Rev.A



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#### **Block Diagram**



### Level Diagram

This diagram covers overall CC-218.



## Simulation

\* Schematics



This circuit is quoted from the data sheet of LT1115

## \* Settings

Name	Value		
VALUE	Show 0 AC 1m 0 Sin 0 1m 10 0	00 🛨 🗆 Show	Change
Display Pin Markers  Pin Name	es □ Pin Numbers 🔽 Current 🔽	Power 🔽 Condition	Shape Border <b>V</b> Fill <b>V</b>
PART=V3			Voltage vs. Time 👻
VALUE=DC 0 AC 1m 0 Sin	0 1m 10 0 0 0		A4
COST= POWER= SHAPEGROUP=Default PACKAGE=			HIGH_CURRENT HIGH_VOLTAGE LOW_CURRENT LOW_VOLTAGE MED_CURRENT
QK <u>Cancel</u> <u>Font</u>	Add Delete Browse	Default Settings	MED_VOLTAGE
New Find Plot	Syntax IBIS <u>H</u> elp.	Save Settings	
nabled TRUE	← Columns 3	*	
F Help Bar		File Link	
None Pulse Sin Exp PV	/L SFFM Noise Gaussian Define	•	
DC 0	AC magnitude 1m	AC Phase 0	
vo o	VA 1m	F0 10	
TD 0	DF 0	РН 0	
1000 B.C.			

Laplace formula	(V	of	V)
-----------------	----	----	----

Name			Value	e					- 🔺 -
LAPLAC	E/	Sho	w <b>1275</b>	E-6+1))/((S	*318E-6+1)	测 <u>→</u> …	Show	Change	
Display			1040					Shape	<u> </u>
F Pin N	1arkers 🕅 Pi	in Names	Pin Numb	ers 🔽 Cu	irrent 🔽 P	ower 🔽	Conditio	Border	👌 Fill 🧕
PART	=E1							Bode	
LAPL	ADE=((S*318)	0E-6+1)*(S+	·75E-6+1))/(	(S*318E-6+	-1))			Inoue	
NUME	ER_OF_DATA	POINTS=81	92	19	505				
тмах	FOR_CONVO	LUTION=							
COST	<b>.</b>						1		
POWE	ER=	STREET.							
SHAP	'EGROUP=Det	fault							
<u>о</u> к	<u>C</u> ancel	Eont	Add	Delete	Browse	]			
New	Find	Plot	Syntax	IBI5,	Help	]			
nabled	TRUE		•	Column	s 3	Ŧ			
Help Ba	ar					File Lin	k		

LAPLACE = ((S\*3180E-6+1)\*(S\*75E-6+1))/((S\*318E-6+1))

==> RIAA emphasis

## \* AC Analysis

Set	ting
Set	ung

AC Analysis Limits									- <u>-</u>	×
Run <u>A</u> dd	Delete	E	xpand	Stepping	Properties	Help	. 🛯 🛍 🤊	(°		
Frequency Range Log	1Meg,1		t.	<u>R</u> un Options	Norma	•				
Number of Points	1001			<u>S</u> tate Variable	s Zero	•				
Temperature Linear 💌	27									
Maximum Change %	5			🔽 Operating	Point					
Noise Input	NONE		-	Auto Scal	Ranges					
Noise Output	2			C Accumula	e Plots					
Ignore Expression Errors	Page	P	XE	pression		Y Exp	pression	X Range	Y Range	>
		2	F		dB(v(MC_C	மா) <b>)</b>		1e+6,1,200000	100,-150,50	
	J	1	F		dB(v(MC_I	4))		1e+6,1,200000	40,-60,20	
		2	F		ph(v(MC_I	4))		1e+6,1,200000	10,-10,4	_
	J.	1	F		dB(v(EQ_C	ரா))		1e+6,1,200000	40,-60,20	-
Defines the expression fo	r the Y-axi	s[,A	lias][;Con	nment]. Click	, the right	mouse b	utton for a variab	le menu.		- /



Perfect! Deviation: -0.003dB~+0.035dB

#### \* Revised schematics

C: polypropylene, tolerance=5%, except 0.47uF: Toshin UPZ 0.47uF: metalized polyester: Panasonic ECQE2 250V/0.47uF, 10%





Still good! Deviation: -0.045dB~+0.023dB

# Schematic

For details, see CC-218\_EQ\_Schematic.pdf.



#### \* Rev. A

The package of ECQE2475JB (4.7uF, C7,22) was wrongly defined. The lead pitch was 10mm.

The correct lead pitch is 17.5mm. ==> Corrected.

The shematic itself is unchanged.

For details, see CC-218\_EQ\_A\_Schematic.pdf.



#### 2024/12/20

# **Power Dissipation**

*	Current	dissipation	estimate
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Device	Qty	Current d	issipation	Total current dissipation		
		V+	V-	+23V	-23V	
LT1115	2	11.5mA	11.5mA	23. OmA	23. OmA	
LME49860	2	10. OmA	10. OmA	20. OmA	20. OmA	
LED	1	11. OmA	11. OmA	11. OmA	11. OmA	
Total				54. OmA	54. OmA	

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