CYT6217C33 Low Dropout Linear Regulator

General Description

CYT6217C33 is a low dropout linear regulator with high precision, high ripple rejection ratio, low noise and ultra-fast response, which is manufactured by CMOS technology. The voltage regulator of the device is built with a fixed reference voltage source, an error correction circuit, a current limiting circuit, a phase compensation circuit and a MOSFET with low internal resistance, so as to achieve the performance of high ripple suppression, low output noise and ultra-fast response to low dropout. CYT6217C33 is compatible with ceramic capacitors with smaller volume than tantalum capacitors, and does not need to use 0.1μF By-pass capacitors, which can save space. The high-speed response of the device can cope with the fluctuation of load current, so it is especially suitable for handheld and RF products. The output can be turned off by controlling the CE pin on the chip, and the power consumption after turning off is only below 1μA.

Electric Characteristics

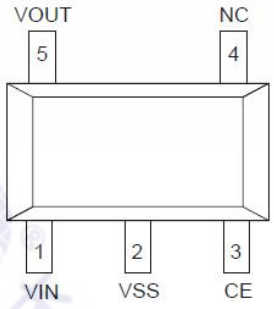
Unless otherwise stated, T_A=25°C, V_{IN}=V_{OUT}+1V,V_{CE}=V_{IN},C_{IN}=C_L=1μF.

Symbol	Description	Conditions		Min.	Typ.	Max.	Unit
$V_{OUT(E)}$	Output voltage	I_{OUT}=30mA, V_{IN}=V_{OUT} +1V		3.234	3.3	3.366	V
I_{OUTMAX}	Maximum current output	V_{IN}=V_{OUT} +1V		-	350	-	mA
ΔV_{OUT}	Load-characteristic	V_{IN}=V_{OUT} +1V,1mA ≤ I_{OUT} ≤ 100mA		-	9	-	mV
V_{DIF1}	Differential pressure	I_{OUT}=100mA		-	120	-	mV
V_{DIF2}		I_{OUT}=200mA		-	260	-	mV
I_{SS}	Quiescent current	V_{IN}=V_{OUT} +1V		-	50	-	μA
I_{CEL}	Shutdown current	V_{CE}=0V		-	0.1	-	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line voltage regulation	I_{OUT}=40mA, V_{OUT} +1V ≤ V_{IN} ≤ 6.5V		-	0.05	-	%/V
V_{CEH}	High level at CE terminal	Turn on, the output voltage is stable		1.0	-	-	V
V_{CEL}	Low level at CE terminal	Turn off, the output voltage is zero		-	-	0.5	V
Noise	Output noise	I_{OUT}=40mA,300Hz~50kHz		-	50	-	μVrms
PSRR	Power supply rejection ratio	V_{IN} = [V_{OUT} +1] V +1Vp-pAC	I_{OUT}=10mA,1kHz	-	65	-	dB
			I_{OUT}=100mA,10kHz	-	57	-	
			I_{OUT}=200mA,10kHz	-	57	-	
I_{SHORT}	Short circuit current	V_{IN}=4.3V,V_{OUT}=0V		14	28	50	mA

Absolute Maximum Ratings

Symbol	Description	Range	Unit
V_{IN}	Input voltage	6.5	V
I_{OUT}	Output current	500	mA
V_{OUT}	Output voltage	V_{SS}-0.3 ~ V_{IN}+0.3	V
V_{CE}	CE port voltage	V_{SS}-0.3 ~ V_{IN}+0.3	V
P_D	Packaging power consumption	0.6	W
$R_{\theta JA}$	Packaging thermal resistance	210	°C/W
T_{OPT}	Operating temperature	-40 ~ +85	°C
T_J	Junction temperature	-40 ~ +150	°C
T_{STG}	Storage temperature	-55 ~ +150	°C

Pin Diagram (Top View)



Typical Application