

## OPERATIONAL AMPLIFIERS

Application	Type No.	Function	Typical electrical characteristics		Package outline	Remarks
			V <sub>CC</sub> (V)	I <sub>CC</sub> (mA)		
Operational amplifier	M5201L/P/FP	Switching Operational Amplifier	± 15	2.3	8P5/8P4 /8P2S	Switching operational amplifier with 2 inputs and 1 output
	M5201AL/P/FP	Switching Operational Amplifier	± 15	2.3	8P5/8P4 /8P2S	Switching operational amplifier with 2 inputs and 1 output
	M5203L/P/FP	High speed Switching Operational Amplifier	± 15	2.3	8P5/8P4 /8P2S	2-inputs, 1-Output High speed switch operational amplifier
	M5203AFP	High speed Switching Operational Amplifier	± 15	2.3	8P2S	2-inputs, 1-Output High speed switch operational amplifier
	M5218AL/P/FP	Dual Low Noise Operational Amplifier (Dual Power Supply Type)	± 15	3	8P5/8P4 /8P2S	SR= 3.0V/μs
	M5216L/P/FP	Dual Large Current Operational Amplifier (Dual Power Supply Type)	± 15	4.5	8P5/8P4 /8P2S	I <sub>P</sub> = 100mA For headphone output
	M5223L/P/FP	Dual Single Power Supply Operational Amplifier	36V	0.7	8P5/8P4 /8P2	
	M5224P/FP	Quad Single Power Supply Operational Amplifier	36V	1.2	14P4/14P2S	
	M5228P/FP	Quad Low Noise Operational Amplifier (Dual Power Supply Type)	± 15	6	14P4/14P2S	M5218×2
	M5238L/P/FP	Dual Low Noise Bi-FET Operational Amplifier	± 15	5.8	8P5/8P4 /8P2S	S/N= 73dB SR= 20V/μs
	M5238AL/P/FP	Dual Low Noise Bi-FET Operational Amplifier	± 15	5.8	8P5/8P4 /8P2S	S/N= 73dB SR= 20V/μs

## ELECTRONIC TUNERS

Type No.	Function	Typical electrical characteristics		Package outline	Remarks
		V <sub>CC</sub> (V)	I <sub>CC</sub> (mA)		
M51014L	× Pre-Amp. for IR Remoter Control	10	11	16P5A	

× : Plan for production discontinue

## TIMERS

Type No.	Function	Typical electrical characteristics		Package outline	Remarks
		V <sub>CC</sub> (V)	I <sub>CC</sub> (mA)		
M51843P	CR Timer (10ms~ 180sec)	15	13	14P4	With noise filter pin
M51847P	Dual CR Timer (0.01ms~ 180sec)	15	10	14P4	Connected directly to LSTTL
M51848L/P	CR Timer (0.01ms~ 180sec)	15	7	8P5/8P4	Connected directly to LSTTL
M51849L/FP	Counter Timer (0.1sec~ 50hr)	5	3.5	8P5/10P2	I <sub>FL</sub>

## MOTOR DRIVERS

Type No.	Circuit function	Typical electrical characteristics (T <sub>a</sub> = 25°C)				Package outline	Remarks
		Supply voltage (V)	Supply current (mA)	Rush current (mA)	Constant current (mA)		
M54543L	Bi-Directional Motor Driver with Brake Function	12	24	1200	300	9P9	
M54543AL/ASL/AFP	Bi-Directional Motor Driver with Brake Function and thermal shut down Function	12	10	1200/700/700	300/100/100	8P9/10P5/10P2	
M54544L	Bi-Directional Motor Driver with Brake Function	12	21	1200	300	9P9	
M54544AL	Bi-Directional Motor Driver with Brake Function and thermal shut down Function	12	10	1200	300	9P9	
M54546AL	× Bi-Directional Motor Driver with Brake Function	12	21	700	150	10P5	
M54549AL	Dual Bi-Directional Motor Driver with Brake Function and thermal shut down Circuit for Loading Motor	12	13	1200	300	12P5	
M54641L/FP	Bi-Directional Motor Driver with Brake Function	10	7.5	800	150	8P5/10P2	
M54644BL	× Bi-Directional Motor Driver with Thermal shut down function	16	14	2000	600	9P9	
M54649L	Dual Bi-Directional Motor Driver with Brake Function and thermal shut down Circuit for Loading Motor	12	19	1600/700	600/100	10P5	
M54685L	Bi-Directional Micromotor Driver with Governor	6	10	500	200	10P5	
M54687FP	Bi-Directional Micromotor Driver with Governor	9	5	500	200	16P2N	

× : Plan for production discontinue