

## Features

- Internal Thermal Overload Protection
- Internal Short Circuit Current Limiting
- No External Components Required
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

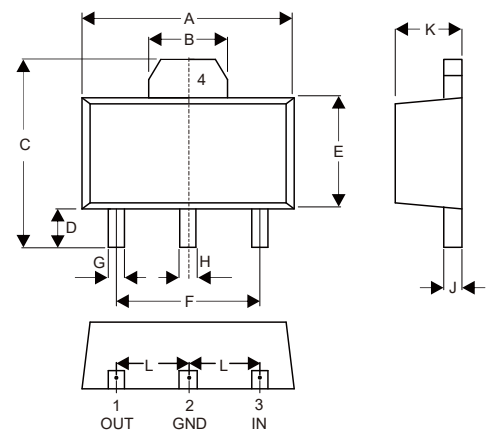
## Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	$V_1$	30	V
Maximum Output Current	$I_o$	0.1	A
Operating Junction Temperature Range	$T_{opr}$	-25~125	°C
Storage Temperature Range	$T_{STG}$	-55~150	°C

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

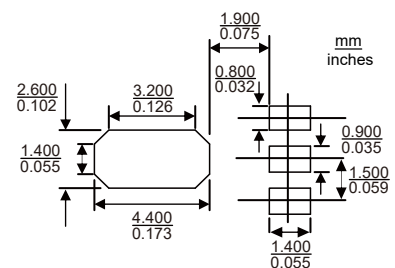
# Three-Terminal Low Current Positive Voltage Regulators

## SOT-89



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.061		1.55		TYP.
C	0.154	0.171	3.91	4.35	
D	0.031	0.047	0.80	1.20	
E	0.089	0.104	2.25	2.65	
F	0.118		3.00		TYP.
G	0.013	0.020	0.33	0.52	
H	0.015	0.021	0.38	0.53	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP.

### Suggested Solder Pad Layout



**Electrical Characteristics**

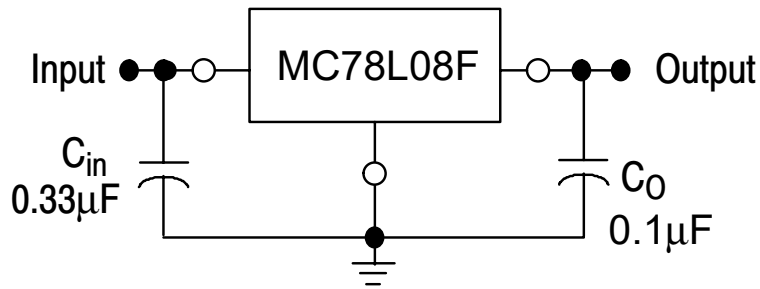
( $V_i=14V$ ,  $I_o=40mA$ ,  $0^\circ C < T_j < 125^\circ C$ ,  $C_i=0.33\mu F$ ,  $C_o=0.1\mu F$ , Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_o$	$T_j=25^\circ C$	7.7	8.0	8.3	V
		$10.5V \leq V_1 \leq 23V$ , $I_o=1mA-40mA$	7.6	-	8.4	V
		$I_o=1mA-70mA$ (Note2)	7.6	-	8.4	V
Load Regulation	$\Delta V_o$	$I_o=1mA-100mA$ , $T_j=25^\circ C$	-	18	80	mV
		$I_o=1mA-40mA$ , $T_j=25^\circ C$	-	10	40	mV
Line Regulation	$\Delta V_o$	$10.5V \leq V_1 \leq 23V$ , $T_j=25^\circ C$	-	42	175	mV
		$11.0V \leq V_1 \leq 23V$ , $T_j=25^\circ C$	-	36	125	mV
Quiescent Current	$I_q$	$T_j=25^\circ C$	-	4.0	6.0	mA
Quiescent Current Change	$\Delta I_q$	$11V \leq V_1 \leq 23V$	-	-	1.5	mA
		$1mA \leq I_o \leq 40mA$	-	-	0.1	mA
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$	-	54	-	$\mu V$
Ripple Rejection	RR	$13V \leq V_1 \leq 23V$ , $f=120Hz$ , $T_j=25^\circ C$	37	40	-	dB
Dropout Voltage	$V_d$	$T_j=25^\circ C$	-	1.7	-	V

Note:

2. Bypass Capacitors are Recommended for Optimum Stability and Transient Response and should be Located as Close as Possible to The Regulators

## Typical Application



## Curve Characteristics

Fig.1 Output Characteristics

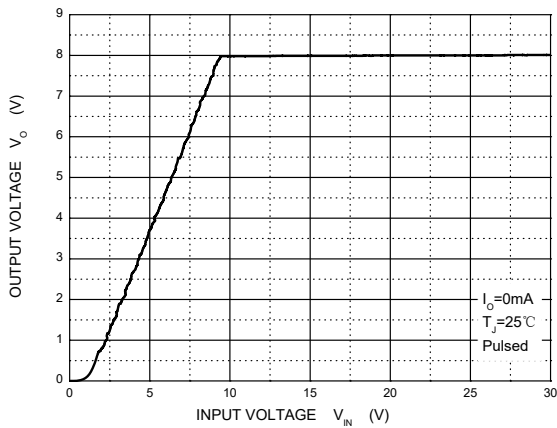


Fig.2 Dropout Characteristics

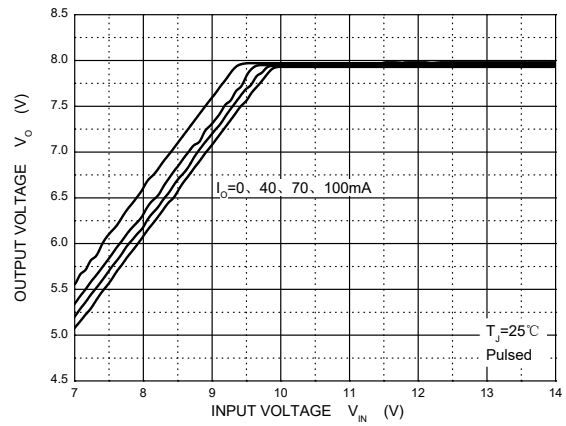


Fig.3 Quiescent Current vs Input Voltage

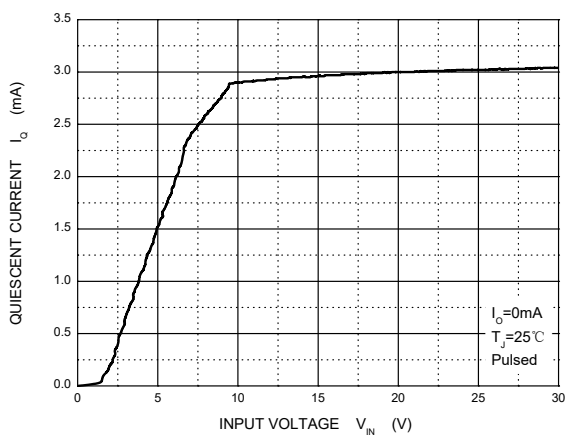
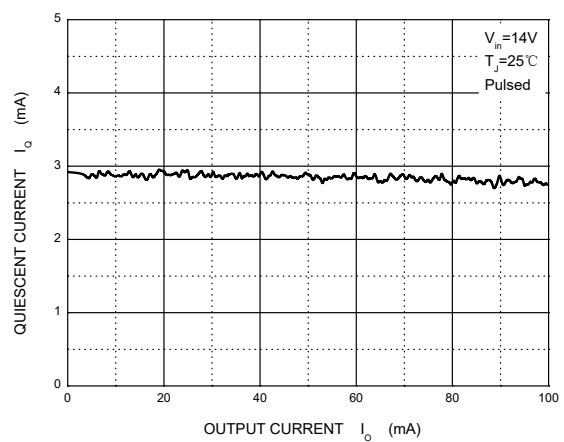


Fig.4 Quiescent Current vs Output Current



## Curve Characteristics

Fig.5 Output Voltage vs Junction Temperature

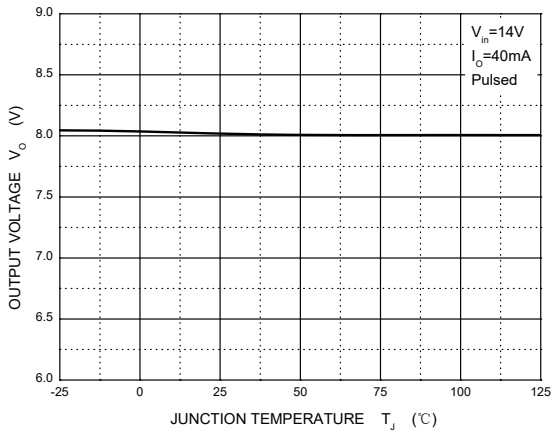


Fig.6 Current Cut-off Grid Voltage

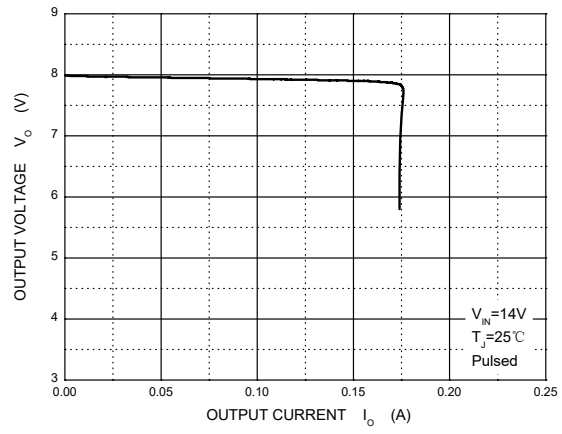
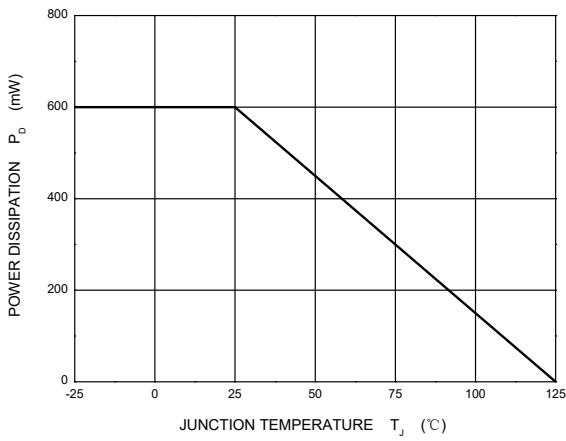


Fig.7 Power Derating Curve



## Ordering Information

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

### \*\*\*IMPORTANT NOTICE\*\*\*

*Micro Commercial Components Corp.* reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . *Micro Commercial Components Corp.* does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold *Micro Commercial Components Corp.* and all the companies whose products are represented on our website, harmless against all damages. *Micro Commercial Components Corp.* products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.