

# Gamma Products

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Incorporated**

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# GM317 3-Terminal Regulator

## FEATURES

Input to Output Differential Voltage up to 40V

Output current up to 1.5A

Output Voltage 1.2V to 37V

Reference Voltage 1.25V

Input Regulation 0.01% typ.

Output Regulation 0.1% typ.

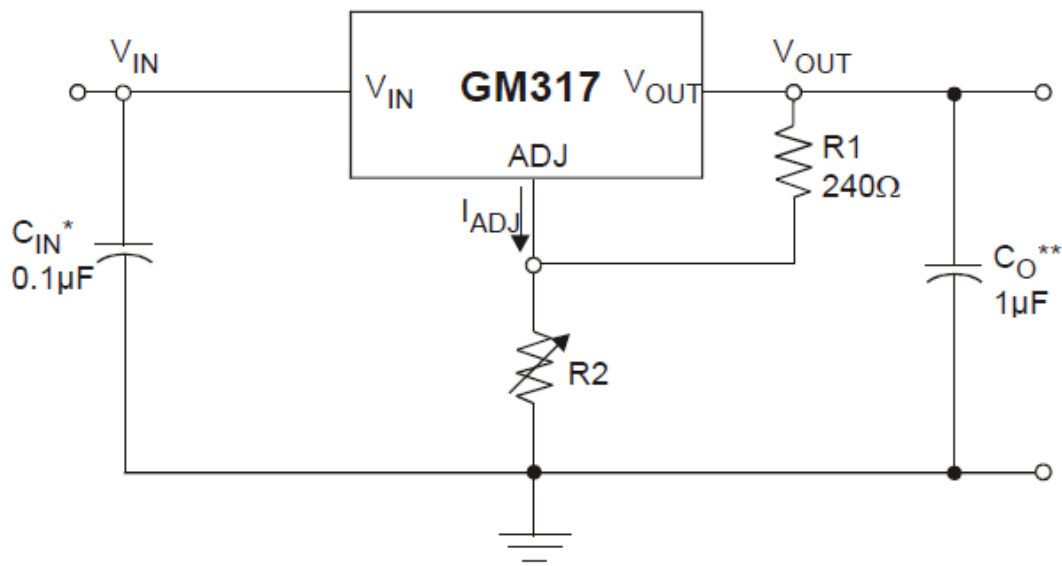
Ripple Rejection Typically 80dB @120Hz

Current Limit Protection

Thermal Overload Protection

**PACKAGES:** TO-252;TO-263; TO-220; SOT-223

## TYPICAL APPLICATION CIRCUIT



## PIN DESCRIPTION

NAME	TO-252 / TO-263 / TO-220 / SOT-223	DESCRIPTION
<b>GND / ADJ</b>	1	Ground / Feedback Input
<b>VOUT</b>	2	Regulated output power
<b>VIN</b>	3	Unregulated input power

## TYPICAL APPLICATION

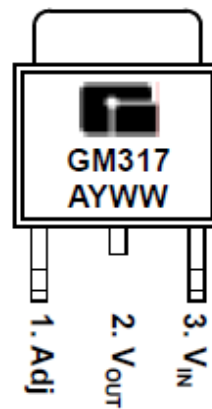
High Efficiency Linear Regulators

Post Regulators for Switching Supplies

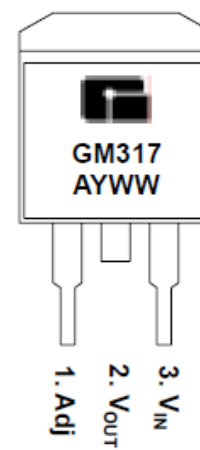
Microprocessor Supply

## PACKAGE

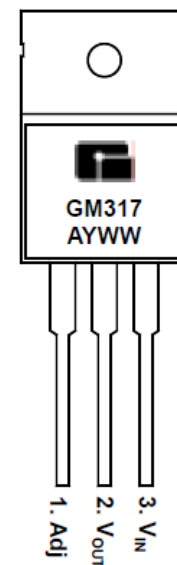
TO 252  
(D-PAK)



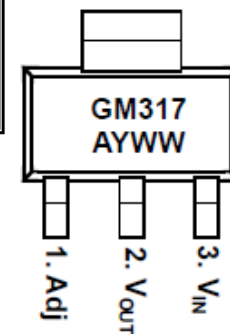
TO 263  
(D<sup>2</sup>-PAK)



TO 220



SOT223



# GM7800 3-Terminal Regulator

## FEATURES

Input Voltage up to 40V

Output current up to 1.5A

Fixed Output Voltage 1.2V to 27V

High Power Dissipation Capability

Ripple Rejection Typically 78dB @120Hz

Current Limit Protection

Thermal Overload Protection

**PACKAGES:** TO-252;TO-263 and TO-220

## PIN DESCRIPTION

NAME	TO-252 / TO-263 / TO-220	DESCRIPTION
VIN	1	Unregulated input power
VOUT	2	Ground
VOUT	3	Regulated output power

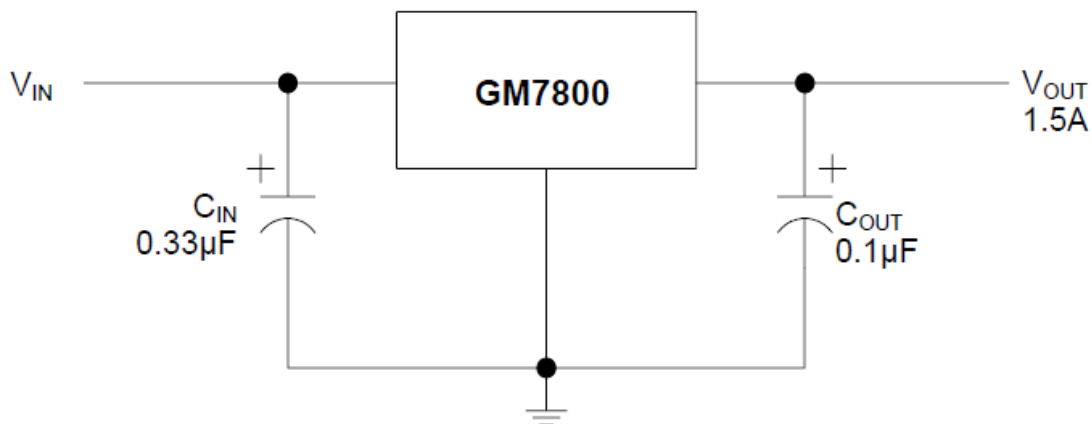
## TYPICAL APPLICATION

High Efficiency Linear Regulators

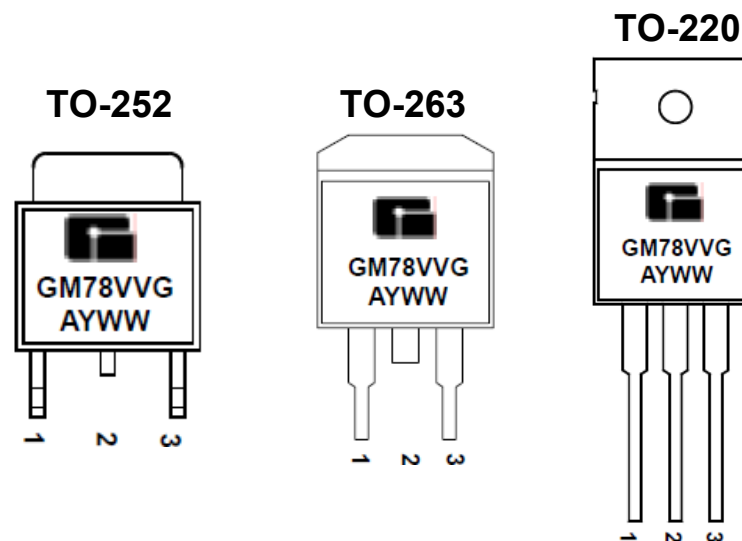
Post Regulators for Switching Supplies

Microprocessor Supply

## TYPICAL APPLICATION CIRCUIT



## PACKAGES



# GM1117S LDO Regulator

## FEATURES

Operating Input Voltage 2.5V to 15V

Adjustable or Fixed Output

Output Current of 1.0A

Dropout Voltage 1.5V max @ 1.0A

Line Regulation 0.2% max.

Load Regulation 0.4% max.

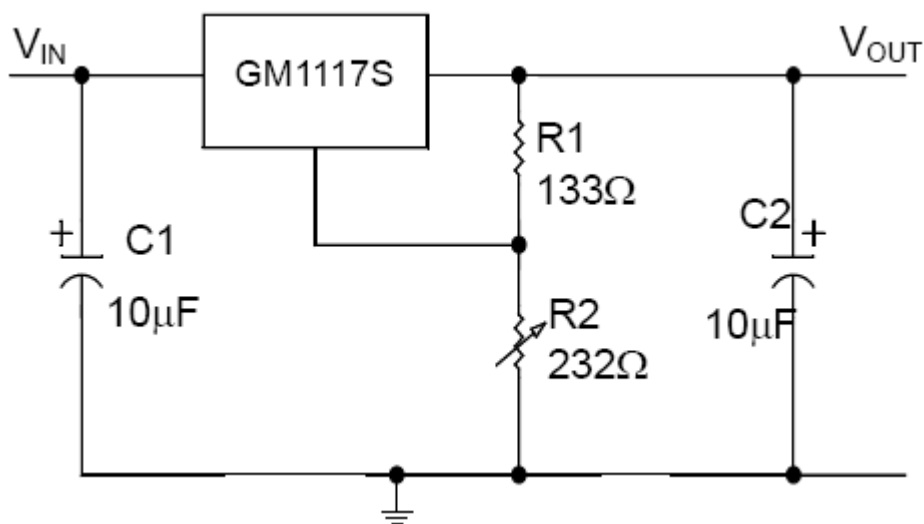
Fast Transient Response

Current Limit Protection

Thermal Shutdown Protection

**PACKAGES:** TO-252;TO-263; TO-220; SOT-223

## TYPICAL APPLICATION CIRCUIT



## PIN DESCRIPTION

NAME	TO-252 / TO-263 / TO-220 / SOT-223	DESCRIPTION
<b>GND / ADJ</b>	1	Ground / Feedback Input
<b>VOUT</b>	2	Regulated output power
<b>VIN</b>	3	Unregulated input power

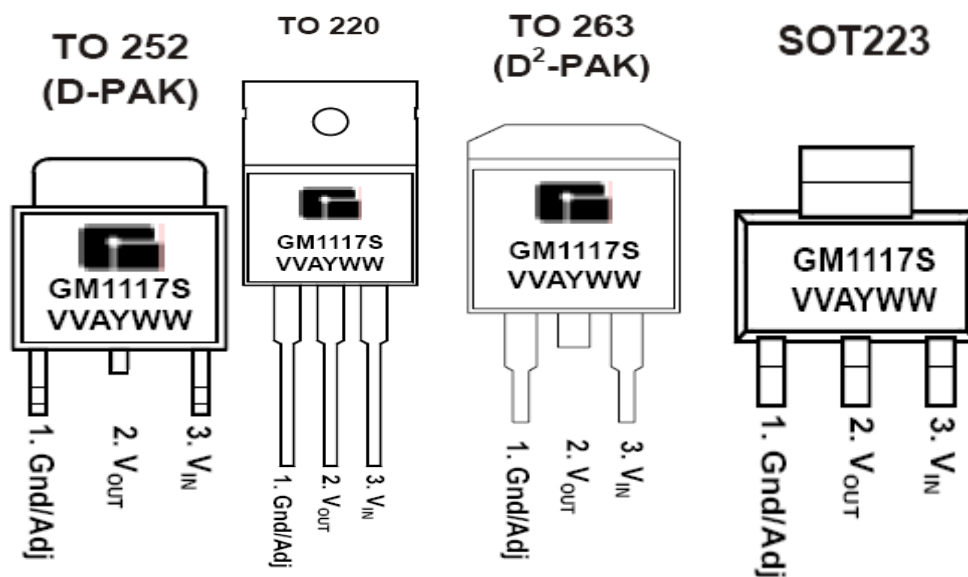
## TYPICAL APPLICATION

High Efficiency Linear Regulators

Post Regulators for Switching Supplies

Microprocessor Supply

## PACKAGE



# GM1112 LDO Regulator

## FEATURES

Operating Input Voltage 2.5V to 15V

Fixed Output, 1.2V

Output Current of 1.0A

Dropout Voltage 1.3V max @ 1.0A

Line Regulation 0.2% max.

Load Regulation 0.4% max.

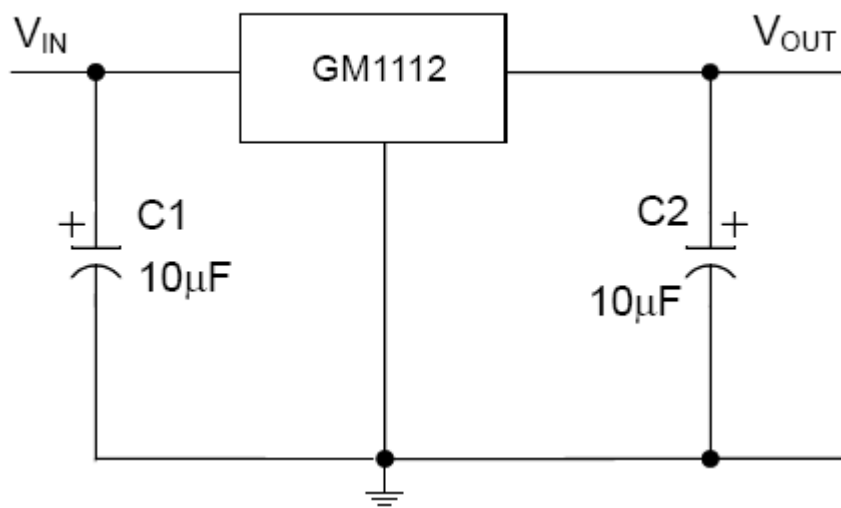
Fast Transient Response

Current Limit Protection

Thermal Shutdown Protection

**PACKAGES:** TO-252; TO-263 ; TO-220 ; SOT-223

## TYPICAL APPLICATION CIRCUIT



## PIN DESCRIPTION

NAME	TO-252 / TO-263 / TO-220 / SOT-223	DESCRIPTION
GND	1	Ground
VOUT	2	Regulated output power
VIN	3	Unregulated input power

## TYPICAL APPLICATION

High Efficiency Linear Regulators

Post Regulators for Switching Supplies

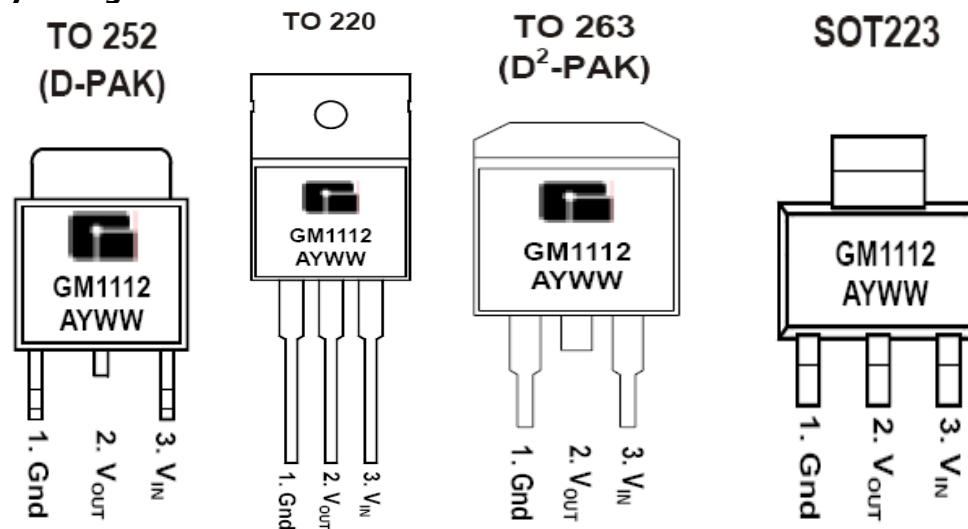
Microprocessor Supply

Battery Powered Equipment

Reference Voltage Sources

Battery Chargers

## PACKAGE



# GM6155 LDO Regulator

## FEATURES

Operating Input Voltage 2.5V to 16V

Ultra low noise output

High output voltage accuracy

Guaranteed 150mA output current

Low quiescent current (0.01uA)

Low dropout voltage (165mV)

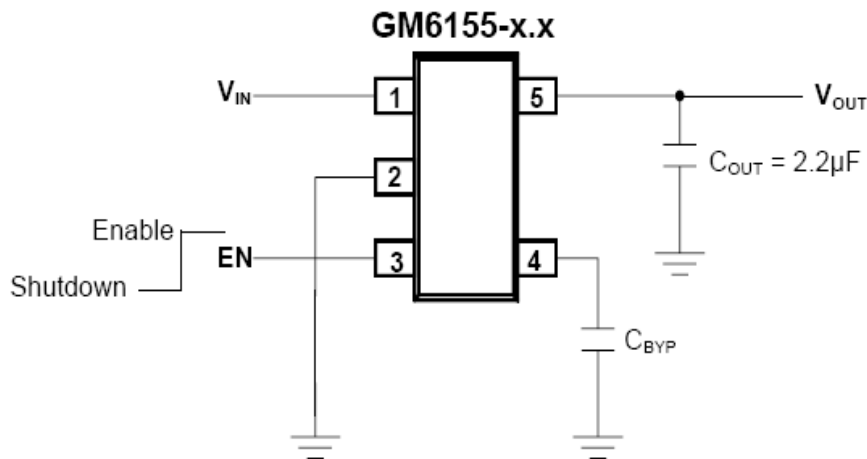
Logic controlled enable function

**PACKAGE:** SOT-25

## PIN DESCRIPTION

NAME	SOT-25	DESCRIPTION
VIN	1	Supply Input
GND	2	Ground
EN	3	Enable Input
BYP / ADJ	4	Reference Bypass / Feedback Input
OUT	5	Regulator Output

## TYPICAL APPLICATION CIRCUIT



## TYPICAL APPLICATION

Cellular telephones

Laptop, notebook, and palmtop computers

Battery powered equipments

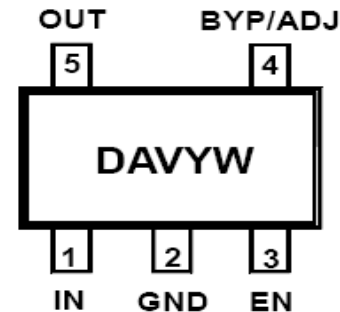
PCMCIA VCC and VPP regulation/switching

Consumer/personal electronics

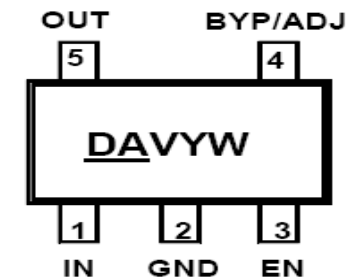
SMPS post regulator/dc to dc modules

High efficiency linear power supplies

## PACKAGE



SOT25



# GM6355 LDO Regulator

## FEATURES

Operating Input Voltage 2V to 8V

Maximum output current up to 300mA

Highly accurate output voltage:  $\pm 1.5\%$

Minimum output voltage as low as 0.9V

Low power consumption

OTP and OCP integrated

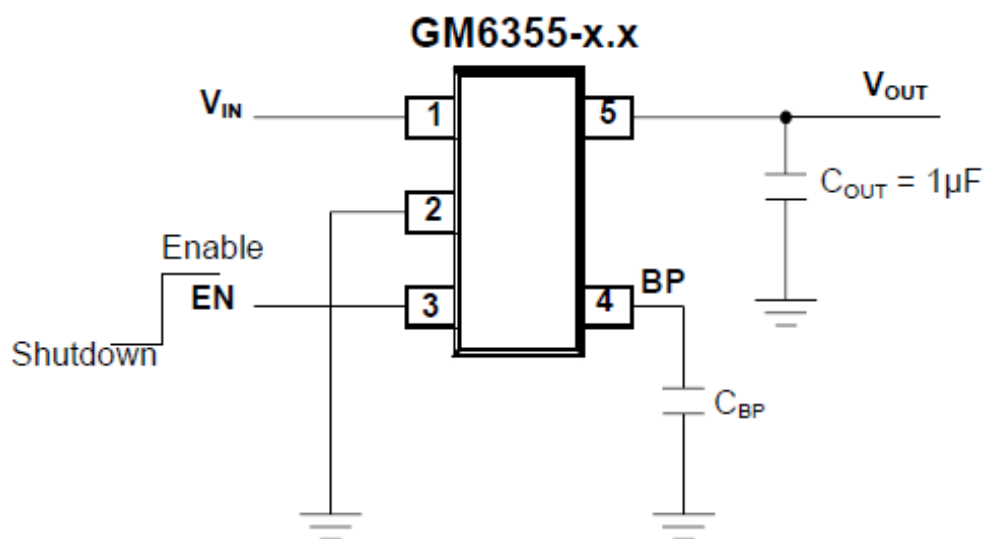
Low Dropout Voltage: 300mV @300mA

**PACKAGE:** SOT-25

## PIN DESCRIPTION

NAME	SOT-25	DESCRIPTION
VIN	1	Supply Input
GND	2	Ground
EN	3	Enable Input
BYP / ADJ	4	Reference Bypass / Feedback Input
OUT	5	Regulator Output

## TYPICAL APPLICATION CIRCUIT



## TYPICAL APPLICATION

Battery Operated Systems

Portable Computers

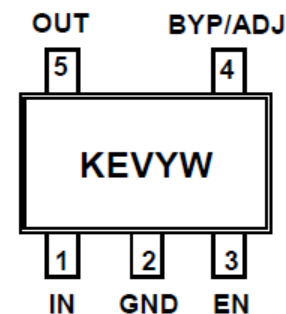
Portable Cameras and Video Recorders

Reference Voltage Sources

Instruments

Pagers

**PACKAGE**  
SOT25



# GM6350 LDO Regulator

## FEATURES

Operating Input Voltage 2.6V to 6V

Maximum output current up 450mA

Highly accurate output voltage:  $\pm 2\%$

Minimum output voltage as low as 1.5V

Low power consumption

OTP and OCP integrated

Low Dropout Voltage: 300mV @300mA

**PACKAGE:** SOT-23, TO-92 and SOT-89

## PIN DESCRIPTION

NAME	SOT-23 / TO-92 / SOT-89	DESCRIPTION
VSS	1	Ground
VIN	2	Supply Input
VOUT	3	Regulated Output Power

## TYPICAL APPLICATION

Palmtops

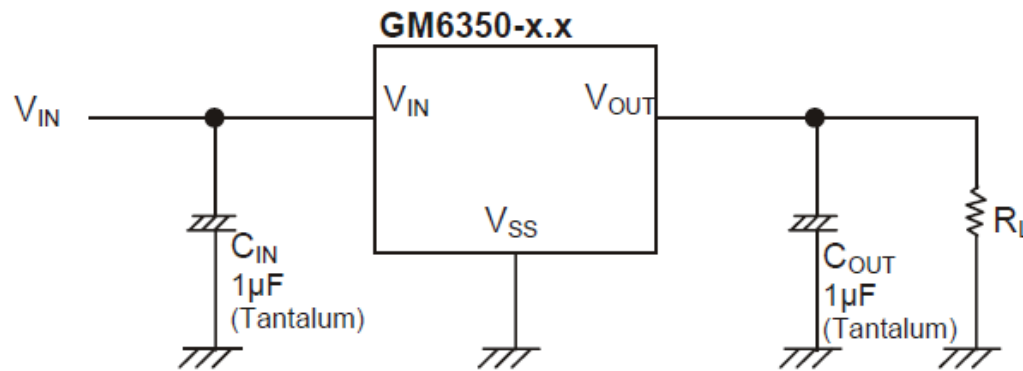
Portable Cameras

Video Recorders

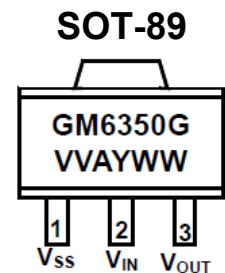
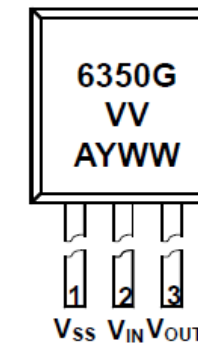
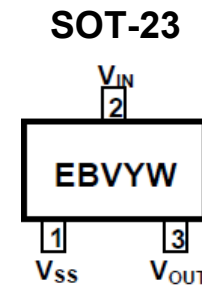
Battery Powered Equipment

Reference Voltage Sources

## TYPICAL APPLICATION CIRCUIT



## PACKAGE





# GM6353 LDO Regulator

## FEATURES

Operating Input Voltage 2.6V to 6V

Maximum output current up 450mA

Highly accurate output voltage:  $\pm 2\%$

Minimum output voltage as low as 1.5V

Low power consumption

OTP and OCP integrated

Low Dropout Voltage: 300mV @300mA

**PACKAGE:** SOT-23, TO-92 and SOT-89

## PIN DESCRIPTION

NAME	SOT-223	DESCRIPTION
GND	1	Ground
VOUT	2	Regulated Output Power
VIN	3	Supply Input

## TYPICAL APPLICATION

Palmtops

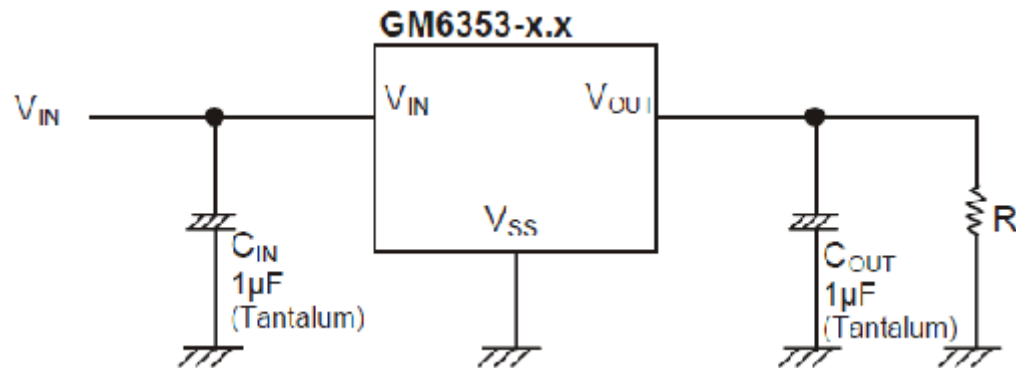
Portable Cameras

Video Recorders

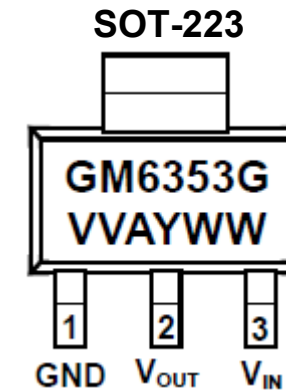
Battery Powered Equipment

Reference Voltage Sources

## TYPICAL APPLICATION CIRCUIT



## PACKAGE



# GM6655 LDO Regulator

## FEATURES

Operating Input Voltage 2.5V to 7V

Maximum output current up to 600mA

Highly accurate output voltage:  $\pm 1.5\%$

Low power consumption

OTP and OCP integrated

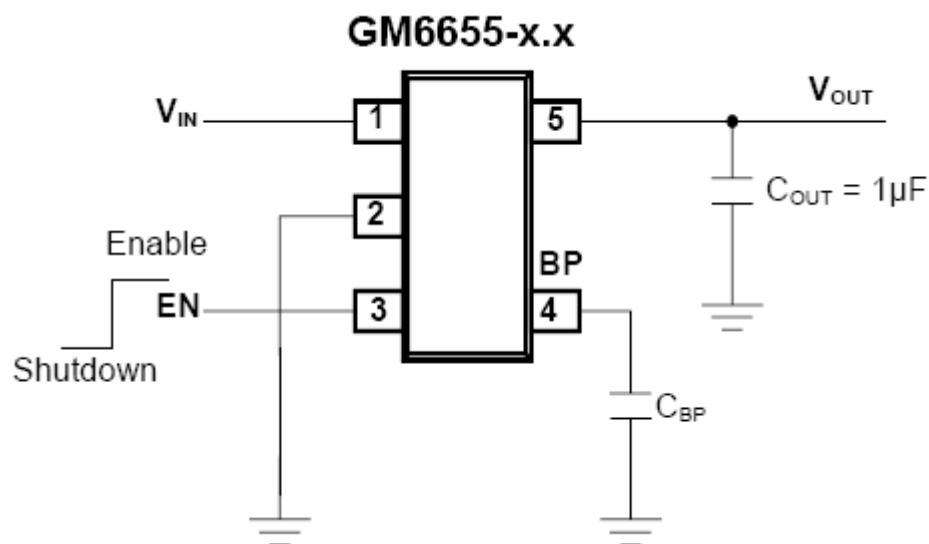
Low Dropout Voltage: 600mV @600mA

**PACKAGE:** SOT-25

## PIN DESCRIPTION

NAME	SOT-25	DESCRIPTION
VIN	1	Supply Input
GND	2	Ground
EN	3	Enable Input
BYP / ADJ	4	Reference Bypass / Feedback Input
OUT	5	Regulator Output

## TYPICAL APPLICATION CIRCUIT



## TYPICAL APPLICATION

Battery Operated Systems

Portable Computers

Portable Cameras and Video Recorders

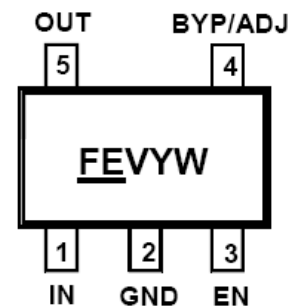
Reference Voltage Sources

Instruments

Pagers

## PACKAGE

SOT25



# GM66015 LDO Regulator

## FEATURES

Operating Input Voltage 2.5V to 15V

Adjustable or Fixed Output

Output Current of 1.5A

Dropout Voltage 1.5V max @ 1.5A

Line Regulation 0.04% max.

Load Regulation 0.2% max.

Fast Transient Response

Current Limit Protection

Thermal Shutdown Protection

**PACKAGES:** TO-252;TO-263; TO-220; SOT-223

## PIN DESCRIPTION

NAME	TO-252 / TO-263 / TO-220 / SOT-223	DESCRIPTION
<b>GND / ADJ</b>	1	Ground / Feedback Input
<b>VOUT</b>	2	Regulated output power
<b>VIN</b>	3	Unregulated input power

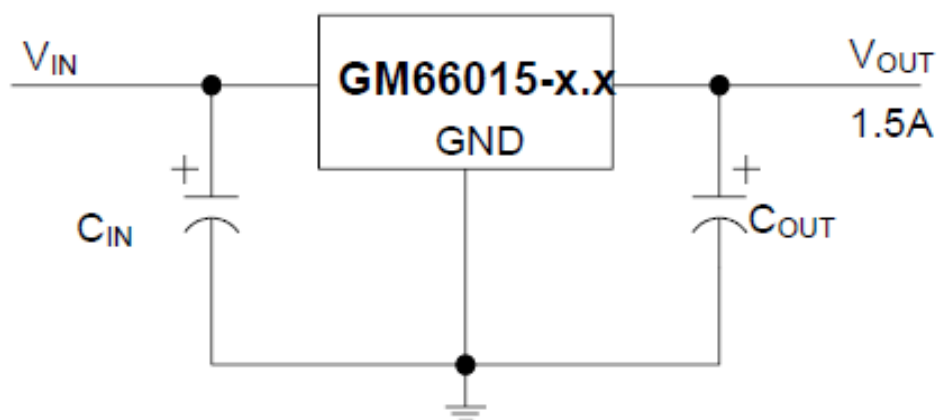
## TYPICAL APPLICATION

High Efficiency Linear Regulators

Post Regulators for Switching Supplies

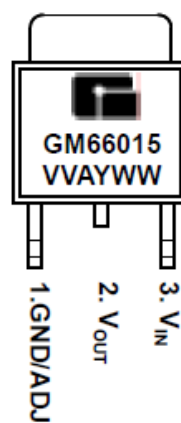
Microprocessor Supply

## TYPICAL APPLICATION CIRCUIT

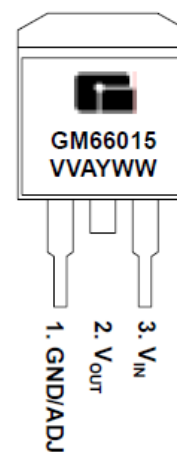


## PACKAGE

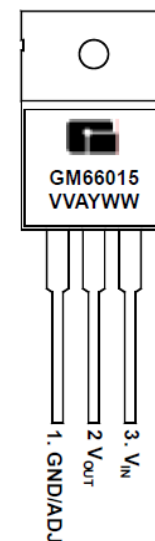
TO 252  
(D-PAK)



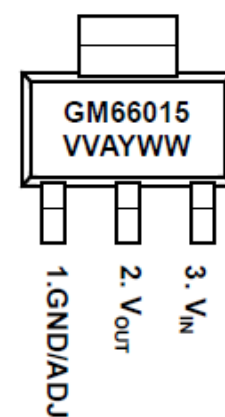
TO 263  
(D<sup>2</sup>-PAK)



TO 220



SOT223



# GM6250 Ultra LDO Regulator

## FEATURES

**Operating Input Voltage 2.5V to 12V**  
**Maximum output current up to 300mA**  
**Fixed Voltage from 1.5V to 5.0V**  
**Output Voltage Accuracy :  $\pm 2\%$**   
**Low Power Consumption (1 $\mu$ A)**  
**Ultra low Dropout Voltage (0.38V)**  
**Over Temperature Protection**

**PACKAGES:** SOT-23; TO-92 and SOT-89

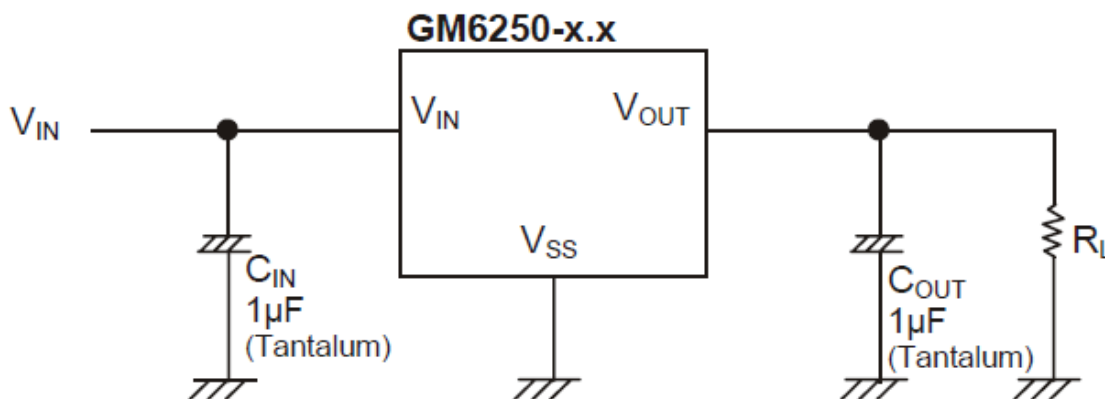
## PIN DESCRIPTION

NAME	SOT-23 / TO-92 /		DESCRIPTION
	SOT-89		
VSS	1		Ground
VIN	2		Supply Input
VOUT	3		Regulated Output Power

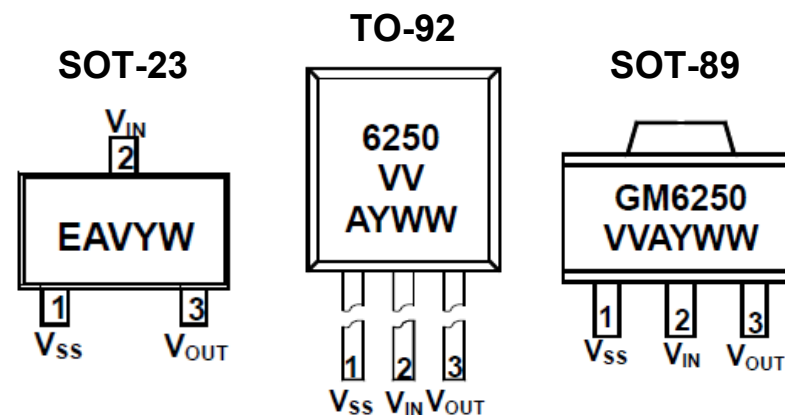
## TYPICAL APPLICATION

**Palmtops**  
**Portable Cameras**  
**Video Recorders**  
**Battery Powered Equipment**  
**Reference Voltage Sources**

## TYPICAL APPLICATION CIRCUIT



## PACKAGE



# GM6353 Ultra LDO Regulator

## FEATURES

Operating Input Voltage 2.5V to 6.5V  
Maximum output current up 450mA  
Fixed Voltage from 1.5V to 6.0V  
Output Voltage Accuracy :  $\pm 2\%$   
Low Power Consumption (15uA)  
Ultra low Dropout Voltage (0.1V)  
Over Temperature Protection  
Over Current Protection

**PACKAGES:** SOT-223

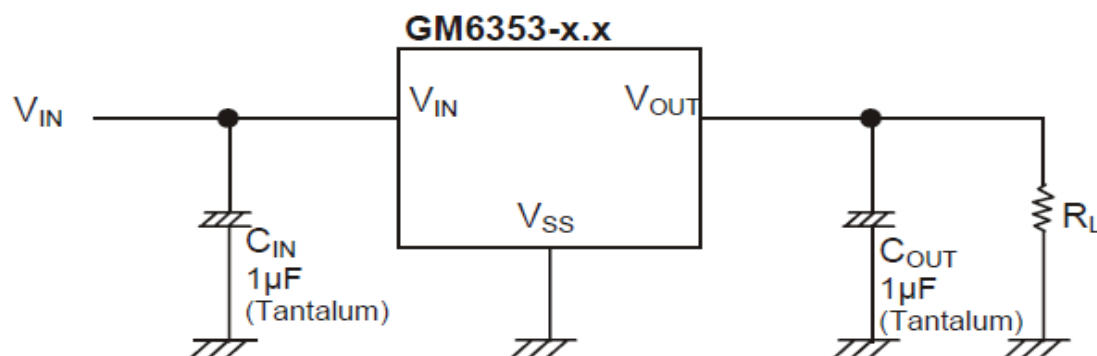
## PIN DESCRIPTION

NAME	SOT-223	DESCRIPTION
GND	1	Ground
VOUT	2	Regulated Output Power
VIN	3	Supply Input

## TYPICAL APPLICATION

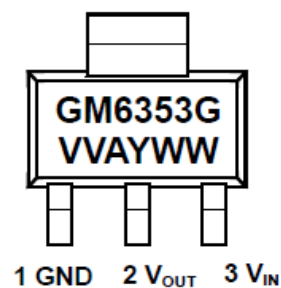
Palmtops  
Portable Cameras  
Video Recorders  
Battery Powered Equipment  
Reference Voltage Sources

## TYPICAL APPLICATION CIRCUIT



## PACKAGE

SOT-223



# GM66100 Ultra LDO Regulator

## FEATURES

Operating Input Voltage 2.25V to 16V

Output Current of 1A

Dropout Voltage 410mV typ. @ 1A

Reverse Battery Protection

Fixed Output: 1.8V, 2.5V, 3.3V and 5V

Reversed Leakage Protection

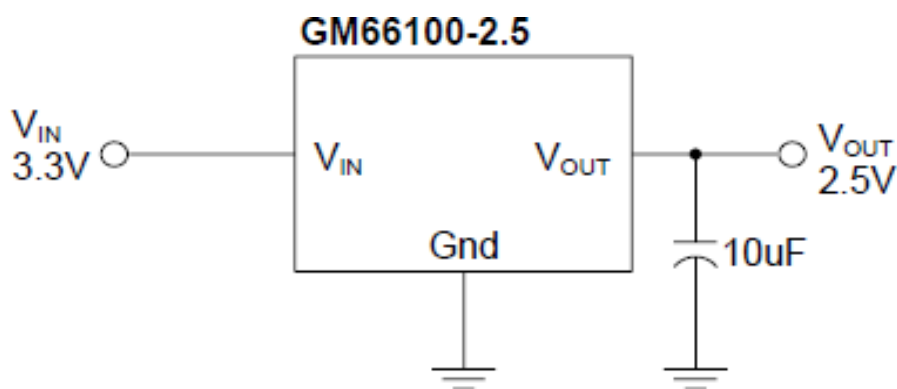
Fast Transient Response

Current Limit Protection

Thermal Shutdown Protection

**PACKAGES:** TO-252, TO-263, TO-220 and SOT-223

## TYPICAL APPLICATION CIRCUIT



## PIN DESCRIPTION

NAME	TO-252 / TO-263 / TP-220 / TO252	DESCRIPTION
VIN	1	Unregulated input power
GND	2	Ground
VOUT	3	Regulated output power

## TYPICAL APPLICATION

High Efficiency Linear Regulators

Ideal for 3.0V to 2.5V conversion

Ideal for 2.5V to 1.8V conversion

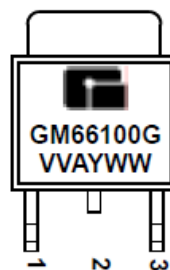
Battery Powered Equipment

Automotive Electronics

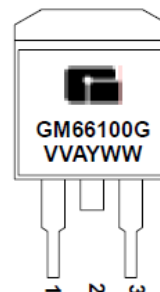
Post Regulators for Switching Supplies

## PACKAGES

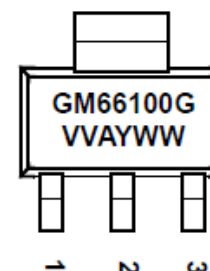
TO-252



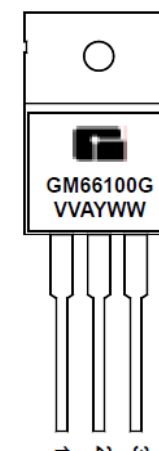
TO-263



TO-220



TO-252



# GM66101 Ultra LDO Regulator

## FEATURES

Operating Input Voltage 2.25V to 16V

Enable Input

Output Current of 1A

Dropout Voltage 410mV typ. @ 1A

Reverse Battery Protection

Fixed Output: 1.8V, 2.5V and 3.3V

Error Flag

Reversed Leakage Protection

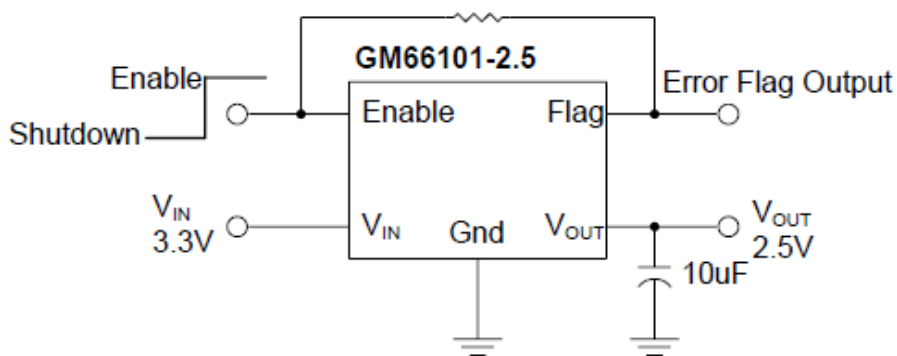
Fast Transient Response

Current Limit Protection

Thermal Shutdown Protection

**PACKAGE:** SO-8

## TYPICAL APPLICATION CIRCUIT



## PIN DESCRIPTION

NAME	SO-8	DESCRIPTION
EN	1	Enable Input
VIN	2	Unregulated Input Power
VOUT	3	Regulated Output Power
FLAG	4	Error Flag
GND	5, 6, 7, 8	Ground

## TYPICAL APPLICATION

High Efficiency Linear Regulators

Ideal for 3.0V to 2.5V conversion

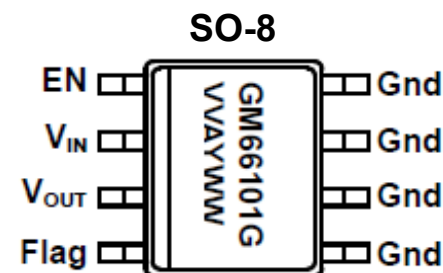
Ideal for 2.5V to 1.8V conversion

Battery Powered Equipment

Automotive Electronics

Post Regulators for Switching Supplies

## PACKAGES



# GM66102 Ultra LDO Regulator

## FEATURES

Operating Input Voltage 2.25V to 16V

Enable Input

Output Current of 1A

Dropout Voltage 410mV typ. @ 1A

Reverse Battery Protection

Adjustable Output

Reversed Leakage Protection

Fast Transient Response

Current Limit Protection

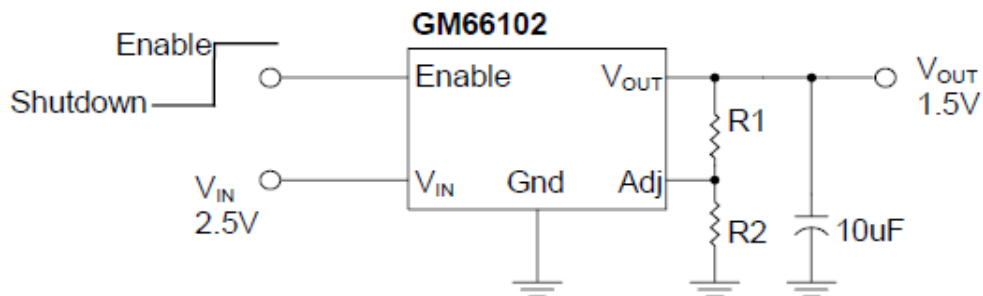
Thermal Shutdown Protection

## PIN DESCRIPTION

NAME	SO-8	DESCRIPTION
EN	1	Enable Input
VIN	2	Unregulated input power
VOUT	3	Regulated output power
ADJ	4	Feedback Input
GND	5, 6, 7, 8	Ground

**PACKAGE:** SO-8

## TYPICAL APPLICATION CIRCUIT



## TYPICAL APPLICATION

High Efficiency Linear Regulators

Ideal for 3.0V to 2.5V conversion

Ideal for 2.5V to 1.8V conversion

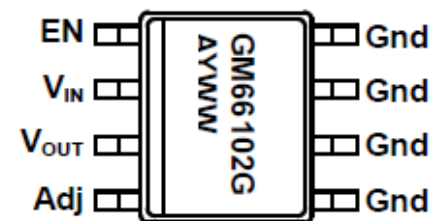
Battery Powered Equipment

Automotive Electronics

Post Regulators for Switching Supplies

## PACKAGE

SO-8





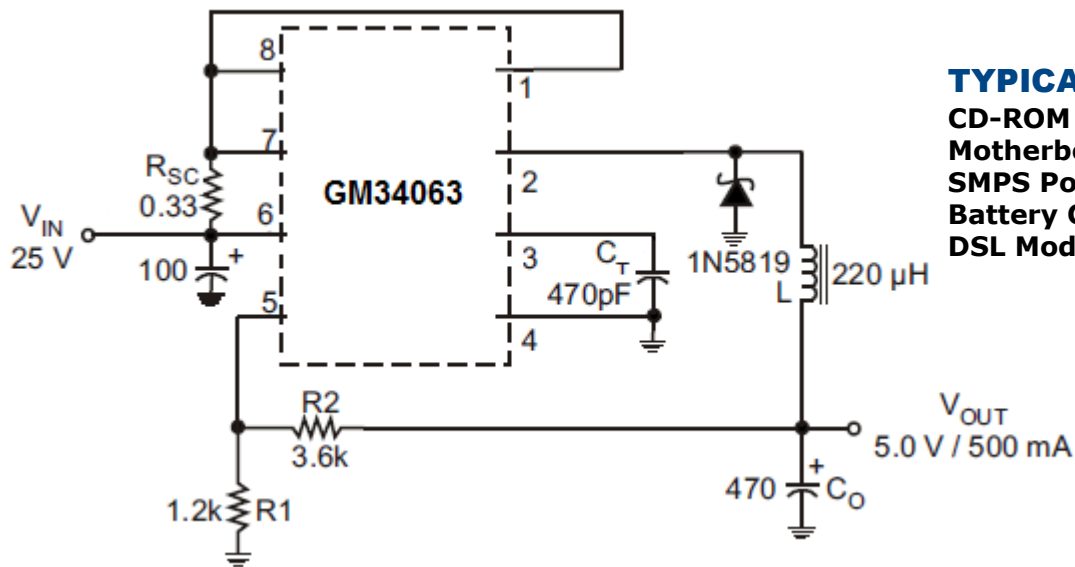
# GM34063 Converter Control

## FEATURES

**Input Voltage 3.0V to 40V**  
**Adjustable Output Voltage**  
**Current Limiting**  
**Output Switch Current to 1.5A**  
**Low Standby Current**  
**Operating Frequency to 100KHz**  
**Precision 1% Reference available**

**PACKAGES:** SOP-8 and DIP-8

## TYPICAL APPLICATION CIRCUIT



## TYPICAL APPLICATION

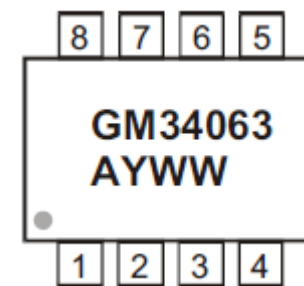
**CD-ROM**  
**Motherboards**  
**SMPS Power Supply**  
**Battery Chargers**  
**DSL Modem**

## PIN DESCRIPTION

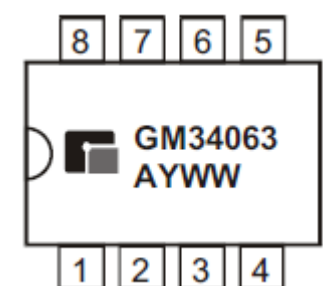
NAME	SOP-8 / DIP-8	DESCRIPTION
SC	1	Switch Collector
SE	2	Regulated output power
TC	3	Timing Capacitor
GND	4	Ground
INV	5	Inverting Input
VCC	6	Input Power
ISENSE	7	Current Sense
DC	8	Driver Collector

## PACKAGE

SOP-8



DIP-8



# GM2576 Step Down Regulator

## FEATURES

**Wide input voltage range, 4.5V~40V**  
**Guaranteed 2A output current**  
**3.3V, 5V and adjustable output versions**  
**Internal oscillator of 52kHz fixed frequency**  
**4% Accuracy**  
**Adjustable output voltage range: 1.23V ~ 37V**  
**70μA standby current at shutdown mode**  
**Requires only 4 external components**  
**Thermal shut down and current limit protection**

**PACKAGES:** SOP-8; PSOP-8 and TO-252-5

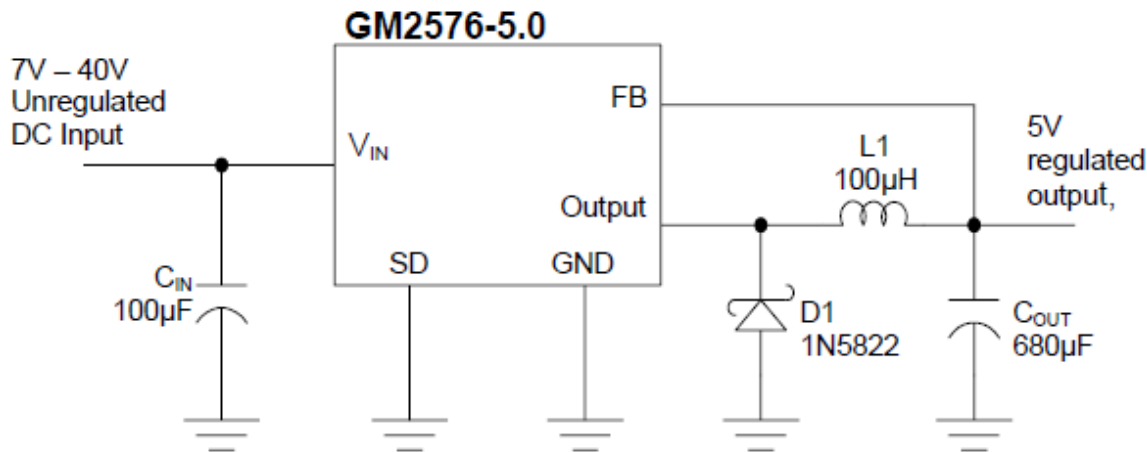
## PIN DESCRIPTION

NAME	SOP-8 / PSOP-8	TO-252-5	DESCRIPTION
VIN	1	1	Unregulated input power
VOUT	2	2	Regulated output power
FB	3	4	Feedback Input
SD	4	5	Enable Input
GND	5, 6, 7, 8	3	Ground

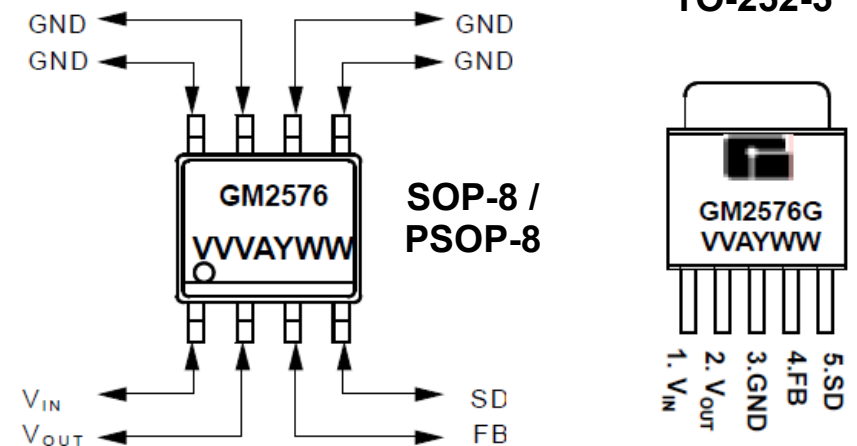
## TYPICAL APPLICATION

**Pre-regulator for linear regulators**  
**High-efficiency step-down buck regulator**  
**On-card/board switching regulators**  
**Positive to negative converter (buck-boost)**

## TYPICAL APPLICATION CIRCUIT



## PACKAGE



# GM7109 Step Down Regulator

## FEATURES

**Wide input voltage range, 4.75V~40V**  
**Guaranteed 2A output current**  
**3.3V, 5V and adjustable output versions**  
**Internal oscillator of 150kHz fixed frequency**  
**2% Accuracy**  
**Adjustable output voltage range: 1.23V ~ 37V**  
**70μA standby current at shutdown mode**  
**Requires only 4 external components**  
**Thermal shutdown and current limit protection**

**PACKAGES:** SOP-8 and PSOP-8

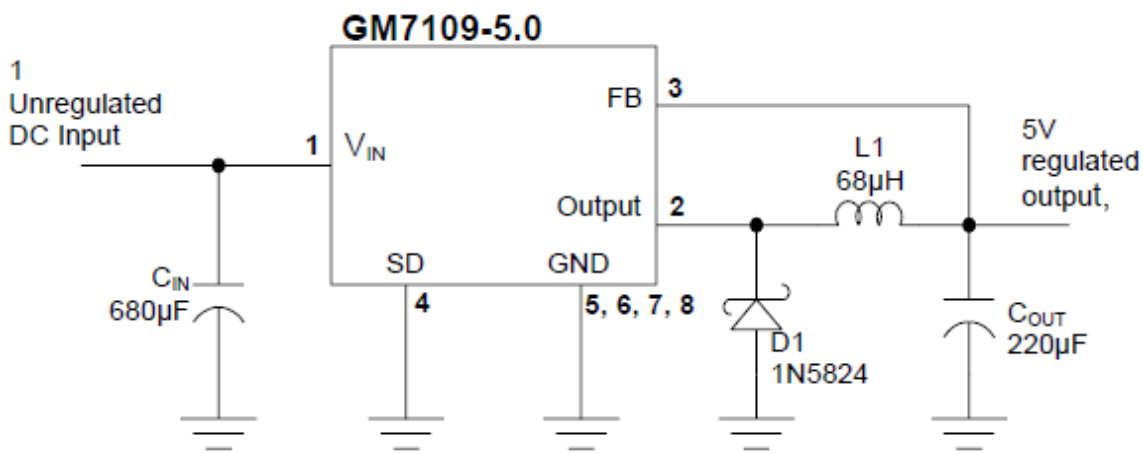
## PIN DESCRIPTION

NAME	SOP-8 / PSOP-8	DESCRIPTION
VIN	1	Unregulated input power
VOUT	2	Regulated output power
FB	3	Feedback Input
SD	4	Enable Input
GND	5, 6, 7, 8	Ground

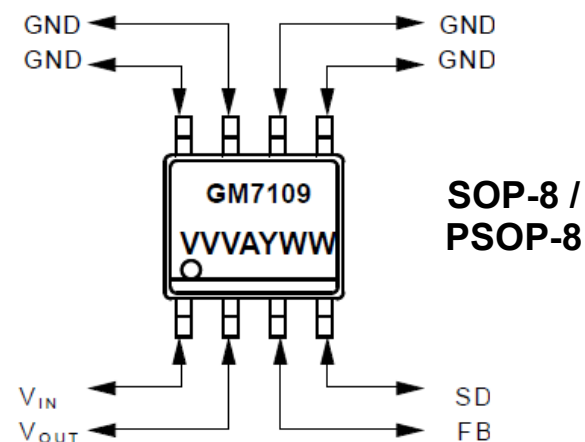
## TYPICAL APPLICATION

**Pre-regulator for linear regulators**  
**High-efficiency step-down buck regulator**  
**On-card/board switching regulators**  
**Positive to negative converter (buck-boost)**

## TYPICAL APPLICATION CIRCUIT



## PACKAGE



# GM7130 Step Down Regulator

## FEATURES

Wide input voltage range, 4.5V~40V

Guaranteed 3A output current

3.3V, 5V, 12V and adjustable output versions

Internal oscillator of 52kHz fixed frequency

2% Accuracy

Adjustable output voltage range: 1.23V ~ 37V

50μA standby current at shutdown mode

Requires only 4 external components

Thermal shut down and current limit protection

**PACKAGES:** TO-220-5, TO-220B-5 and TO-263-5

## PIN DESCRIPTION

NAME	TO-220-5 / TO-220B-5 / TO-263-5	DESCRIPTION
VIN	1	Unregulated Input Power
OUT	2	Regulated Output Power
GND	3	Ground
FB	4	Feedback Input
ON/OFF	5	Enable Input

## TYPICAL APPLICATION

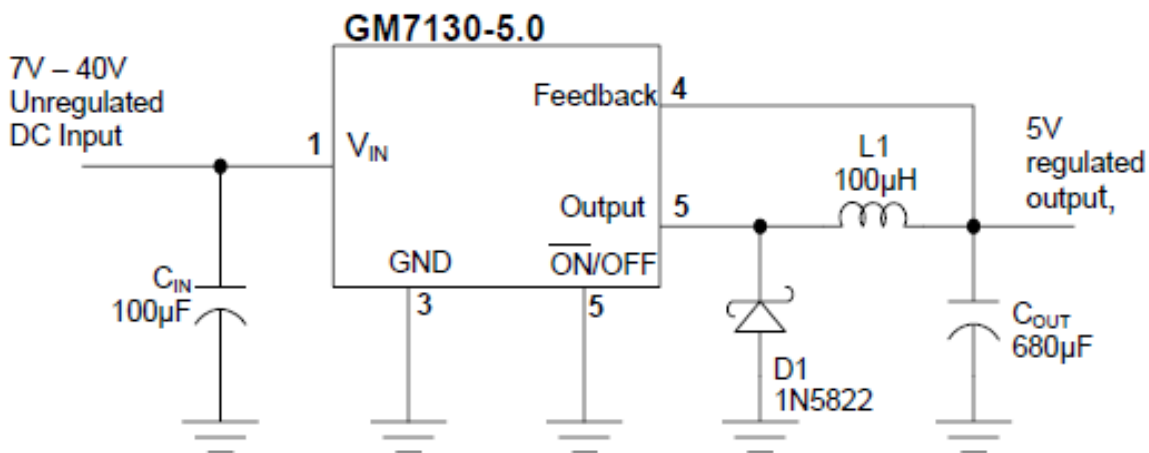
Pre-regulator for linear regulators

High-efficiency step-down buck regulator

On-card/board switching regulators

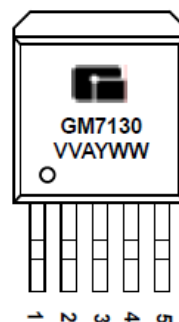
Positive to negative converter

## TYPICAL APPLICATION CIRCUIT

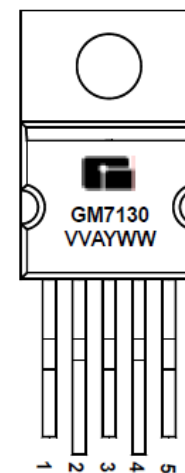


## PACKAGES

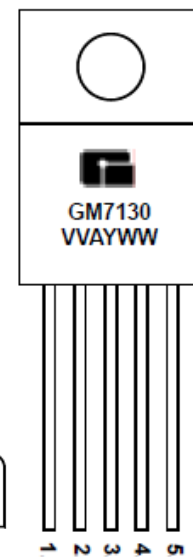
### TO-263-5



### TO-220B-5



### TO-220-5



# GM7130HV Step Down Regulator

## FEATURES

Wide input voltage range, 4.5V~60V

Guaranteed 3A output current

3.3V, 5V, 12V and adjustable output versions

Internal oscillator of 52kHz fixed frequency

2% Accuracy

Adjustable output voltage range: 1.23V ~ 57V

50μA standby current at shutdown mode

Requires only 4 external components

Thermal shut down and current limit protection

**PACKAGES:** TO-220-5, TO-220B-5 and TO-263-5

## PIN DESCRIPTION

NAME	TO-220-5 / TO-220B-5 / TO-263-5	DESCRIPTION
VIN	1	Unregulated Input Power
OUT	2	Regulated Output Power
GND	3	Ground
FB	4	Feedback Input
ON/OFF	5	Enable Input

## TYPICAL APPLICATION

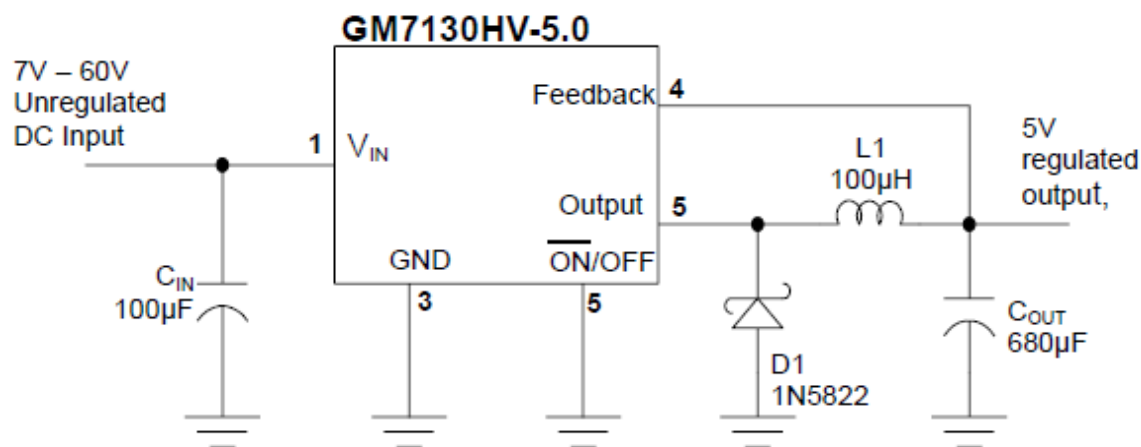
Pre-regulator for linear regulators

High-efficiency step-down buck regulator

On-card/board switching regulators

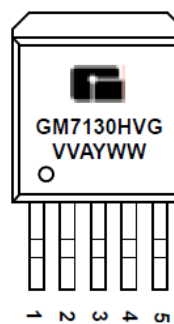
Positive to negative converter

## TYPICAL APPLICATION CIRCUIT

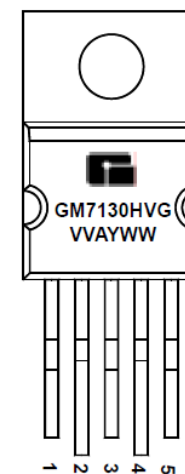


## PACKAGES

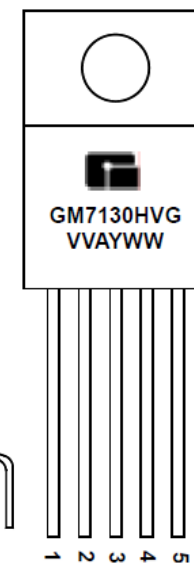
### TO-263-5



### TO-220B-5



### TO-220-5



# GM7230 Step Down Regulator

## FEATURES

Wide input voltage range, 4.5V~40V

Guaranteed 2A output current

3.3V, 5V, 12V and adjustable output versions

Internal oscillator of 52kHz fixed frequency

2% Accuracy

Adjustable output voltage range: 1.23V ~ 37V

50μA standby current at shutdown mode

Requires only 4 external components

Thermal shut down and current limit protection

**PACKAGES:** TO-220-5, TO-220B-5 and TO-263-5

## PIN DESCRIPTION

NAME	TO-220-5 / TO-220B-5 / TO-263-5	DESCRIPTION
VIN	1	Unregulated Input Power
OUT	2	Regulated Output Power
GND	3	Ground
FB	4	Feedback Input
ON/OFF	5	Enable Input

## TYPICAL APPLICATION

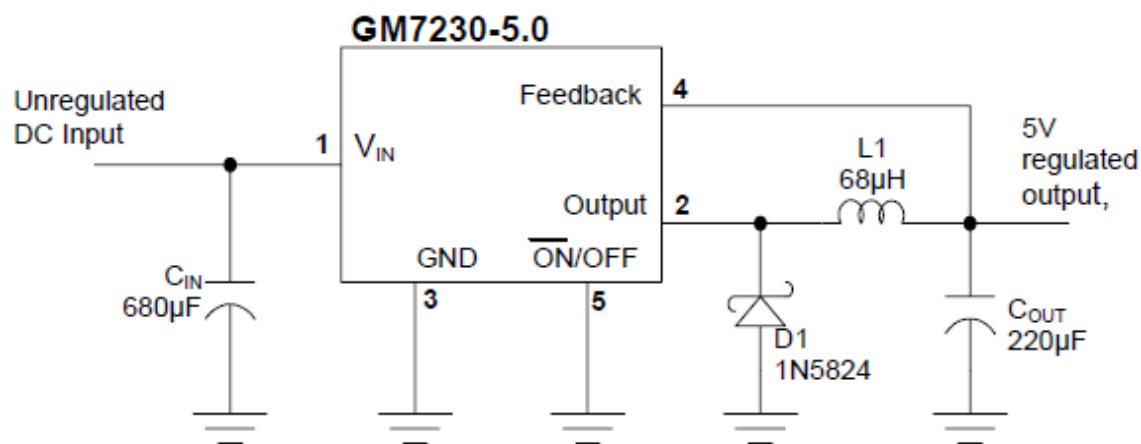
Pre-regulator for linear regulators

High-efficiency step-down buck regulator

On-card/board switching regulators

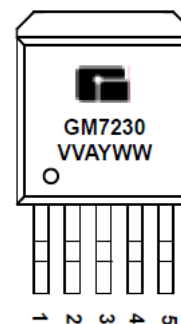
Positive to negative converter

## TYPICAL APPLICATION CIRCUIT

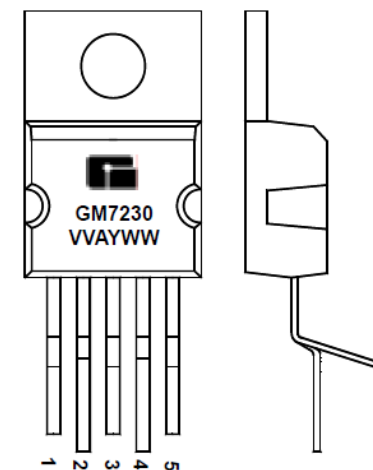


## PACKAGES

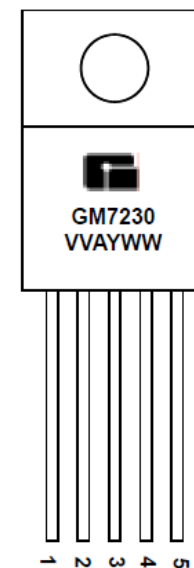
### TO-263-5



### TO-220B-5



### TO-220-5



# GM4519 Step Down Regulator

## FEATURES

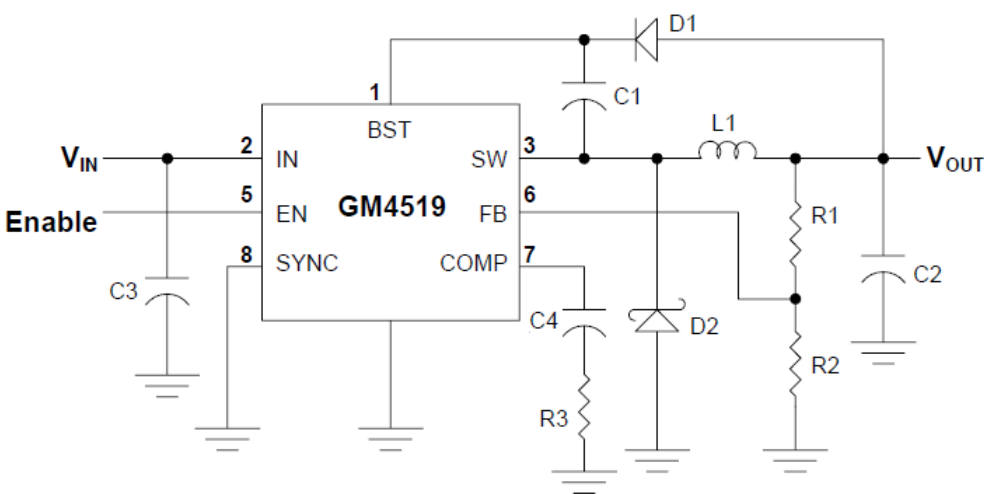
Wide input voltage range, 4.5V~24V  
 Guaranteed 3A output current  
 Internal oscillator of 600kHz fixed frequency  
 Reference Voltage: 0.8V  
 Synchronizable up to 1.2MHz  
 Current Mode Operation  
 Thermal shut down and current limit protection

**PACKAGE:** SOP-8

## PIN DESCRIPTION

NAME	SOP-8	DESCRIPTION
<b>BST</b>	1	Bootstrap
<b>IN</b>	2	Power Input
<b>SW</b>	3	Switch Output
<b>GND</b>	4	Ground
<b>EN</b>	5	Enable Input
<b>FB</b>	6	Feedback Input
<b>COMP</b>	7	Compensation
<b>SYNC</b>	8	Synchronization Input

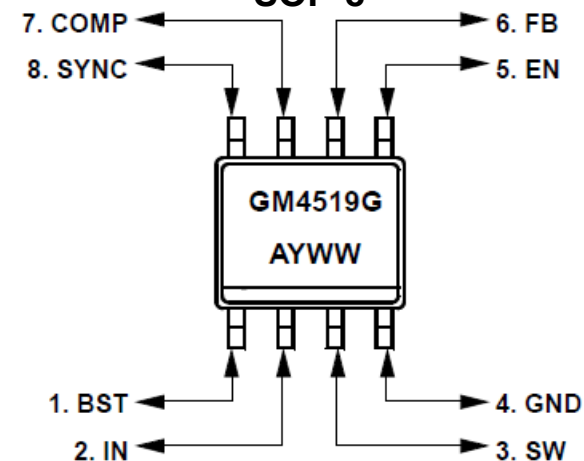
## TYPICAL APPLICATION CIRCUIT



## TYPICAL APPLICATION

XDSL Modems  
 CPE Equipment  
 DC to DC Converters  
 Portable Applications

## PACKAGE SOP-8



# GM45419 Step Down Regulator

## FEATURES

Wide input voltage range, 4.5V~40V

Guaranteed 3A output current

Internal oscillator of 600kHz, 300kHz or 52kHz

Reference Voltage: 0.8V

Synchronizable up to 1.2MHz

Current Mode Operation

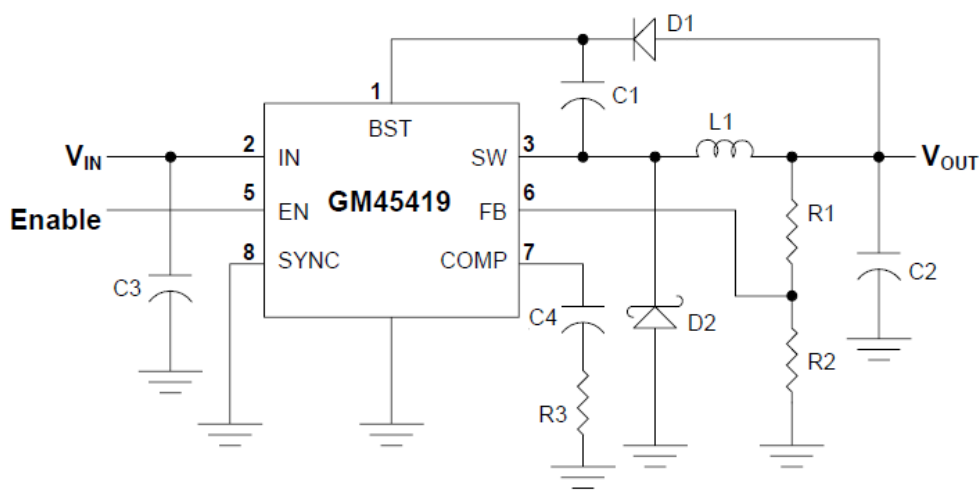
Thermal shut down and current limit protection

**PACKAGE:** SOP-8

## PIN DESCRIPTION

NAME	SOP-8	DESCRIPTION
<b>BST</b>	1	Bootstrap
<b>IN</b>	2	Power Input
<b>SW</b>	3	Switch Output
<b>GND</b>	4	Ground
<b>EN</b>	5	Enable Input
<b>FB</b>	6	Feedback Input
<b>COMP</b>	7	Compensation
<b>SYNC</b>	8	Synchronization Input

## TYPICAL APPLICATION CIRCUIT



## TYPICAL APPLICATION

XDSL Modems

CPE Equipment

DC to DC Converters

Portable Applications

## PACKAGE SOP-8

