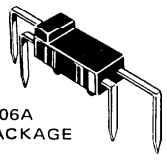
MFC4060A
MFC4062A
MFC4063A
MFC4064A

MONOLITHIC VOLTAGE REGULATORS

This series of voltage regulators is designed to deliver load currents to 200 mAdc. Output current capability can be increased to several amperes through the use of external pass transistors. These devices are industrial quality regulators designed for consumer applications requiring high volume and low cost.

- Excellent Line and Load Regulation
- Economical Four-Lead Package

VOLTAGE REGULATORS
Silicon Monolithic
Functional Circuit



CASE 206A
PLASTIC PACKAGE

FIGURE 1 – TYPICAL CIRCUIT CONNECTION AND TEST CIRCUIT

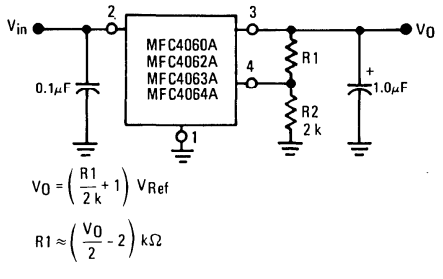


FIGURE 2 – 5-VOLT, 5-AMPERE REGULATOR WITH REMOTE SENSING PNP CURRENT BOOST

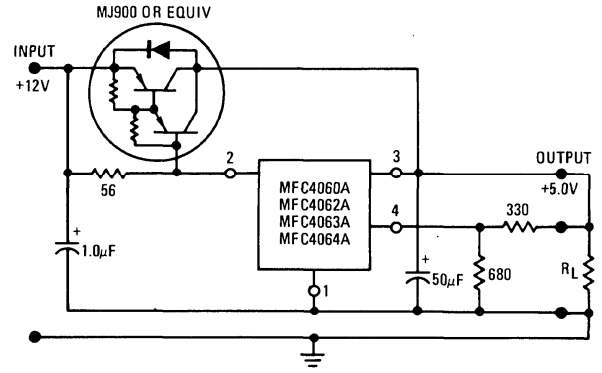
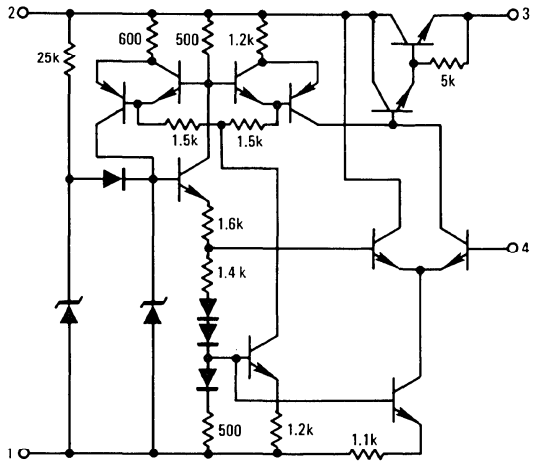


FIGURE 3 – CIRCUIT SCHEMATIC



See Packaging Information Section for outline dimensions.

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MAXIMUM RATINGS (T_A = +25°C unless otherwise noted.)

Rating	Symbol	Value	Unit
Input Voltage MFC4060A/MFC4062A MFC4063A/MFC4064A	V_{in}	38 22	Vdc Vdc
Maximum Load Current	I_L	200	mAdc
Power Dissipation (Package Limitation) Derate above T_A = +25°C	P_D	1.0 10	Watt mW/°C
Operating Temperature Range (Ambient)	T_A	-10 to +75	°C
Storage Temperature Range	T_{stg}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS (Unless otherwise noted: T_A = +25°C, V_{in} = 12 Vdc, V_O = 5.0 Vdc, I_L = 10 mAdc, See Figure 1.)

Characteristic	Symbol	MFC4060A			MFC4062A			MFC4063A			MFC4064A			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
Input Voltage Range	V_{in}	9.0	–	38	9.0	–	38	9.0	–	22	9.0	–	22	Vdc
Output Voltage Range	V_O	V_{ref}	–	35	V_{ref}	–	35	V_{ref}	–	19	V_{ref}	–	19	Vdc
Input-Output Voltage Differential	V_{in}-V_o	3.0	–	–	3.0	–	–	3.0	–	–	3.0	–	–	Vdc
Reference Voltage	V_{ref}	3.75	4.1	4.35	3.6	4.1	4.6	3.75	4.1	4.35	3.6	4.1	4.6	Vdc
Standby Current Drain (I_L = 0, V_{in} = 20 V)	I_{IB}	–	3.7	6.0	–	3.7	7.0	–	3.7	6.0	–	3.7	7.0	mAdc
Average Temperature Coefficient of Output Voltage (T_A = -10 to +75°C)	TC_{VO}	–	0.003	0.03	–	0.003	0.03	–	0.003	0.03	–	0.003	0.03	%/°C
Line Regulation (V_O = 7.5 V) 12 V < V_{in} < 18 12 V < V_{in} < 30	Reg_{in}	– –	– 0.01	– 0.03	– –	– –	– 0.06	– –	0.01 –	0.03 –	– –	– –	0.06 –	%/V_{in}
Load Regulation (1.0 mA < I_L < 50 mA)	Reg_L	–	0.03	0.2	–	–	0.4	–	0.03	0.2	–	–	0.4	%

Symbols conform to JEDEC Engineering Bulletin No. 1 when applicable.

LINE REGULATION

$$\%/V_{in} = \frac{\Delta V_O \times 100}{\Delta V_{in} \times V_O}$$

LOAD REGULATION

$$\% = \frac{\Delta V_O}{V_O} \times 100$$

TYPICAL CHARACTERISTICS

(V_{in} = 12 Vdc, V_O = 5.0 Vdc, I_L = 1.0 mAdc, T_A = +25°C unless otherwise noted.)

FIGURE 4 – MAXIMUM LOAD CURRENT versus INPUT-OUTPUT VOLTAGE

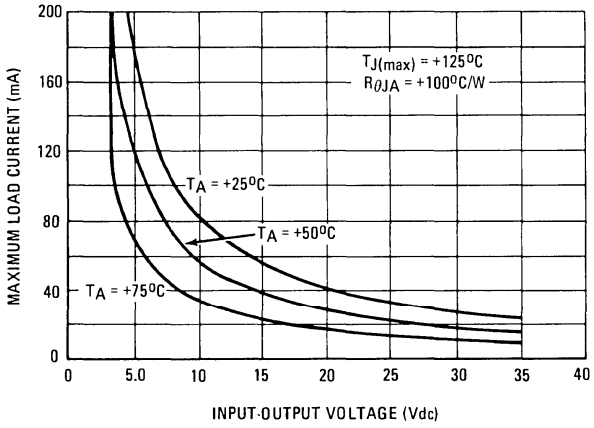
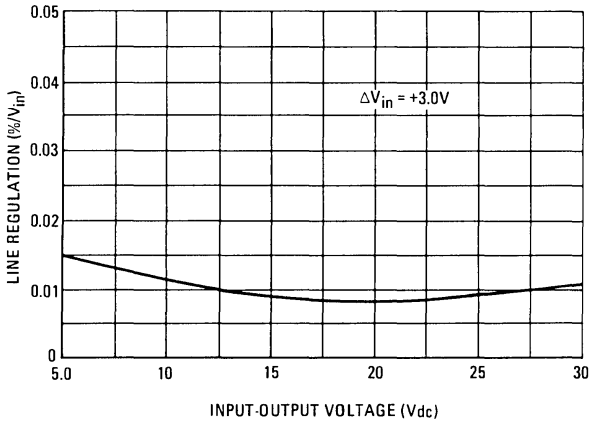


FIGURE 5 – LINE REGULATION versus INPUT-OUTPUT VOLTAGE



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