Description

The GM6355 series is a low-dropout linear regulator. It is designed specifically for battery-operated systems with the ground current as low as 50μA typical. This feature significantly extends the battery life. Low power consumption and high accuracy is achieved through CMOS and programmable fuse technologies.

GM6355 offers adjustable output option with V_{REF} = 0.9V as well fixed output voltages including from 0.9V to 6.0V with 0.1V increment.

GM6355 consists of a high-precision voltage reference, an error correction circuit, and a current limited output driver. With good transient responses, output remains stable even during load changes.

With its high ripple rejection ratios, this series can be used with power supply noise. A 470pF capacitor from the bypass (BY) input to ground reduces noise presenting on the internal reference, which in turn significantly reduces output noise. If output noise is not a concern, this input may be left unconnected. However, to use larger capacitor values C_{bp} it will result in a longer time to rated output voltage when power is initially applied.

GM6355 incorporates both over-temperature and over-current protection. SOT23-5 (300mW) packages is available.

- **Maximum output current: 300mA**
- **Minimum output voltage as low as 0.9V**
- **High output voltage accuracy: ± 1.5%**
- **Low power consumption**
- **On chip thermal and short circuit protections**
- **Low dropout voltage – 300mV @ 300mA**
- **Minimum input voltage 2.0V**

Application

Battery operated systems
Portable computers
Portable cameras and video recorders
Reference voltage sources
Instruments
Pagers

Typical Application Circuits

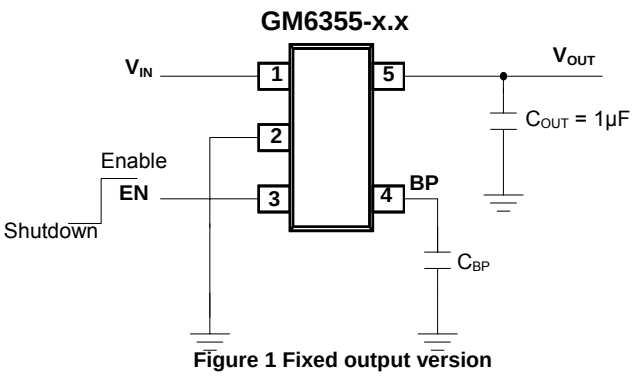


Figure 1 Fixed output version

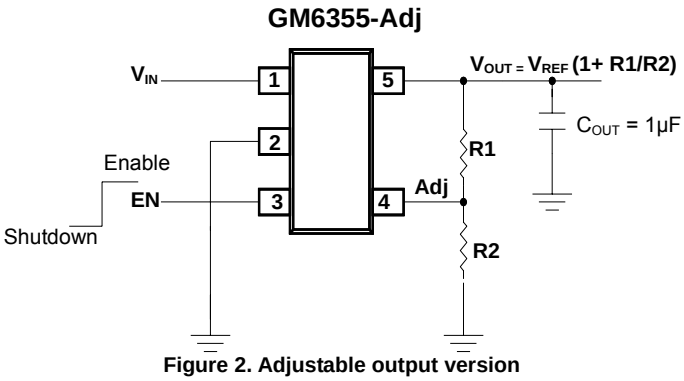
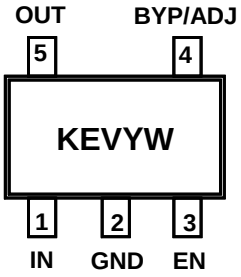


Figure 2. Adjustable output version

Note: EN (Pin 3) maybe connected directly to V_{IN} (Pin1)

Marking Information and Pin Configurations (Top View)

SOT25



KE: Device Code, Green Product

V: Voltage Code (see next page)

Y: Year

W: Week code
Week 1-26 : A – Z
Week 27-52 : A - Z
Week 53 : A

Pin Descriptions

Pin Number		Pin Name	Pin Function
1		IN	Supply Input
2		GND	Ground
3		EN	Enable/Shutdown (Input): CMOS compatible input. Logic high = Enable; logic low or open = shutdown
4	Fixed output	BYP	Reference Bypass: Connect external 470pF capacitor to GND to reduce output noise. May be left open.
	Adjustable output	ADJ	Adjust (Input): Adjustable regulator feedback input. Connect to resistor voltage divider
5		OUT	Regulator Output

Ordering Information – Green Products

Ordering Number	Output Voltage	Voltage Code	Package	Shipping
GM6355-AST25RG	Adj	A	SOT-25	3,000 Units/Tape and Reel
GM6355-1.2ST25RG	1.2V	C	SOT-25	3,000 Units/Tape and Reel
GM6355-2.5ST25RG	2.5V	G	SOT-25	3,000 Units/Tape and Reel
GM6355-3.3ST25RG	3.3V	K	SOT-25	3,000 Units/Tape and Reel

Absolute Maximum Ratings (Note 1)

PARAMETER	SYMBOL	RATINGS	UNITS
Input Voltage	V_{IN}	8	V
Enable Voltage	V_{EN}	8	V
Junction Temperature	T_J	- 40 to 125	°C
Storage Temperature	T_{stg}	- 65 to 150	°C
Lead Temperature (soldering, 5 sec)		260	°C

.

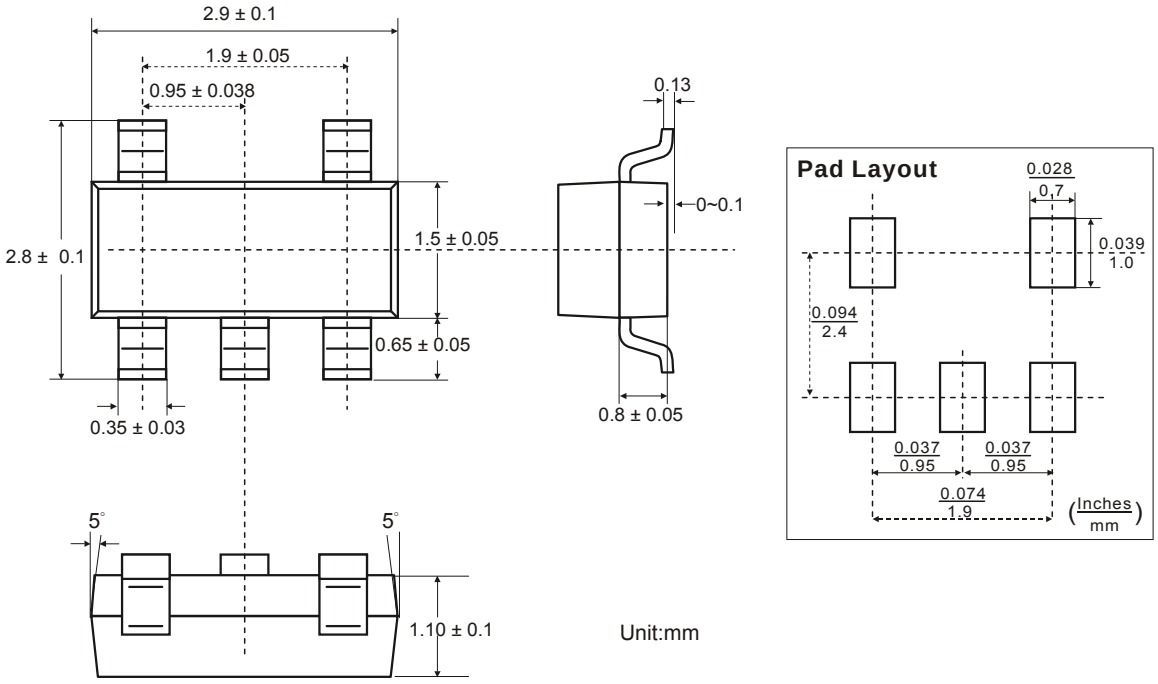
Electrical Characteristics (V_{IN} = V_{OUT} + 1V, T_A = 25°C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Output Voltage Accuracy (Note 2)	V_O	I_O = 1mA	-1.5		1.5	%
		I_O = 1mA to 300mA	-3		+2	
Line Regulation	$\Delta V_O/\Delta V_I$	I_O = 1mA, 2V < V_{IN} < 6V	-0.3	0.05	0.3	%/V
Load Regulation (Note 1)	$\Delta V_O/\Delta I_L$	1mA ≤ I_O < 300mA, C_{OUT} = 1μF		0.5	1.5	%
Dropout Voltage	V_O > 2.8V	I_O = 300mA		300	500	mV
	2.0V < V_O ≤ 2.8V			450	650	
	1.5V V_O ≤ 2.0V			900	1200	
	V_O < 1.5V			1300	1600	
Maximum Output Current	I_{OMIN}	VO > 0.96xVraging	300			mA
Current Limit	C_L			1300		mA
EN Exit Delay	EN_{Delay}	C_{BP}=0μF, C_{OUT}=1μF I_O=100mA		600		μsec
EN Input High Bias Current	I_{BH}	V_{EN} = V_{IN}			100	nA
EN Input Low Bias Current	I_{BL}	V_{EN} = Gnd	-1	-0.3		μA
EN Input Threshold Low	V_{TL}	V_{IN}=2.5V to 5.5V			0.4V	V
EN Input Threshold High	V_{TH}	V_{IN}=2.5V to 5.5V	1.6V			V
Ground Pin Current	I_Q	I_O = 0mA to 300mA		50	85	μA
Quiescent Current	I_{QS}	V_{EN} = Gnd		0.01	1	μA
PSRR		I_O = 100mA, C_{OUT} = 2.2μF, f = 100Hz		55		dB

Note 1: Load regulation is measured using pulse techniques with duty cycle < 5%.

Note 2: The nominal value of reference voltage for adjustable version is 0.9V

Package Outline Dimensions – SOT 25



Ordering Number

GM	6355	- 1.8	ST25	R	G
APM Gamma Micro	Circuit Type	Output Voltage A = Adj 1.8 = 1.8V 2.5 = 2.5V 3.3 = 3.3V 5.0 = 5.0V	Package Type ST25: SOT 25	Shipping Type R: Tape & Reel	 Blank:Pb-free G:Green

Note:

Pb-free products:

- RoHS compliant and compatible with the current require-ments of IPC/JEDEC J-STD-020.
- Suitable for use in SnPb or Pb-free soldering processes with 100% matte tin (Sn) plating.

Green products:

- Lead-free (RoHS compliant)
- Halogen free(Br or Cl does not exceed 900ppm by weight in homogeneous material and total of Br and Cl does not exceed 1500ppm by weight)