

78M00 Series Three Terminal Voltage Regulators

GENERAL DESCRIPTION

The 78M00 series of three-terminal medium current positive voltage regulators are constructed using the Fairchild Planar epitaxial process. These regulators employ internal current limiting, thermal shutdown and safe area compensation making them essentially indestructible. If adequate heat sinking is provided, they can deliver up to 500mA output current. They are intended as fixed-voltage regulators in a wide range of applications including local, on-card regulation for elimination of noise and distribution problems associated with single point regulation. In addition to use as fixed voltage regulators, these devices can be used with external components to obtain adjustable output voltages and currents and as the power pass element in precision regulators.

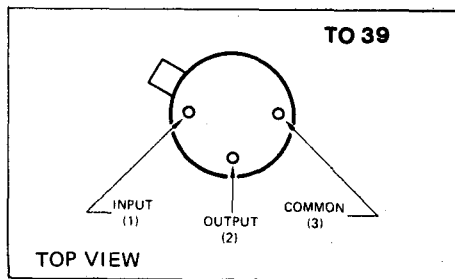
FEATURES

- Output current in excess of 0.5 amp.
- No external components.
- Internal thermal overload protection.
- Internal short circuit current limiting.
- Output transistor safe area compensation.
- Available in jedec TO-220 and TO-39 package.
- Output voltages of 5V, 6V, 12V, 15V, 20V and 24V.

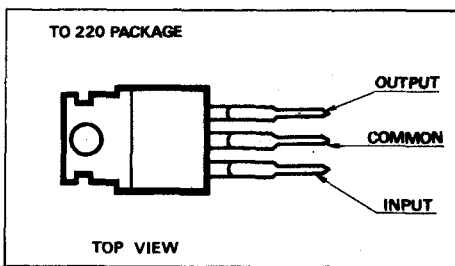
ABSOLUTE MAXIMUM RATINGS

Input voltage (5V through 15V) (20V, 24V)	35V 40V
Internal power dissipation	Internally limited
Storage temperature range TO-39 TO-220	-65°C to +150°C -55°C to +125°C
Operating junction temperature range TO-39 TO-220	0°C to +175°C 0°C to +125°C
Lead Temperatures TO-39 (soldering, 60 second time limit) TO-220 (soldering, 10 second time limit)	300°C 230°C

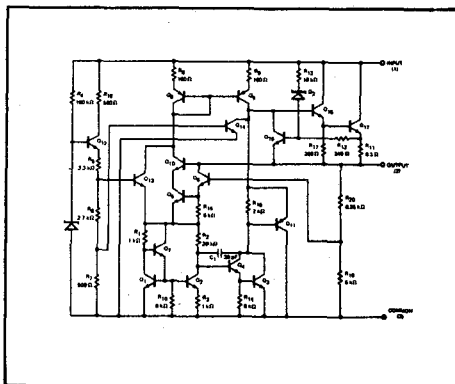
CONNECTION DIAGRAM



CONNECTION DIAGRAM



EQUIVALENT CIRCUIT

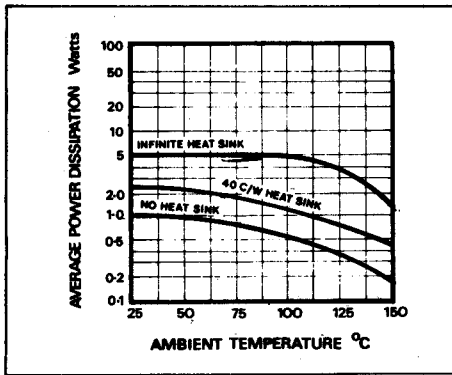


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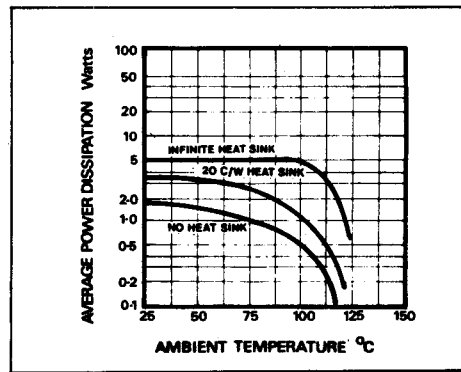
REFERENCE TABLE

Code	Voltage range	Package	Stock No.	Code	Voltage range	Package	Stock No.
78M05HC	5V	TO39	35899C	78M12UC	12V	TO220	35906D
78M05UC	5V	TO220	35900E	78M15HC	15V	TO39	35907B
78M06HC	6V	TO39	35901C	78M15UC	15V	TO220	35908X
78M06UC	6V	TO220	35902A	78M20HC	20V	TO39	35909R
78M08HC	8V	TO39	35903X	78M20UC	20V	TO220	35910A
78M08UC	8V	TO220	35904H	78M24HC	24V	TO39	35911X
78M12HC	12V	TO39	35905F	78M24UC	24V	TO220	35912H

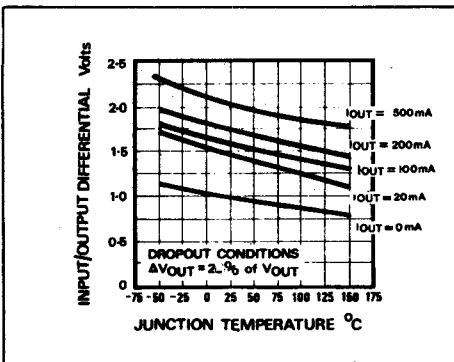
78M00 Series—Typical Performance Curves



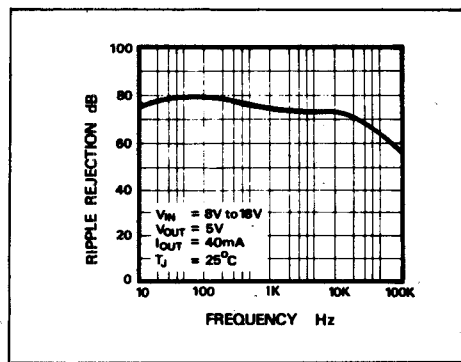
Maximum average power dissipation as a function of ambient temperature TO39.



Maximum average power dissipation as a function of ambient temperature TO92.



Dropout voltage as a function of junction temperature.



Ripple rejection as a function of frequency.

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