, 2.5V, 2.8V, 3.0V 及 3.3V.
Typical low dropout voltage of 200mV at 75mA. Low Ground current at 120uA. Guaranteed 200mA output over the full operating temperature range. Excellent line and load regulation. Low temperature coefficient. Current limiting and thermal limiting. High accuracy output voltage of 2% Standard SOT89-3L package.	· 75mA 時的典型壓差是 200 mV. · 120uA 漏電流. · 在正常操作溫度範圍內,提供 200mA 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. · 2%的高精度輸出電壓. · 標準的SOT89-3L封裝.
Applications 應用	
· USB removable devices · Cell-phones. · Wireless LAN's. · Hand-Held Instrumentation. · Portable Video Game Devices. · Digital Cameras.	· USB 可移動器件 · 手機 · 無線區域性網路 · 掌上儀器 · 可攜式電子遊戲裝置 · 數碼相機
Marking Information and Pin Configuration 打標資訊及管腳配置	

Pin configuration 引腳排列圖



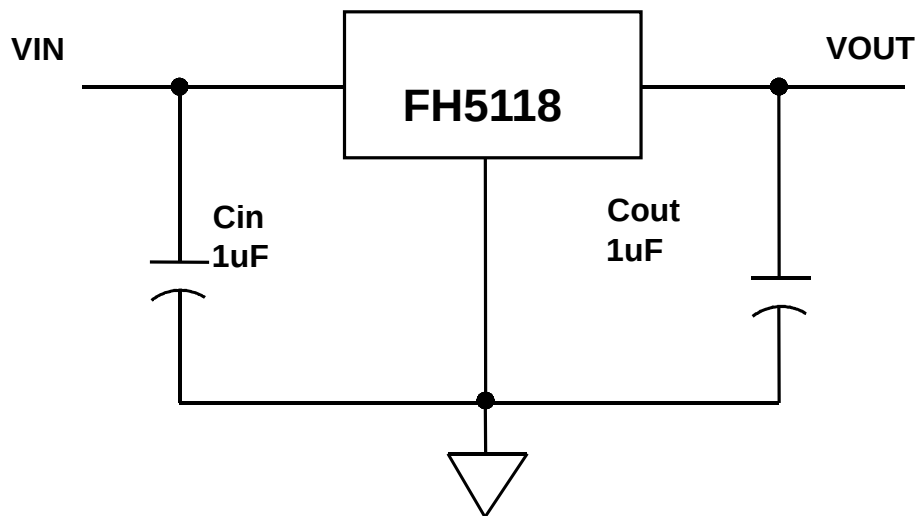
Ordering Information 訂購資訊							
Package 封裝類型	Temperature Range 溫度範圍	Part Number 產品型號	Pin configuration 管腳配置			Marking ID 打標	Packing Type 包裝類型
			1	2	3		
SC59	-10°C ~ 125°C	FH5118-AN-UE	GND	OUT	IN	8AN	Tape
		FH5118-BN-UE	GND	OUT	IN	8BN	Tape
		FH5118-CN-UE	GND	OUT	IN	8CN	Tape
		FH5118-DN-UE	GND	OUT	IN	8DN	Tape
		FH5118-EN-UE	GND	OUT	IN	8EN	Tape
		FH5118-FN-UE	GND	OUT	IN	8FN	Tape
		FH5118-GN-UE	GND	OUT	IN	8GN	Tape
		FH5118-AG-UE	OUT	IN	GND	8AG	Tape
		FH5118-BG-UE	OUT	IN	GND	8BG	Tape
		FH5118-CG-UE	OUT	IN	GND	8CG	Tape
		FH5118-DG-UE	OUT	IN	GND	8DG	Tape
		FH5118-EG-UE	OUT	IN	GND	8EG	Tape
		FH5118-FG-UE	OUT	IN	GND	8FG	Tape
		FH5118-GG-UE	OUT	IN	GND	8GG	Tape
SOT89		FH5118-AN-RE	GND	IN	OUT	8AN	Tape
		FH5118-BN-RE	GND	IN	OUT	8BN	Tape
		FH5118-CN-RE	GND	IN	OUT	8CN	Tape
		FH5118-DN-RE	GND	IN	OUT	8DN	Tape
		FH5118-EN-RE	GND	IN	OUT	8EN	Tape
		FH5118-FN-RE	GND	IN	OUT	8FN	Tape
		FH5118-GN-RE	GND	IN	OUT	8GN	Tape
		FH5118-AG-RE	OUT	GND	IN	8AG	Tape
		FH5118-BG-RE	OUT	GND	IN	8BG	Tape
		FH5118-CG-RE	OUT	GND	IN	8CG	Tape
		FH5118-DG-RE	OUT	GND	IN	8DG	Tape
		FH5118-EG-RE	OUT	GND	IN	8EG	Tape
		FH5118-FG-RE	OUT	GND	IN	8FG	Tape
		FH5118-GG-RE	OUT	GND	IN	8GG	Tape



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Typical Application 典型應用圖

MAXIMUM RATINGS (T_a=25°C) 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	2.0~5.5	V
MAX Load Current 最大負載電流	I _{load(max)}	200		mA
Junction Temperature 工作結溫	T _J	150	0~125	°C
Thermal Impedance (Note 3) 熱阻	θ _{JA}	180 (SOT-89)		°C / W
		230 (SOT-23)		
Storage Temperature Range 儲存溫度	T _{STG}	-40~150		°C
Lead Temperature (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=5V;Cin=1.0UF;Cout=1.0uF;Iout=10mA;Tj=25°C unless otherwise noted
如無特殊說明，溫度為 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	VIN=5V	FH5118-1.5V	1.470	1.5	1.530	V
			FH5118-1.8V	1.764	1.8	1.836	
		VIN=5V	FH5118-2.5V	2.45	2.5	2.55	
			FH5118-2.8V	2.744	2.8	2.856	
			FH5118-3.0V	2.96	3.0	3.06	
			FH5118-3.3V	3.234	3.3	3.366	
Line Regulation 線性調整率	ΔVOUT/VOUT	VIN=(VOUT+1)~ 5.5V			1		%
Load Regulation(note5) 負載調整率	ΔVOUT/VOUT	VIN=(VOUT+1.5)V IOUT=10mA to 200 mA				2	%
Output Voltage Temperature Coefficient 輸出電壓溫度係數	ΔVOUT/ΔT	note4			0.033		mV /℃
Dropout Voltage(note6) 壓差	VIN-VOUT	IOUT=10mA			20		mV
		IOUT=75mA			200		
		IOUT=200mA			1000		
Ripple Rejection 紋波抑制	PSRR	f=120HZ			57		dB
Ground Current 接地端電流	Iground	IOUT=10 mA			120		μA
Current Limit 限制電流	ILIMIT	VOUT=0V			220		mA
Thermal protection	TPROTECTION	Thermal protection Temperature			150		℃
		Protection Hysterisys			20		

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)/ θ JA. 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 10mA to 200mA. 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.