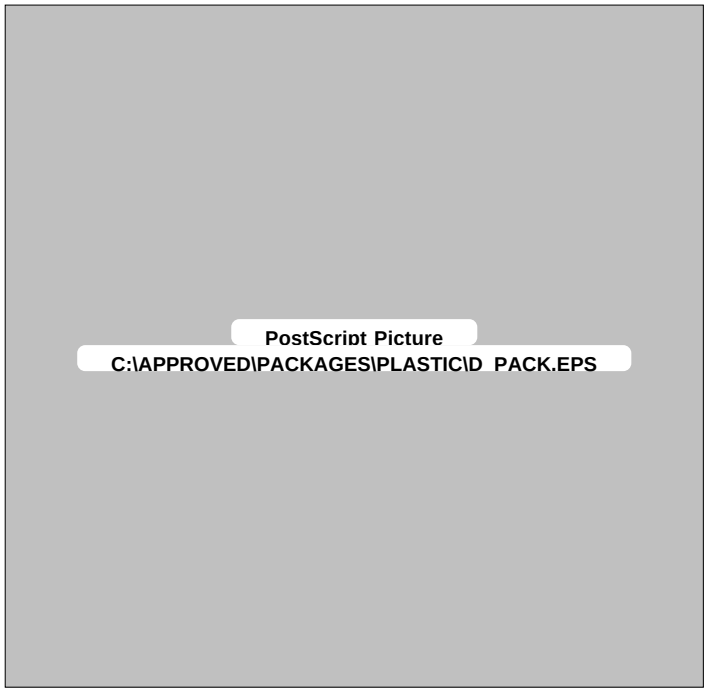
IP78M05ADP
IP78M05DP

MECHANICAL DATA

Dimensions in mm (inches)



D–PACK — TO251 plastic package

Pin 1 – V_{IN} Pin 2 – GND Pin 3 – V_{OUT}

3 TERMINAL LOW CURRENT 5 VOLT POSITIVE VOLTAGE REGULATOR

FEATURES

- **0.01%/V LINE REGULATION**
- **0.3%/A LOAD REGULATION**
- **THERMAL OVERLOAD PROTECTION**
- **SHORT CIRCUIT PROTECTION**
- **SAFE OPERATING AREA PROTECTION**
- **1% OUTPUT VOLTAGE TOLERANCE**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_I	DC Input Voltage	35V
P_D	Power Dissipation	Internally limited
T_j	Operating Junction Temperature Range	0°C to 125°C
	Maximum Junction Temperature	125°C
T_{stg}	Storage Temperature Range	–65°C to +150°C
T_L	Lead Temperature (Soldering, 10 sec)	300°C

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ELECTRICAL CHARACTERISTICS (T_j = 25°C unless stated)

Parameter		Test Conditions	IP78M05ADP			IP78M05DP			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
V_O	Output Voltage*	I_O = 100mA V_{IN} = 10V	4.95	5	5.05	4.80	5	5.20	V
		I_O = 5mA to 350mA V_{IN} = 7.5 to 20V T_j = 0 to 125°C $P_D \leq P_{MAX}$	4.85		5.15	4.75		5.25	
ΔV_O	Line Regulation*	I_O = 200mA V_{IN} = 7 to 25V		3	10			50	mV
		I_O = 200mA V_{IN} = 8 to 25V T_j = 0 to 125°C		3	10			25	
		I_O = 500mA V_{IN} = 8 to 12V		3	10			50	
ΔV_O	Load Regulation*	I_O = 5mA to 500mA V_{IN} = 10V T_j = 0 to 125°C		5	50			50	mV
I_d	Quiescent Current*	I_O = 350mA V_{IN} = 10V T_j = 0 to 125°C		4	6		4	6	mA
ΔI_Q	Quiescent Current Change*	I_O = 5 to 500mA V_{IN} = 10V T_j = 0 to 125°C		0.1	0.5			0.5	mA
		I_O = 200mA V_{IN} = 8 to 25V T_j = 0 to 125°C		0.2	0.8			0.8	
V_N	Output Noise Voltage	f = 10Hz to 100kHz		40	200		40	200	µV
$\frac{\Delta V_{IN}}{\Delta V_O}$	Ripple Rejection	V_{IN} = 8 to 18V f = 120Hz I_O = 300mA	65	80		62			dB
		V_{IN} = 8 to 18V f = 120Hz I_O = 100mA T_j = 0 to 125°C	65	80		62			
	Dropout Voltage*	I_O = 350mA		2	2.5			2.5	V
I_{SC}	Short Circuit Current*	V_{IN} = 35V		300	600		300	600	mA
I_{PK}	Peak Output Current*	V_{IN} = 10V	0.7	1.0	1.4		1.0	1.6	A
	Average Temperature Coefficient of Output Voltage*	I_O = 5mA		0.5	2.0		0.5		mV / °C

* Pulse Test: $t_p \leq 10ms$, $\delta \leq 5\%$.

All characteristics are measured with a capacitor across the input of 0.22µF and a capacitor across the output of 0.1µF.

Output Voltage changes due to changes in internal temperature must be taken into account separately.