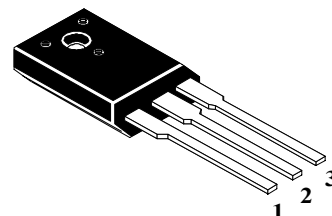




Quality System for producing discrete semiconductor devices and integrated circuits conforms to the requirements of ISO 9002-96

**78F05C****THREE-TERMINAL POSITIVE VOLTAGE REGULATOR IC****FEATURES:**

- OUTPUT CURRENT IN EXCESS OF 1A;
- NO EXTERNAL COMPONENTS REQUIRED;
- INTERNAL SHORT CIRCUIT CURRENT LIMITING;
- INTERNAL THERMAL OVERLOAD PROTECTION;
- OUTPUT TRANSISTOR SAFE-AREA COMPENSATION;
- OUTPUT VOLTAGE OFFERED IN 4% TOLERANCE

**TO-126**

Pin #	Symbol	Function
1	IN	Input
2	GND	Ground
3	OUT	Output

**ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)**

Characteristic	Symbol	Unit	Value
Input Voltage	V <sub>in</sub>	V	35
Maximum Dissipated Power (with heat sink)	P <sub>tot(max)</sub>	W	12
Maximum Dissipated Power (without heat sink)	P <sub>tot(max)</sub>	W	1.25
Thermal Resistance Junction to Case	θ <sub>jC</sub>	°C/W	7.5
Thermal Resistance, Junction to Air	θ <sub>jA</sub>	°C/W	100
Operating Junction Temperature Range	T <sub>j</sub>	°C	0 to 150
Operating Ambient Temperature Range	T <sub>a</sub>	°C	-10 to 70

**ELECTRICAL CHARACTERISTICS**

(V<sub>in</sub> = 10V, I<sub>o</sub> = 0.5A, C<sub>i</sub> = 0.33μF, C<sub>o</sub> = 0.1μF, T<sub>j</sub> = 0 to + 125°C, unless otherwise noted.)

Characteristic	Symbol	Norm			Unit
		Min	Typ	Max	
Output Voltage (T <sub>j</sub> = 25°C)	V <sub>o</sub>	4.8		5.2	V
Output Voltage (5.0mA ≤ I <sub>o</sub> ≤ 1.0A, P <sub>o</sub> ≤ 12W) 7.0V ≤ V <sub>in</sub> ≤ 20V	V <sub>o</sub>	4.75		5.25	V
Line Regulation (T <sub>j</sub> = +25°C) 7.0V ≤ V <sub>in</sub> ≤ 25 V 8.0V ≤ V <sub>in</sub> ≤ 12 V	Regline			100 50	mV
Load Regulation (T <sub>j</sub> = +25°C) 5.0mA ≤ I <sub>o</sub> ≤ 1.0A 0.25A ≤ I <sub>o</sub> ≤ 0.75A	Regload			100 50	mV
Quiescent Current (T <sub>j</sub> = +25°C)	I <sub>b</sub>			6.0	mA
Quiescent Current Change 7.0 V ≤ V <sub>in</sub> ≤ 25 V 5 mA ≤ I <sub>o</sub> ≤ 1.0 A	Δ I <sub>b</sub>			1.3 0.5	mA
Dropout Voltage (T <sub>j</sub> = +25°C)	V <sub>i</sub> - V <sub>o</sub>		2.0		V
Short Circuit Current Limit (T <sub>a</sub> = +25°C), V <sub>in</sub> = 35 V	I <sub>sc</sub>		0.3		A
Peak Output Current (T <sub>j</sub> = +25°C)	I <sub>max</sub>		1.5		A
Average Temperature Coefficient of Output Voltage	TCV <sub>o</sub>		-1.1		mV/°C