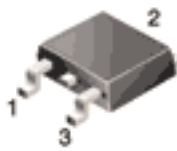


### TO-252



Pin: 1. Input 2. Ground 3. Output

Voltage Range  
5 to 24 Volts  
Current  
0.5 Ampere

### Absolute Maximum Ratings (TA=25°C, unless otherwise noted.)<sup>1</sup>

Rating	Symbol	Value	Unit
Input Voltage (5.0V – 18V) (18V – 24V)	V <sub>in</sub>	35 40	Vdc
Power Dissipation (Package Limitation) Plastic Package, T Suffix TA=25°C	P <sub>D</sub>	Internally Limited	
Thermal Resistance, Junction-to-Air	θ <sub>JA</sub>	70	°C/W
Thermal Resistance, Junction-to-Case Plastic Package, DT Suffix TA=25°C	θ <sub>Jc</sub>	5.0	°C/W
Thermal Resistance, Junction-to-Air	θ <sub>JA</sub>	92	°C/W
Thermal Resistance, Junction-to-Case	θ <sub>Jc</sub>	5.0	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	+150	°C
Storage Temperature Range	T <sub>stg</sub>	-65 to +150	°C

### 78M05 Electrical Characteristics

(V<sub>in</sub>=10V, I<sub>o</sub>=350mA, 0°C ≤ T<sub>J</sub> ≤ 125°C, P<sub>D</sub> ≤ 5.0W)

Characteristics	Symbol	Min	Typ	Max	Unit
Output Voltage (T <sub>J</sub> =25°C) TS78M05	V <sub>o</sub>	4.8	5.0	5.2	Vdc
Output Voltage Variation (7.0Vdc ≤ V <sub>I</sub> ≤ 20Vdc, 5.0mA ≤ I <sub>o</sub> ≤ 350mA) TS78M05	V <sub>o</sub>	4.75	5.0	5.25	Vdc
Line Regulation (T <sub>J</sub> =25°C, 7.0Vdc ≤ V <sub>I</sub> ≤ 25Vdc, I <sub>o</sub> =200mA)	Reg <sub>line</sub>	--	3.0	50	mV
Load Regulation (T <sub>J</sub> =25°C, 5.0mA ≤ I <sub>o</sub> ≤ 500mA) (T <sub>J</sub> =25°C, 5.0mA ≤ I <sub>o</sub> ≤ 200mA)	Reg <sub>load</sub>	--	20 10	100 50	mV
Input Bias Current (T <sub>J</sub> =25°C)	I <sub>IB</sub>	--	3.2	6.0	mA
Quiescent Current Change (8.0Vdc ≤ V <sub>I</sub> ≤ 25Vdc, I <sub>o</sub> =200mA) (5.0mA ≤ I <sub>o</sub> ≤ 350mA)	ΔI <sub>IB</sub>	--	--	0.8 0.5	mA
Output Noise Voltage (TA=25°C, 10Hz ≤ f ≤ 100kHz)	V <sub>n</sub>	--	40	--	μA
Ripple Rejection (I <sub>o</sub> =100mA, f=120Hz, 9.0V ≤ V <sub>I</sub> ≤ 19V) (I <sub>o</sub> =300mA, f=120Hz, 9.0V ≤ V <sub>I</sub> ≤ 19V, T <sub>J</sub> =25°C)	RR	62 62	-- 80	-- --	dB
Dropout Voltage (T <sub>J</sub> =25°C)	V <sub>I</sub> -V <sub>o</sub>	--	2.0	--	Vdc
Short Circuit Current Limit (T <sub>J</sub> =25°C, V <sub>I</sub> =35V)	I <sub>os</sub>	--	50	--	mA
Average Temperature Coefficient of Output Voltage (I <sub>o</sub> =5.0mA)	ΔV <sub>o</sub> /ΔT	--	±0.2	--	mV/°C
Peak Output Current (T <sub>J</sub> =25°C)	I <sub>o</sub>	--	700	--	mA