



**New Era Electronics**

A division of New Era Group Inc.

The Power . . . The Vision

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**78P05  
5 VOLT 10 AMP  
VOLTAGE REGULATOR**

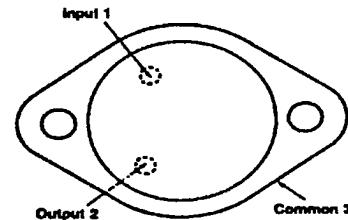
**DESCRIPTION**

The 78P05 positive 3 terminal fixed linear voltage regulator is capable of delivering a continuous load current in excess of 10 amperes at a nominal regulated output voltage of 5 volts. The 78P05 has built-in protection features such as output short circuit current limiting, thermal overload and safe operating area protection. If external conditions exceed the 78P05'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 (formerly called TO-3) package 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 @ 8.0A)
- 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
78P05SC	5.0 Volts	Commercial Temp
78P05SM	5.0 Volts	Military Temp
78P05SP	5.0 Volts	Military Process



**78P05**  
**5 VOLT 10 AMP**  
**VOLTAGE REGULATOR**

## TYPICAL ELECTRICAL CHARACTERISTICS

T<sub>J</sub>=25° C , V<sub>in</sub>=10V, I<sub>out</sub>=2.0A unless otherwise specified

Line Regulation	0.2% x V <sub>out</sub>	V <sub>in</sub> =V <sub>out</sub> +3V to V <sub>in</sub> =V <sub>out</sub> +16V
Load Regulation	0.2% x V <sub>out</sub>	.01 to 10.0 amps
Short Circuit Current Limit	14.0A <sub>peak</sub>	
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:	

78P05SC (commercial)	0° C to 150° C
78P05SM (mil temp)	-55° C to 150° C
78P05SP (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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