



UM606

LINEAR INTEGRATED CIRCUIT

CONSTANT VOLTAGE AND CONSTANT CURRENT CONTROLLER

DESCRIPTION

The UTC **UM606**, for a constant voltage/constant current mode SMPS (switch mode power supplies) application which is a highly integrated solution, it contains one 1.21V voltage reference with $\pm 1\%$ accuracy, one current sensing circuit and two operational amplifiers. The UTC **UM606** is an ideal voltage controller for use in adapters and battery chargers because the voltage reference it's combining with one operational amplifier. And the UTC **UM606** is an ideal current limiter for output low side current sensing because the other low voltage reference is combining with the other operational amplifier.

FEATURES

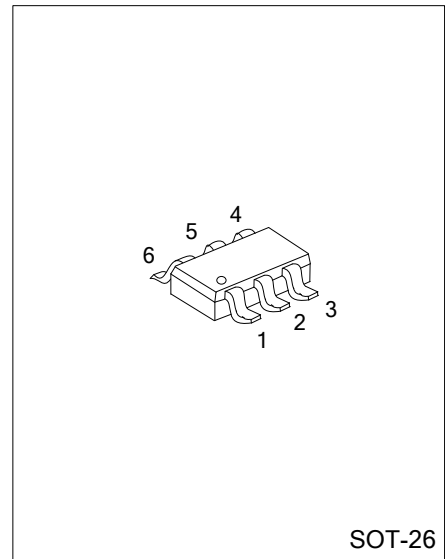
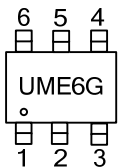
- *Constant Voltage and Constant Current Control
- *Precision Internal Voltage Reference
- *Few External Components
- *Easy Compensation

ORDERING INFORMATION

Ordering Number	Package	Packing
UM606G-AG6-R	SOT-26	Tape Reel

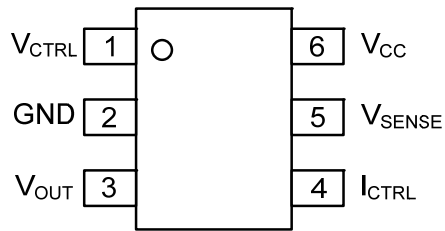
	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AG6: SOT-26
	(3)Halogen Free	(3) G: Halogen Free

MARKING



SOT-26

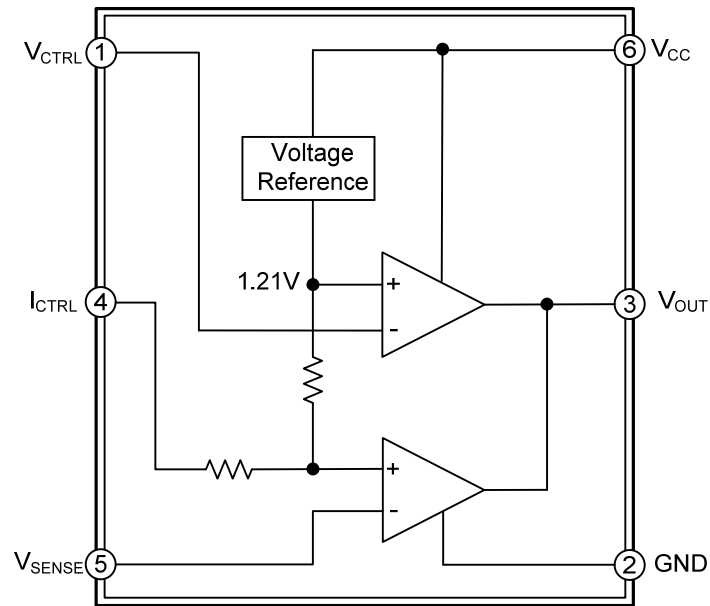
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	FUNCTION
1	V _{CTRL}	Input pin of the voltage control loop
2	GND	Ground
3	V _{OUT}	Output pin. sinking current only
4	I _{CTRL}	Input pin of the current control loop
5	V _{SENSE}	Input pin of the current control loop
6	V _{CC}	Power supply

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
DC Supply Voltage	V_{CC}	20	V
Input Voltage	V_{IN}	-0.3 ~ V_{CC}	V
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-65 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ_{JC}	92	°C/W

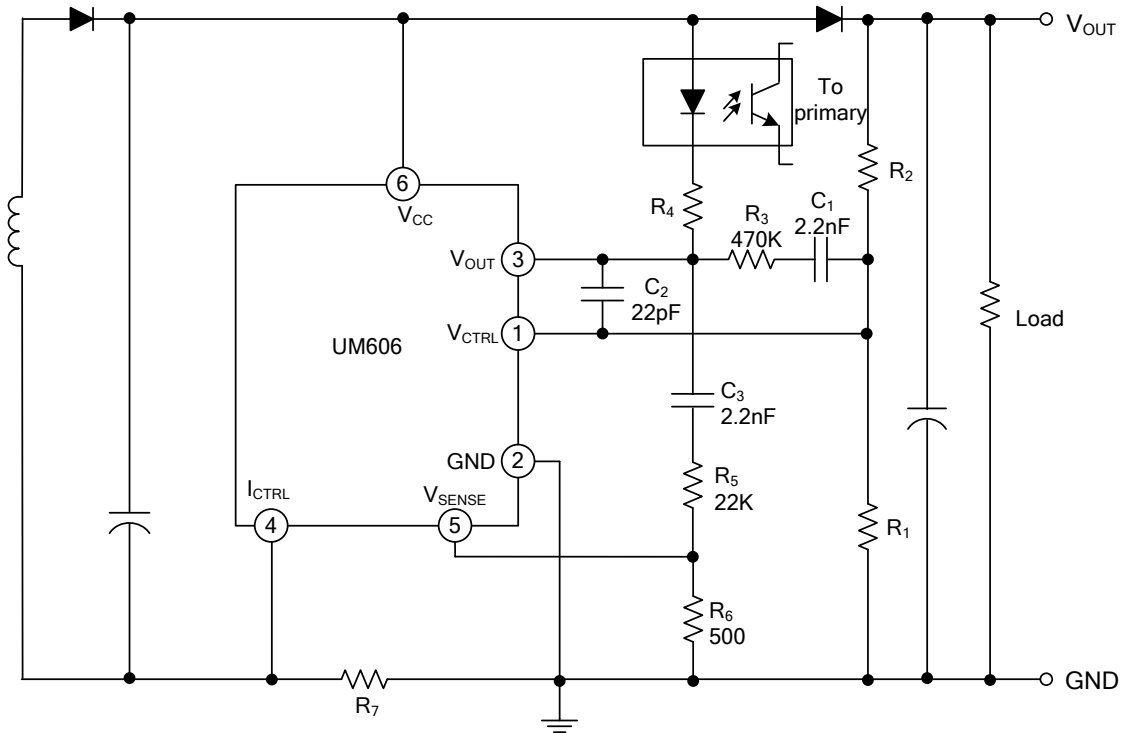
■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Supply Voltage	V_{CC}	2.5		18	V
Operating Temperature	T_A	-20		+70	°C

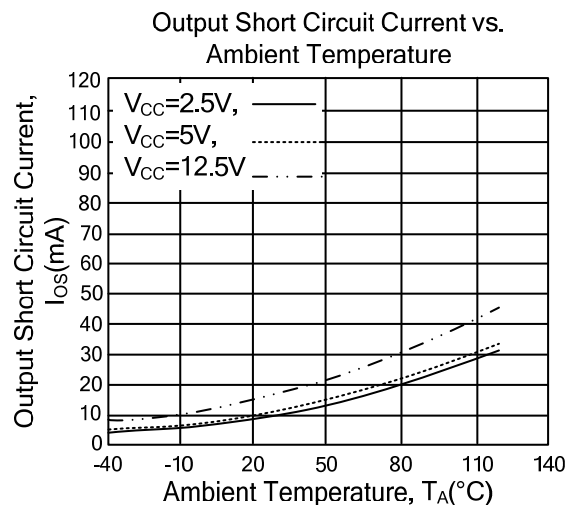
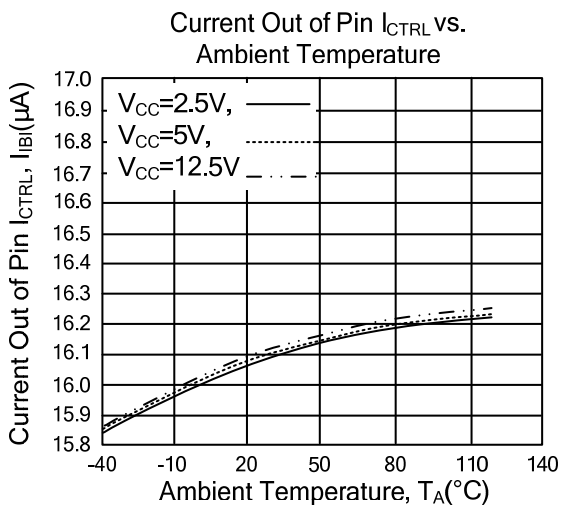
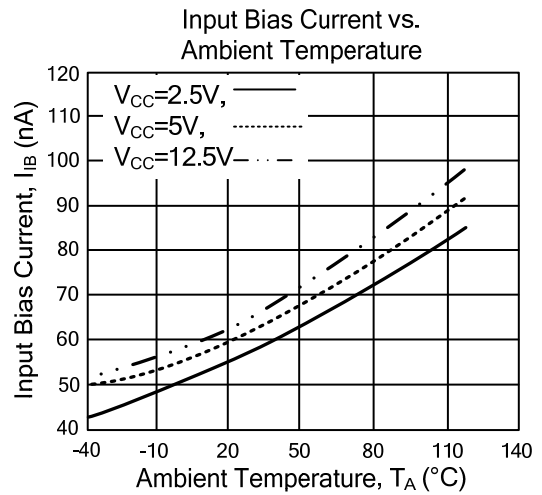
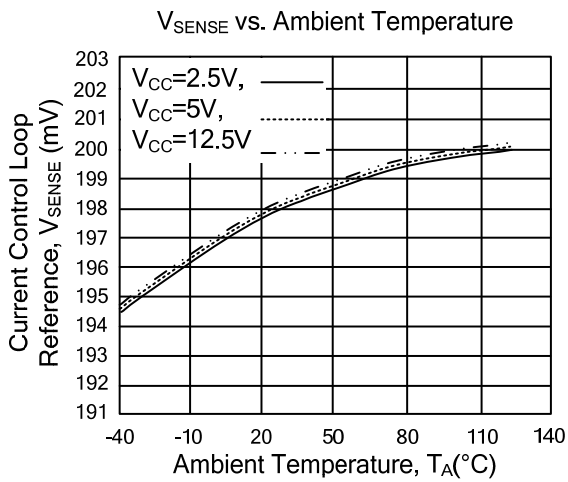
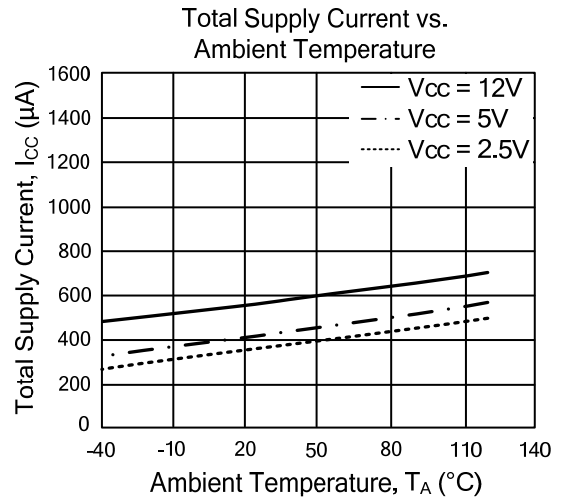
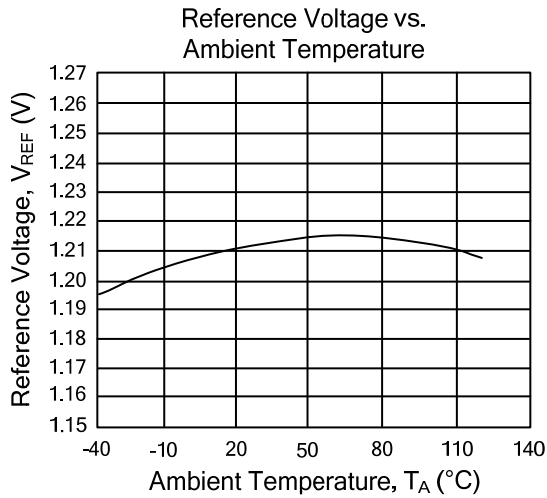
■ ELECTRICAL CHARACTERISTICS ($V_{CC}=5V$, $T_A=25^\circ C$, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reference Voltage	V_{REF}		1.198	1.21	1.222	V
Current Control Loop Reference	V_{SENSE}	$I_{OUT}=2.5mA$	196	200	204	mV
Low Output Voltage	V_{OL}	@10mA Sinking Current		200		mV
Total Supply Current	I_{CC}	$V_{CC}=5V$		0.6	1.2	mA
Input Bias Current	I_{IB}			50		nA
Current Out of Pin I_{CTRL}	I_{IBI}	@-200mV		25		μA
Output Short Circuit Current.	I_{OS}	Output to V_{CC} . Sink Current Only		27	50	mA
Transconduction Gain (V_{CTRL})	G_{mv}	Sink Current Only	1	3.5		mA/mV
Transconduction Gain (I_{CTRL}).	G_{mi}		1.5	7		mA/mV

■ TYPICAL APPLICATION



■ TYPICAL PERFORMANCE CHARACTERISTICS



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