



Micro Commercial Components



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MC78L05F

Three-Terminal Low Current Positive Voltage Regulator

Features

- Halogen free available upon request by adding suffix "-HF"
- Maximum Output current $I_o:0.1A$
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

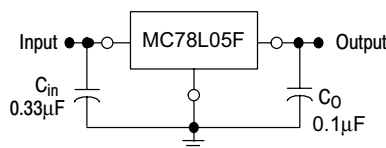
Parameter	Symbol	Value	Unit
Input Voltage ($V_o=5.8V$)	V_1	30	V
Operating Junction Temperature	T_{OPR}	-20---+120	°C
Storage Temperature Range	T_{STG}	-55---+150	°C

Electrical Characteristics ($V_1=10V, I_o=40mA, 0^\circ C < T_j < 125^\circ C, C_1=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

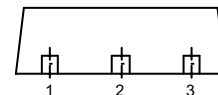
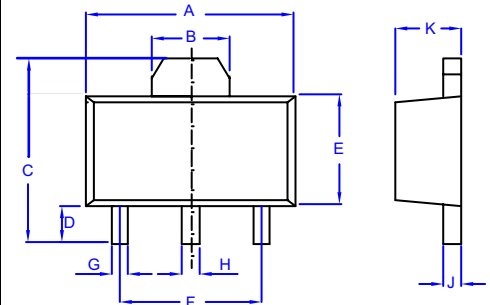
Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V_o	4.8V	5.0V	5.2V	$T_j=25^\circ C$
		4.7V		5.25V	$7V \leq V_1 \leq 20V, I_o=1mA-40mA$
		5.0V		5.25V	$7V \leq V_1 \leq V_{MAX}, I_o=1mA-700mA$ (Note)
Load Regulation	ΔV_o		11mV	60mV	$I_o=1mA-100mA, T_j=25^\circ C$
			5.0mV	30mV	$I_o=1mA-40mA, T_j=25^\circ C$
Line regulation	ΔV_o		8mV 6mV	150mV 100mV	$7V \leq V_1 \leq 20V, T_j=25^\circ C$ $8V \leq V_1 \leq 20V, T_j=25^\circ C$
Quiescent Current	I_q ΔI_q		2.0mA	5.5mA	$8V \leq V_1 \leq 20V$
				1.5mA	
Quiescent Current Change	ΔI_q			0.1mA	$1mA \leq I_o \leq 40mA$
Output Noise Voltage	V_N		40µV		$10Hz \leq f \leq 100KHz$
Ripple Rejection	RR	41dB	80dB		$8V \leq V_1 \leq 20V, f=120Hz, T_j=25^\circ C$
Dropout Voltage	V_d		1.7V		$T_j=25^\circ C$

*Note: Bypass Capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators

Typical Application:



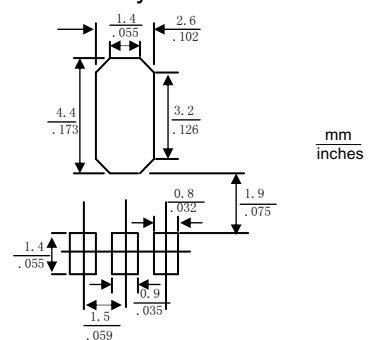
SOT-89



1. OUT
2. GND(Case)
3. IN

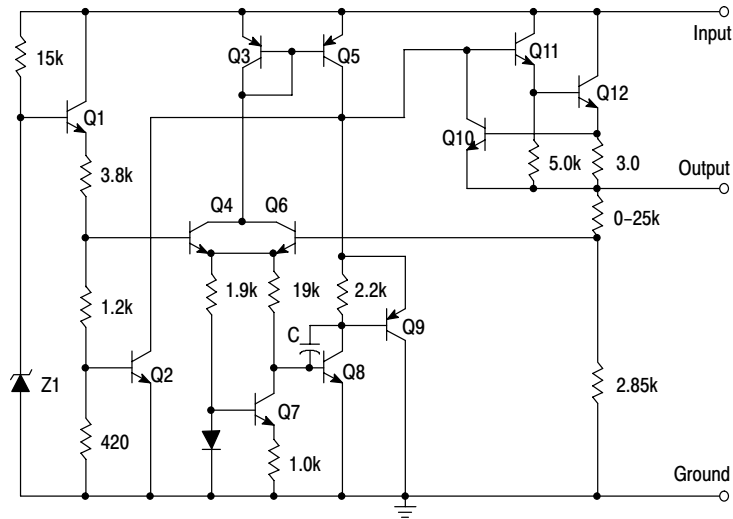
DIM	DIMENSINS				NOTES
	INCHES		MM		
A	.173	.181	4.39	4.60	
B	.061	----	1.55	----	REF.
C	.154	.165	3.91	4.25	
D	.031	.039	0.80	1.00	
E	.092	.100	2.34	2.54	
F	.118	----	3.00	----	TYP
G	.013	.019	0.33	0.48	
H	.015	.021	0.38	0.53	
J	.015	.016	0.38	0.41	
K	.055	.063	1.40	1.60	

Suggested Solder Pad Layout



MC78L05F

Figure 1. Representative Schematic Diagram





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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 1Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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