198 Stauffer Blvd., San Jose, CA 94125 Tel: (408) 995-6200 Fax: (408) 938-5580

Comparison of NJM2113 to Motorola MC34119

Function: Low power audio amplifier for telephone applications such as speakerphones

8-Pin Packages Available

NJR NJM2113	Motorola MC34119
Plastic Dip	Plastic Dip
Plastic DMP	Plastic SOP
Plastic SSOP	-
Plastic SIP	-

Recommended Operating Limits

Parameter	Symbol	NJR NJM2113	Motorola MC34119	Units
Supply Voltage	Vcc	+2.0 - +16.0	+2.0 - +16.0	Vdc
Load Impedance	Rl	8.0 - 200	8.0 - 100	Ω
Differential Gain - 50KHz Bandwidth	Gvd	0 - 43	0 - 46	dB
Input Voltage @ CD	Vcd	0 - Vcc	0 - Vcc	Vdc

Absolute Maximum Ratings (Ta = 25°C)

Parameter		Symbol	NJR NJM2113	Motorola MC34119	Units
Supply Voltage		Vcc	+18.0	+1.0 - +18.0	Vdc
Input Voltage Range		Vin	-0.3 to Vcc + 0.3V	-1.0 to Vcc + 1.0V	Vdc
Applied Output Voltage (@ Power-Down)		Vcd	-0.3 to Vcc + 0.3V	-1.0 to Vcc + 1.0V	Vdc
Power Dissipation	DIP	Pd	500	-	mW
	SIP		800	-	
	DMP		500	-	
	SSOP		360	-	
Operating Temperature Range		Topr	-20 + - 75	-20 + - 70	°C
Storage Temperature Range		Tstg	-40 + - 125	-	°C

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Electrical Characteristics (Vcc=6V, Ta=25°C)

Parameter	Symbol	NJR NJM2113			Motorola MC34119			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Supply Current								
Vcc=3.0V, Rl=infinity, Ipin=0.8V	Icc1	-	2.7	4	-	2.7	4	mA
Vcc=16V, Rl=infinity, Ipin=0.8V	Icc2	-	3.4	5	-	3.3	5	mA
Vcc=3.0V, Rl=infinity, Ipin=2.0V	Icc3	-	72	100	-	65	100	uA
Open Loop Gain (f<100Hz)	Av1	77	83	-	80	-	-	Vdc
Closed Loop Gain (f=1KHz, Rl=32Ω)	Av2	-0.35	0	0.35	-0.35	0	0.35	Vdc
Output Power								
Vcc=3V,Rl=16Ω,THD=<10%	Po1	55	-	-	55	-	-	mW
Vcc=6V,Rl=32Ω ,THD=<10%	Po2	250	-	-	250	-	-	mW
Vcc=12V,Rl=100Ω ,THD=<10%	Po3	400	-	-	400	-	-	mW
Total Harmonic Distortion @f=1KHz								
Vcc=6V,Rl=32Ω ,Po=125mW	THD1	-	0.5	1	-	0.5	1	%
Vcc=3V,Rl=8Ω ,Po=20mW	THD2	-	0.5	-	-	0.5	-	%
Vcc=12V,Rl=32Ω ,Po=200mW	THD3	-	0.6	-	-	0.6	-	%
Power Supply Rejection Ratio								
C1=infinity, C2=0.01uF, DC	PSRR1	50	-	-	50	-	-	dB
C1=0.01uF, C2=0, f=1KHz	PPSR2	-	12	-	-	12	-	dB
C1=1uF, C2=5uF, f=1KHz	PPSR3	-	52	-	-	52	-	dB
Mute Attenuation (f=1-20KHz,CD=2V)	MAT	-	70	-	-	70	-	dB
Output Voltage (Rf=75K)								
Vcc=3V,Rl=16Ω	Vo(3)	1	1.18	1.25	1	1.15	1.25	Vdc
Vcc=6V	Vo(3)	-	2.68		-	2.65	-	Vdc
Vcc=12V	Vo(3)	-	5.71		-	5.65	-	Vdc
Output High Level (Iout=-75mA, Vcc= 2-16V)	Voh	-	Vcc-1.1	-	-	Vcc-1.0	-	Vdc
Output High Level (Iout=75mA, Vcc = 2-16V)	Vol	-	0.21	-	-	0.16	-	Vdc
Output DC Offset (Rf=75KΩ, Rl=32 Ω, Pin5-Pin8)	Delta Vo	-30	0	30	-30	0	30	mV
Input Bias Current @Vin (Pin4)	Ib	-	-30	-200		-100	-200	nA
Equivalent Resistance @FC1 (Pin3)	Rfin	100	150	220	100	150	220	KΩ
Equivalent Resistance @FC2 (Pin2)	Rref	18	25	40	18	25	40	KΩ
Chip Disable Input Voltage High (Pin1)	Vcdh	2	-	Vcc	2	-	-	Vdc
Chip Disable Input Voltage Low (Pin1)	Vcdl	0	-	0.8	-	-	0.8	Vdc
Chip Disable Input Resistance Vcd=16V)	Rcd	50	75	175	50	90	175	KΩ