

bit := 14	number of DAC bits (TDA1541A=16 TDA1540 = 14)
Iref := 2·mA	current DAC reference
VdvCmsb := 9.25·V	voltage across Cmsb (TDA1541A=7.5V TDA1540= 9.25V @-18V)
wc_percent := 14.7·%	worst case %
Fdem := 176.4·KHz	DEM frequency
DEMbits := 10	number of DEM bits (TDA1541A=7 TDA1540=10)

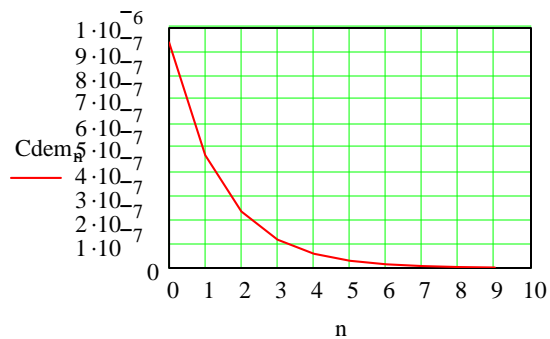
$\text{LSB} := \left[\frac{1}{2^{(\text{bit}+1)}} \right]$	$\text{LSB} = 3.052 \times 10^{-5}$	half value of LSB (current or voltage)
$\text{Iwc} := \text{Iref} \cdot \text{wc_percent}$	$\text{Iwc} = 294 \mu\text{A}$	worst case p-p ripplea current for given %
$\text{Vwc} := \text{VdvCmsb} \cdot \text{LSB}$	$\text{Vwc} = 2.823 \times 10^{-4} \text{V}$	
$\text{Zwc} := \frac{\text{Vwc}}{\text{Iwc}}$	$\text{Zwc} = 0.96 \Omega$	worst case impedance <= 1
$\omega_{\text{dem}} := 2 \cdot \pi \cdot \text{Fdem}$		
$\text{Cmsb} := \frac{1}{\omega_{\text{dem}} \cdot \text{Zwc}}$	$\text{Cmsb} = 0.94 \mu\text{F}$	$\text{Zwc}=1 \text{ wc_percent}=14.12\% \text{ Cmsb}=0.9\mu\text{F}$

$n := 0 \dots (\text{DEMbits} - 1)$

$\text{Cdem}_n := \frac{\text{Cmsb}}{2^n}$

	0	
0	939.674	
1	469.837	
2	234.918	
3	117.459	
4	58.73	
5	29.365	
6	14.682	
7	7.341	
8	3.671	
9	1.835	

nF



Cmsb = 2 x 470 nF 176.4KHz 14.13% 0.96Ω

Cmsb = 2 x 220 nF 176.4KHz 21.25% 0.664Ω