New Era Electronics
A division of New Era Group Inc.
The Power . . . The Vision

October 1987

78P12
12 VOLT 10 AMP VOLTAGE REGULATOR

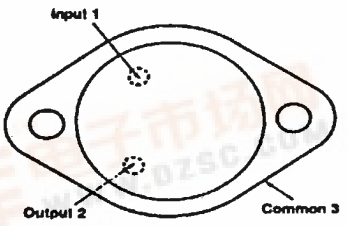
DESCRIPTION

The 78P12 positive 3 terminal fixed linear voltage regulator is capable of delivering a continous load current in excess of 10 amperes at a nominal regulated output voltage of 12 volts. The 78P12 has built-in protection features such as output short circuit current limiting, thermal overload and safe operating area protection. If external conditions exceed the 78P12's capabilities (see absolute maximums), the device temporarily shuts down protecting itself and the load circuit until the fault is removed. This feature eliminates costly additional protection circuitry as well as overly conservative heat sinks typical of discrete high current voltage regulator designs. The 2 lead hermetic TO-204MA package, (formerly called TO-3), provides up to 70 watts of internal power dissipation.

FEATURES

- 10.0 A Output Current
- Internal Current and Thermal Overload Protection
- Internal Short Circuit Protection
- Low Dropout Voltage (typically 2.5V @ 10.0A)
- 70 W Power Dissipation
- Metal 2 lead TO-204MA type package

Connection Diagram
TO-204 Type Package (Top View)



PRODUCT FAMILY

PART NUMBER	OUTPUT VOLTAGE	DESCRIPTION
78P12ASC	12.0 Volts	Commercial Temp
78P12ASM	12.0 Volts	Military Temp
78P12ASP	12.0 Volts	Military Process

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TYPICAL ELECTRICAL CHARACTERISTICS

TJ=25° C , Vin=17V, Iout=2.0A unless otherwise specified

Line Regulation	0.2% x Vout	Vin=Vout+3V to Vin=Vout+20V
Load Regulation	0.2% x Vout	.01 to 10.0 A
Short Circuit Current Limit	14.0A peak	
Thermal Resistance Junction to Case	1.5° C/W	

ABSOLUTE MAXIMUM RATINGS

Input Voltage	40V
Input to Output Differential, Output Short Circuited	35V
Internal Power Dissipation	70W @ 25° C case
Operating Junction Temperature:	
78P12SC (commercial)	0° C to 150° C
78P12SM (mil temp)	−55° C to 150° C
78P12SP (mil process)	−55° C to 150° C
Storage Temperature Range	−55° C to 150° C
Pin Temp (soldering 60 sec)	300° C

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