



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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

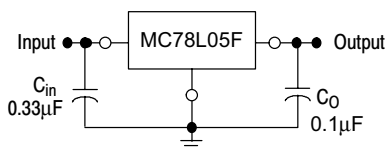
### Maximum Ratings

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

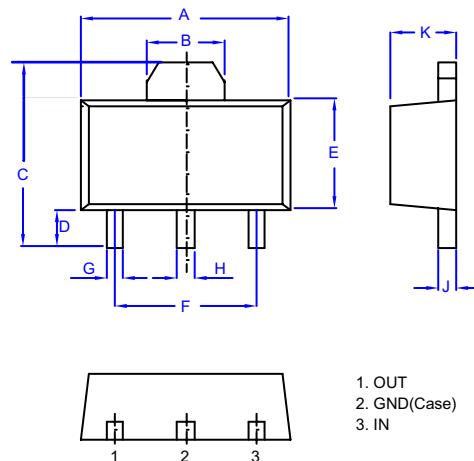
### Electrical Characteristics ( $V_1=10V, I_o=40mA, 0^\circ C < T_j < 125^\circ C, C_1=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified)

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	$\Delta V_o$		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	$\Delta V_o$		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	$I_q$ $\Delta I_q$		2.0mA	5.5mA	$8V \leq V_1 \leq 20V$
				1.5mA	
Quiescent Current Change	$\Delta I_q$			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:

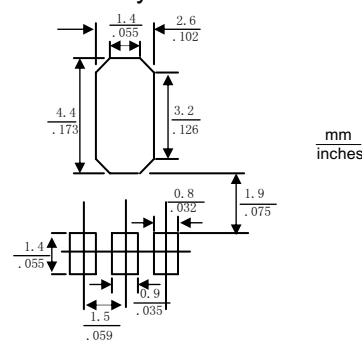


### SOT-89



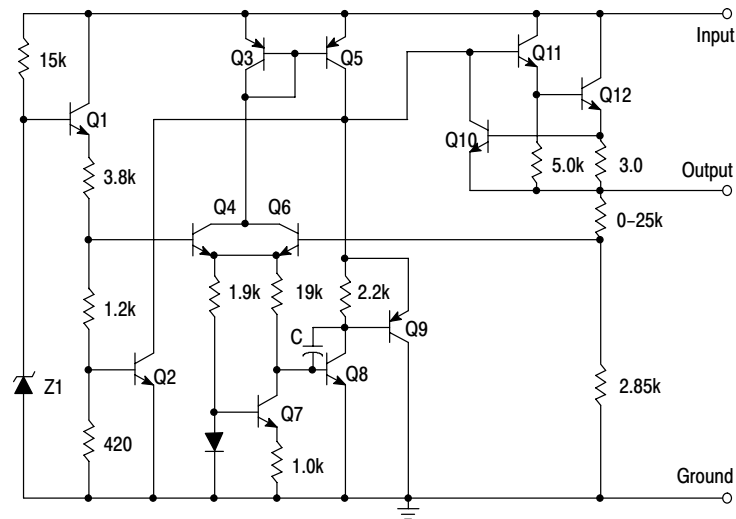
DIM	DIMENSINS				NOTES
	INCHES		MM		
A	.173	.181	4.39	4.60	
B	.061	----	1.55	----	REF.
C	.154	.165	3.91	4.25	
D	.031	.039	0.80	1.00	
E	.092	.100	2.34	2.54	
F	.118	----	3.00	----	TYP
G	.013	.019	0.33	0.48	
H	.015	.021	0.38	0.53	
J	.015	.016	0.38	0.41	
K	.055	.063	1.40	1.60	

### Suggested Solder Pad Layout



# MC78L05F

Figure 1. Representative Schematic Diagram





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### Ordering Information :

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

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

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