


**New Era  
Electronics**

A division of New Era Group Inc.

**The Power . . . The Vision**

October 1987

**78H05A  
5 VOLT 5 AMP  
VOLTAGE REGULATOR**

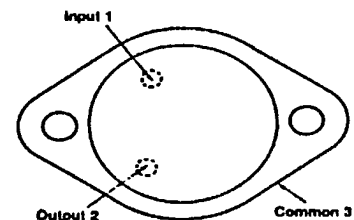
## DESCRIPTION

The 78H05A positive 3 terminal fixed linear voltage regulator is capable of delivering a continuous load current in excess of 5 amperes at a nominal regulated output voltage of 5 volts. The 78H05A has built-in protection features such as output short circuit current limiting, thermal overload and safe operating area protection. If external conditions exceed the 78H05A'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 50 watts of internal power dissipation.

## FEATURES

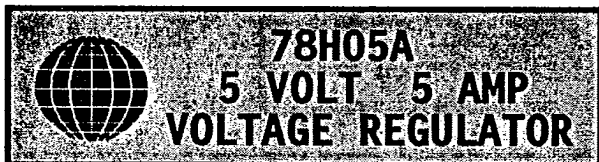
- 5.0 A Output Current
- Internal Current and Thermal Overload Protection
- Internal Short Circuit Protection
- Low Dropout Voltage (typically 2.3V @ 5.0A)
- 50 W Power Dissipation
- Metal 2 lead TO-204MA type package

Connection Diagram  
TO-204 Type Package (Top View)



## PRODUCT FAMILY

PART NUMBER	OUTPUT VOLTAGE	DESCRIPTION
78H05ASC	5.0 Volts	Commercial Temp
78H05ASM	5.0 Volts	Military Temp
78H05ASP	5.0 Volts	Military Process



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## TYPICAL ELECTRICAL CHARACTERISTICS

$T_J = 25^\circ\text{C}$ ,  $V_{in} = 10\text{V}$ ,  $I_{out} = 2.0\text{A}$  unless otherwise specified

Line Regulation	$0.2\% \times V_{out}$	$V_{in} = V_{out} + 3\text{V}$ to $V_{in} = V_{out} + 16\text{V}$
Load Regulation	$0.2\% \times V_{out}$	.01 to 5.0 A
Short Circuit Current Limit	7.0A peak	
Thermal Resistance Junction to Case	1.8° C/W	

## ABSOLUTE MAXIMUM RATINGS

Input Voltage	40V
Input to Output Differential,	
Output Short Circuited	35V
Internal Power Dissipation	50W @ 25° C case
Operating Junction Temperature:	

78H05ASC (commercial)	0° C to 150° C
78H05ASM (mil temp)	-55° C to 150° C
78H05ASP (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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