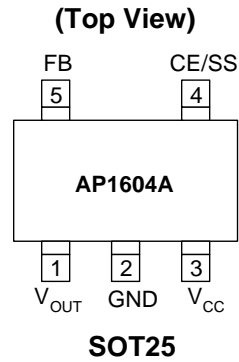




**THE DATASHEET OF
AP1604AWL-7**



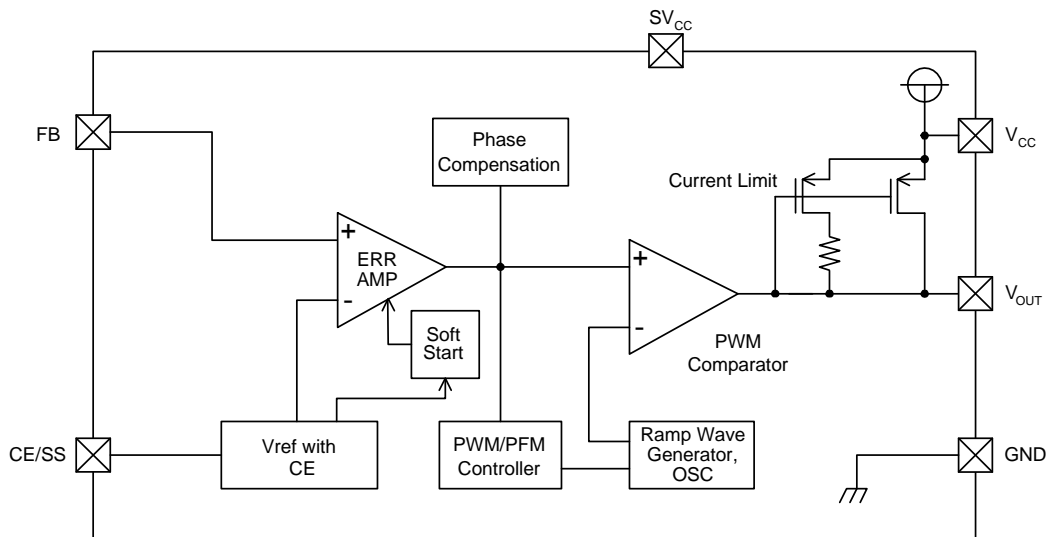
Pin Assignment



Pin Description

Pin Name	Description
V_{OUT}	Output Voltage
GND	Ground
V_{CC}	Input Supply
CE/SS	Chip Enable / Soft Start
FB	Feedback pin

Block Diagram



Absolute Maximum Ratings (T_A=25°C)

Symbol	Parameter	Ratings	Units
V _{CC} /SV _{CC}	V _{IN} Pin Voltage	-0.3 ~ 6.5	V
V _{OUT}	V _{OUT} Pin Voltage	-0.3 ~ V _{IN} +0.3	V
V _{FB}	FB Pin Voltage	-0.3 ~ V _{IN} +0.3	V
V _{CE/SS}	CE/SS Pin Voltage	-0.3 ~ V _{IN} +0.3	V
P _D	Continuous Total Power Dissipation	Internal limited	
T _{OP}	Operating Ambient Temperature	-25 ~ +80	°C
T _{ST}	Storage Temperature Range	-40 ~ +125	°C

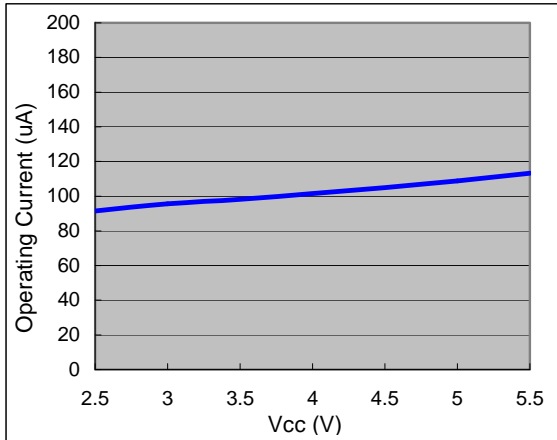
Electrical Characteristics

V_{IN} = 5V, V_{OUT} = 2V, Load = 300mA, T_A = 25°C

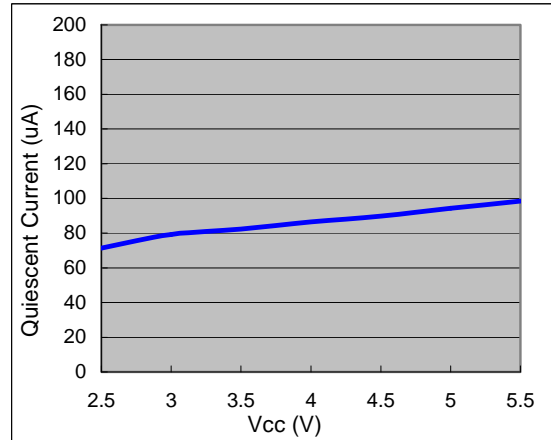
Sym.	Parameter	Conditions	Min	Typ.	Max	Units
V _{FB}	FB		0.975	1.0	1.025	V
V _{IN}	Input Voltage		2.2	-	5.5	V
	Line Regulation	V _{IN} = 2.2 ~ 5.5V, Load = 10mA	-	-	0.12	%
	Load Regulation	I _{OUT} = 10 ~ 800mA	-	-	1.2	%
V _{UVLO}	UVLO Voltage (min. operating voltage)	V _{CC} , voltage required to maintain H at V _{OUT}	-	-	2	V
I _{CC}	Operating Current	CE/SS = V _{IN} , No Load	-	100	150	μA
I _{CCQ}	Supply Current	No external components, CE/SS = V _{IN} , V _{FB} = 1.2V	-	90	120	μA
I _{STB}	Stand-by Current	No external components, CE/SS = 0V, V _{FB} = 0V	-	2	-	μA
I _{CL}	Current Limit	peak current V _{IN} = 5V, V _{OUT} = 2V	800	1000	1200	mA
Fosc	Oscillator Frequency	Load = 300mA, V _{IN} = 5V, V _{OUT} = 2V	500	600	700	kHz
MAXDTY	Maximum Duty Ratio		85	90	-	%
PFMDTY	PFM Duty Ratio	No load	15	25	35	%
V _{CEH}	CE/SS "High" Voltage	Apply 1.4V (min.) to CE/SS, determine V _{OUT} "High"	1.4	-	-	V
V _{CEL}	CE/SS "Low" Voltage	Same as V _{CEH} , determine V _{OUT} "Low"	-	-	0.6	V
EFFI	Efficiency	V _{CC} = 5V, V _{OUT} = 3.3V, Load = 300mA	-	93	-	%
Rdson	Rdson Condition	I _{OUT} = 300mA, V _{IN} = 5V, V _{OUT} = 2V	-	350	450	mΩ

Typical Performance Characteristics

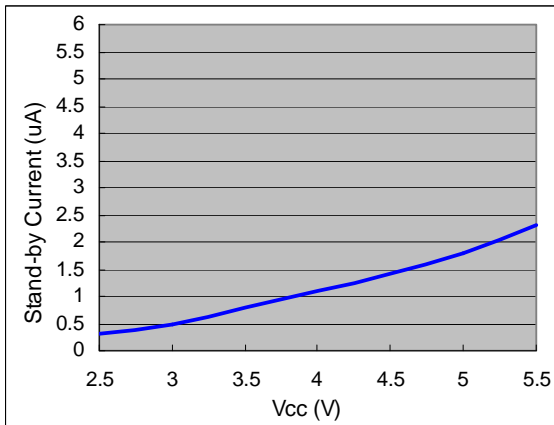
Vcc vs. Operating Current



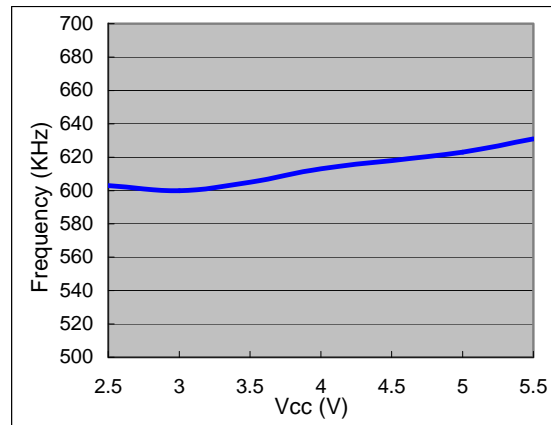
Vcc vs. Quiescent Current



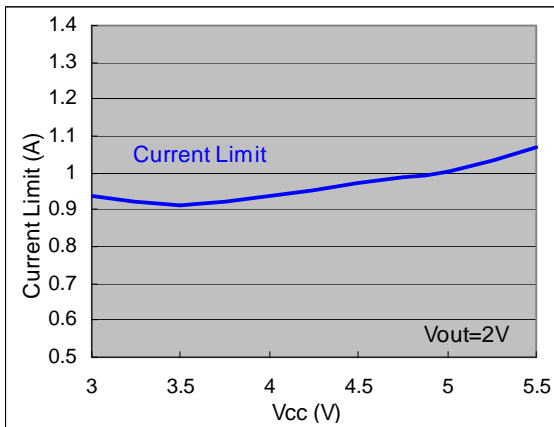
Vcc vs. Stand-by Current



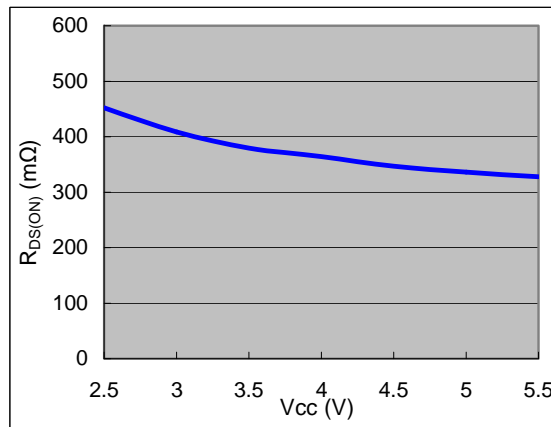
Vcc vs. Frequency



Vcc vs. Current Limit

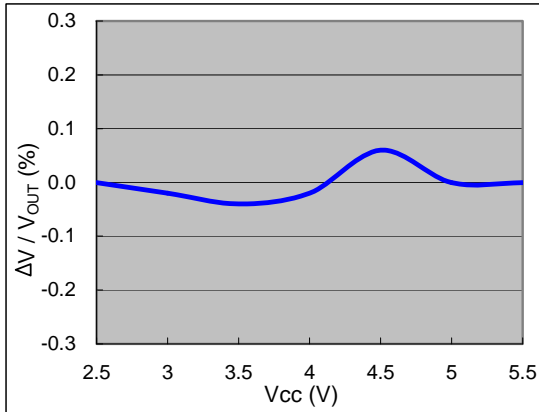


Vcc vs. R_{DS(ON)}

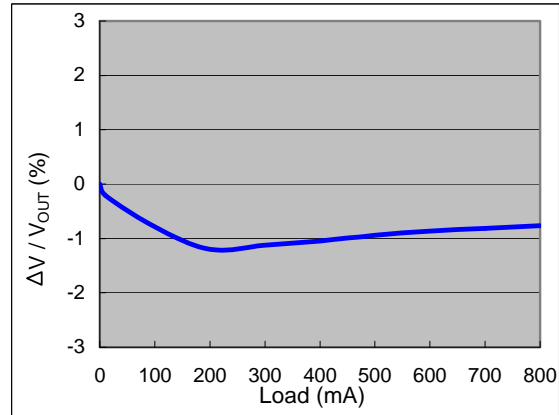


Typical Performance Characteristics (Continued)

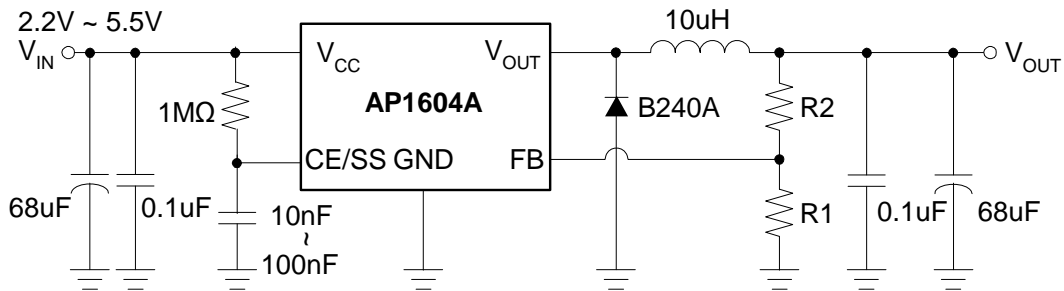
Line Regulation



Load Regulation



Typical Application Circuit



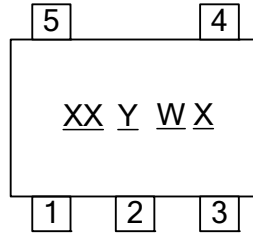
$$V_{out} = 1 \times \left(1 + \frac{R2}{R1}\right)$$

$$R1 = 100K \sim 200K$$

Marking Information

(1) SOT25

(Top View)

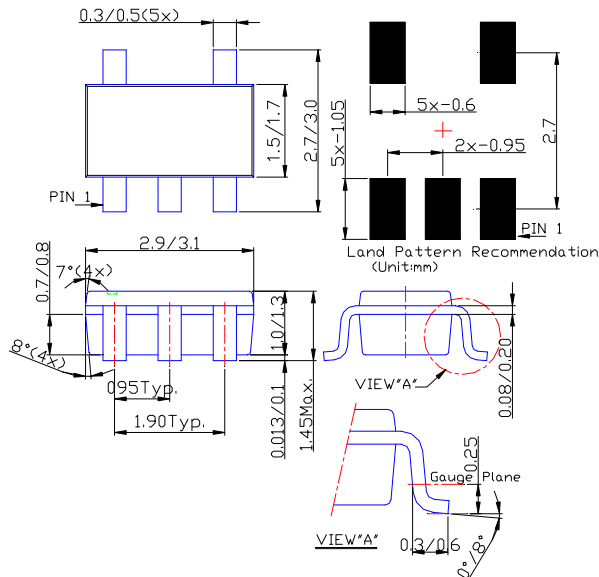


XX : Identification code
Y : Year 0~9
W : Week : A~Z : 1~26 week;
a~z : 27~52 week; z represents
52 and 53 week
X : a~z : Lead Free
A~Z : Green

Part Number	Package	Identification Code
AP1604AW	SOT25	ER

Package Information (All Dimensions in mm)

(1) Package Type: SOT25



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