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January 2015

KA78M05 / LM78M05 / MC78M05 3-Terminal 0.5 A Positive Voltage Regulator

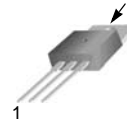
Features

- Output Current up to 0.5 A
- Output Voltages of 5 V
- Thermal Overload Protection
- Short-Circuit Protection
- Output Transistor Safe Operating Area (SOA) Protection

Description

The KA78M05 / LM78M05 / MC78M05 series of three-terminal positive regulators is available in the TO-220 / D-PAK packages, making it useful in a wide range of applications.

TO-220



D-PAK



1. Input 2. GND 3. Output

Ordering Information⁽¹⁾

Product Number	Package	Packing Method	Operating Temperature
KA78M05TU	TO-220 (Dual Gauge)	Rail	-40 to +125°C
KA78M05RTM	D-PAK	Tape and Reel	
MC78M05CDTX			
LM78M05CT	TO-220 (Single Gauge)	Rail	

Note:

1. Refer to below figure for TM / TF suffix of DPAK packing option.

KA78M05 / LM78M05 / MC78M05 — 3-Terminal 0.5 A Positive Voltage Regulator

Block Diagram

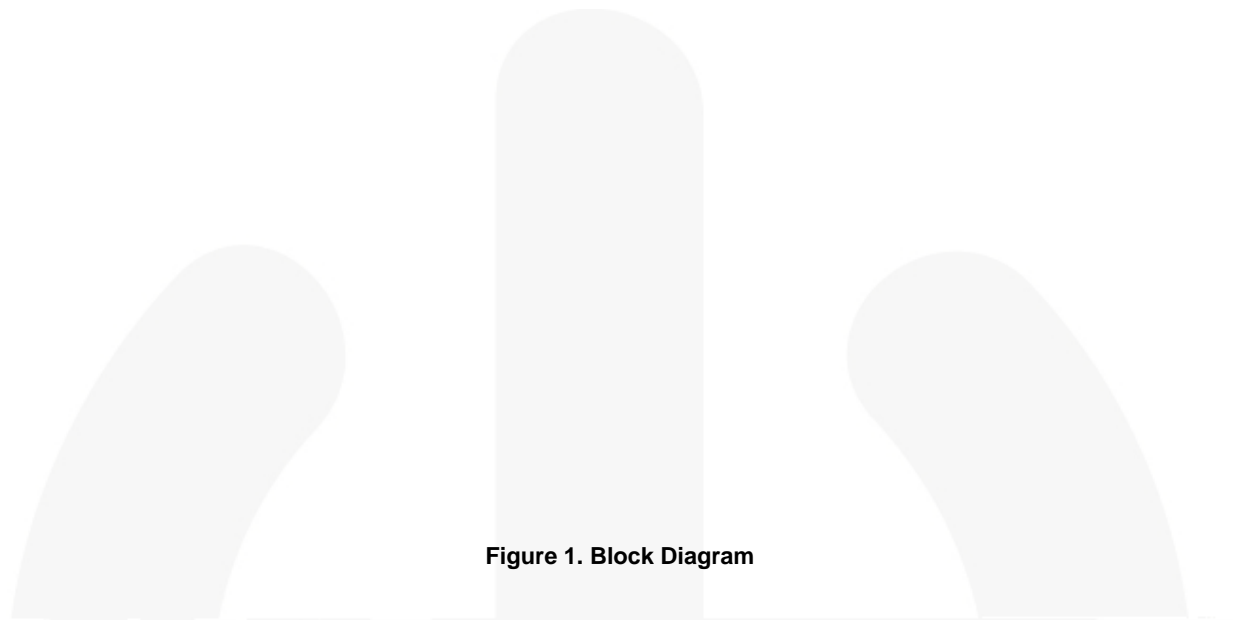


Figure 1. Block Diagram

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

Symbol	Parameter	Value	Unit
V_I	Input Voltage (for $V_O = 5\text{ V}$)	35	V
$R_{\theta JC}$	Thermal Resistance, Junction-Case ⁽²⁾	TO-220 ($T_C = +25$)	—

Notes:

- Thermal resistance test board.
Size: 76.2 mm x 114.3 mm x 1.6 mm (1S0P)
JEDEC standard: JESD51-3, JESD51-7
- Assume no ambient airflow.



Typical Applications (Continued)

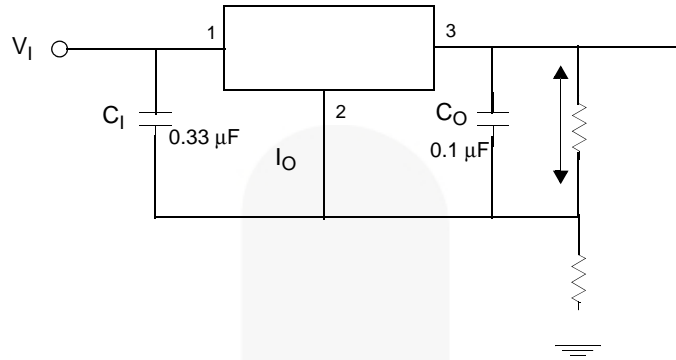


Figure 4. Circuit for Increasing Output Voltage



Figure 5. Adjustable Output Regulator (7 to 30 V)

Figure 6. 0.5 to 10 V Regulator

Physical Dimensions

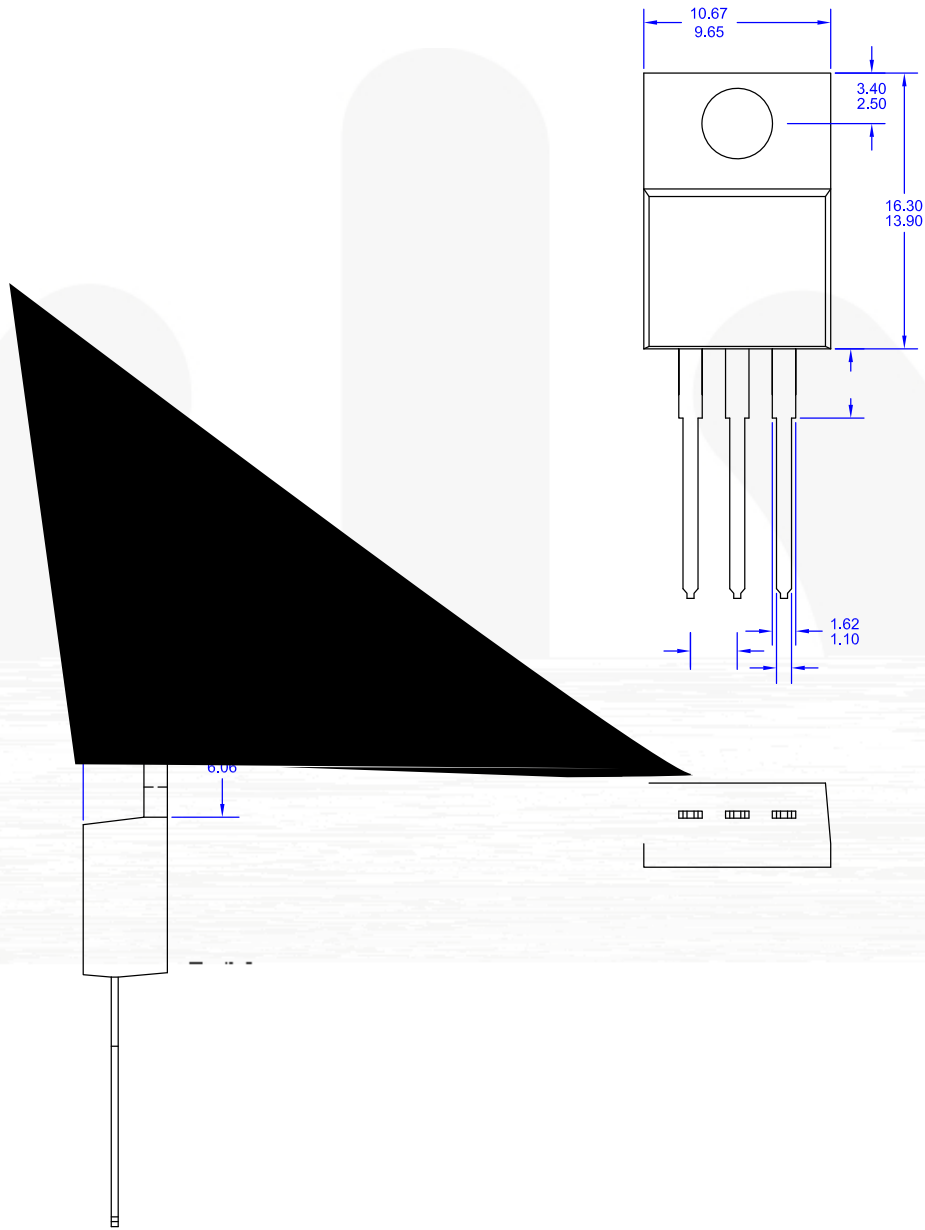


Figure 7. TO-220, MOLDED, 3LEAD, JEDEC VARIATION AB

Physical Dimensions (Continued)

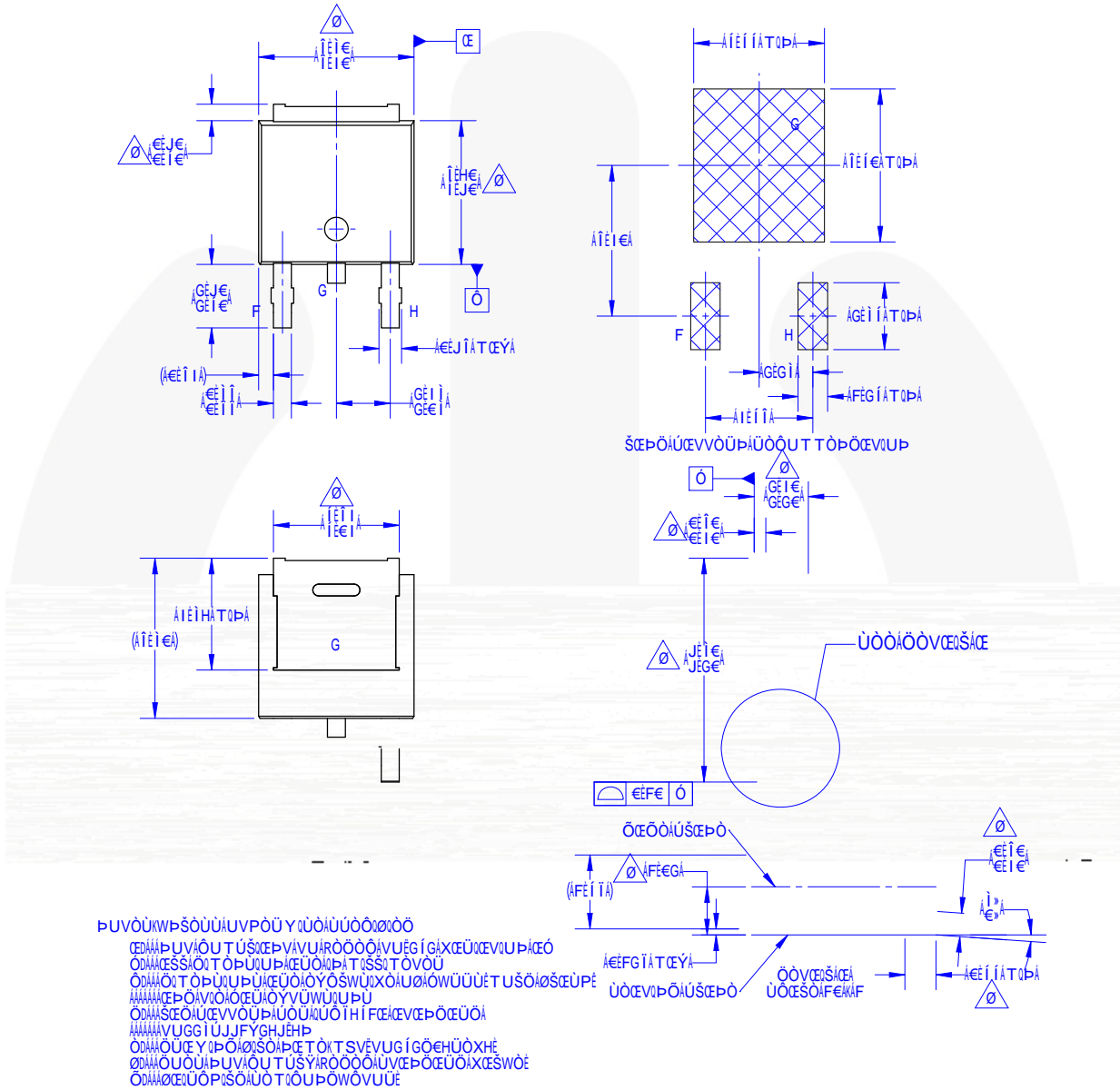
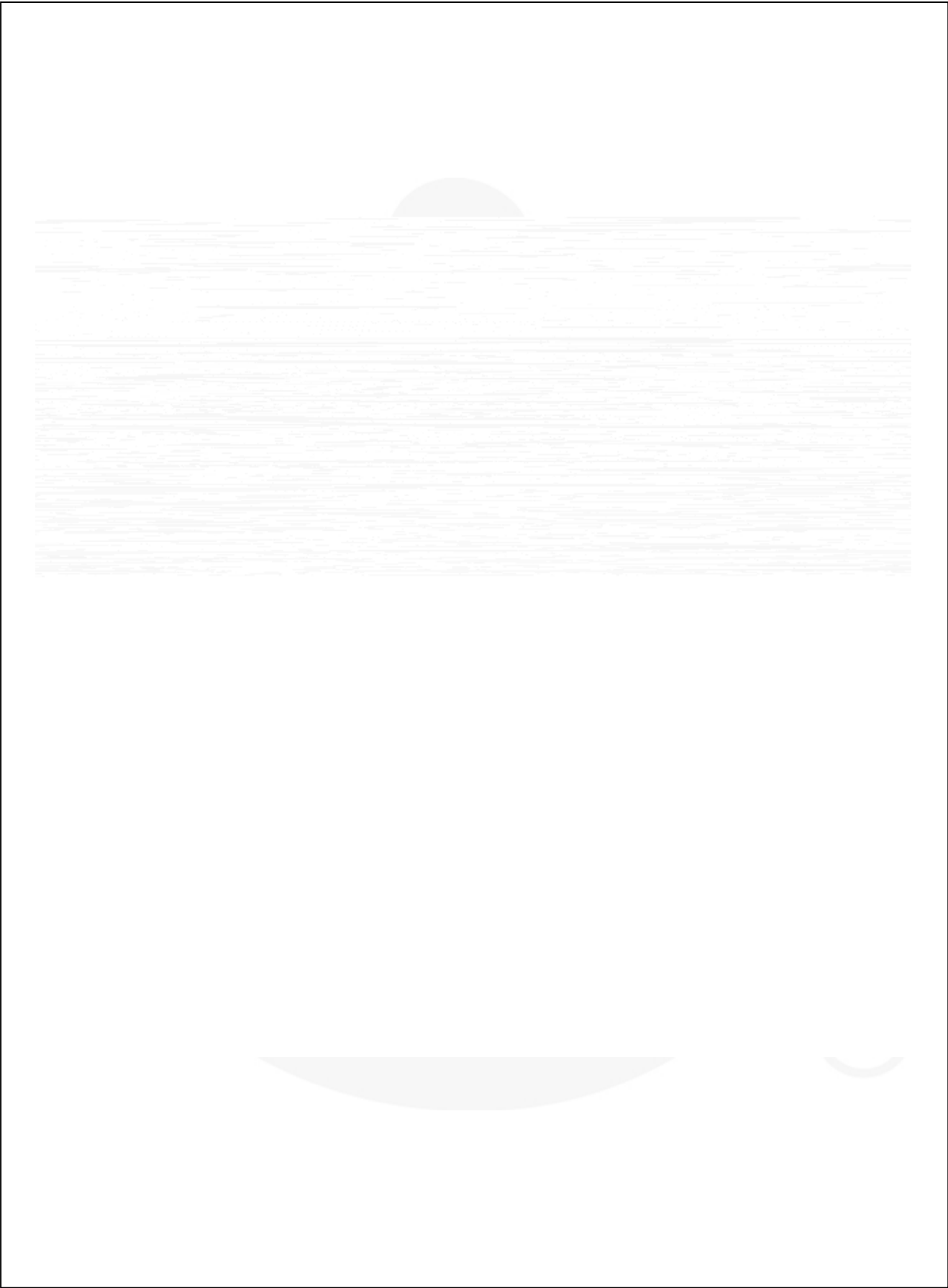



Figure 8. 3-LEAD, TO-252, JEDEC TO-252 VAR. AB, SURFACE MOUNT (DPAK)



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