

## 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)

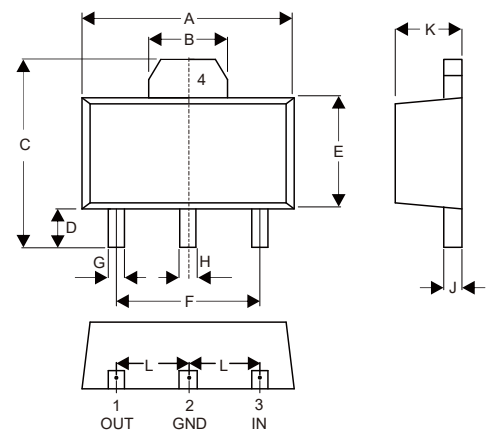
## Maximum Ratings

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.

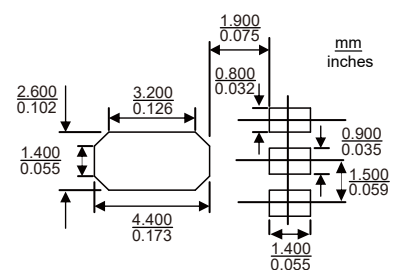
# Three-Terminal Low Current Positive Voltage Regulators

## 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



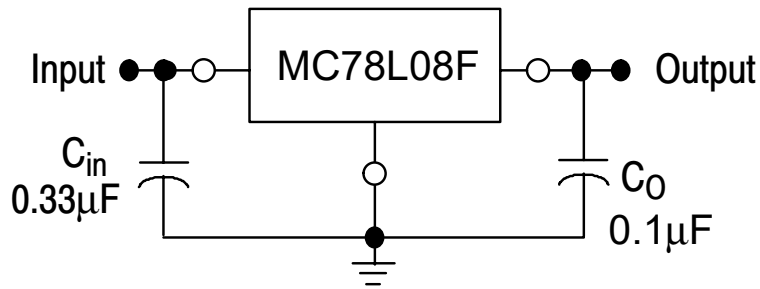
**Electrical Characteristics**
**( $V_i=14V$ ,  $I_o=40mA$ ,  $0^\circ C < T_j < 125^\circ C$ ,  $C_i=0.33\mu F$ ,  $C_o=0.1\mu F$ , Unless Otherwise Specified)**

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

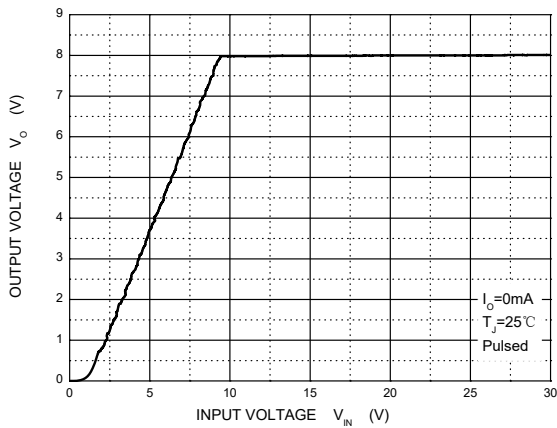


Fig.2 Dropout Characteristics

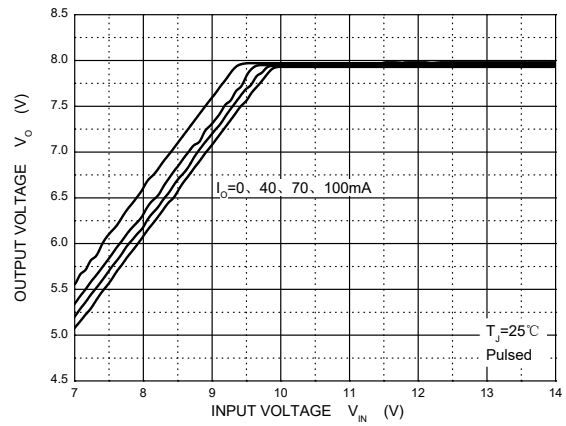


Fig.3 Quiescent Current vs Input Voltage

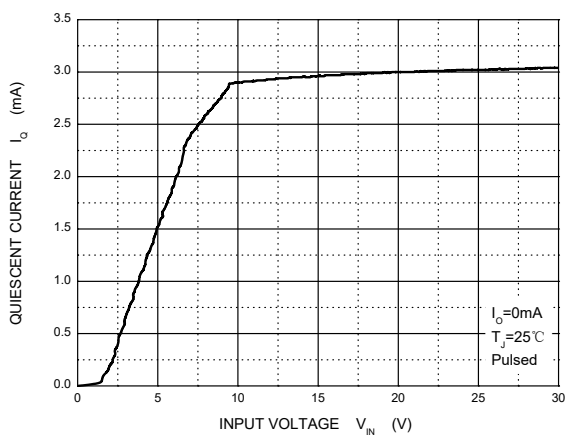
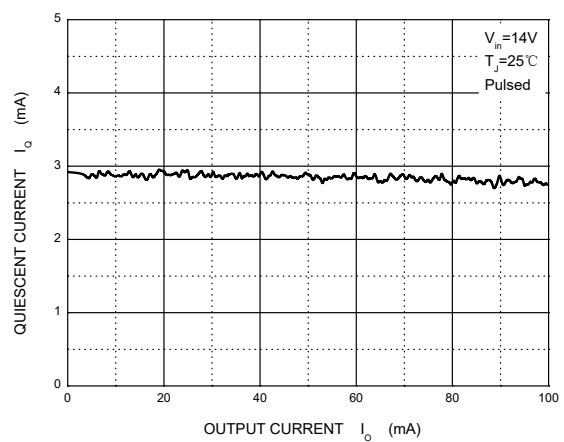


Fig.4 Quiescent Current vs Output Current



Curve Characteristics

Fig.5 Output Voltage vs Junction Temperature

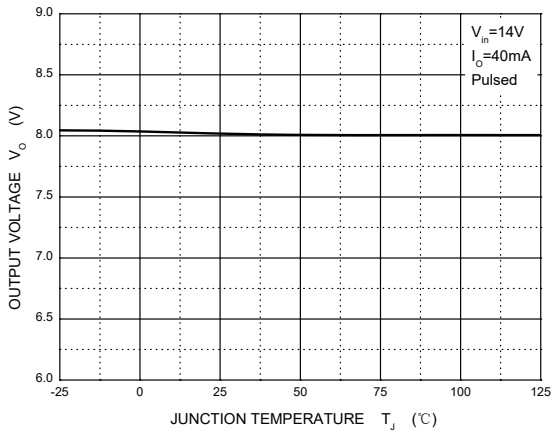


Fig.6 Current Cut-off Grid Voltage

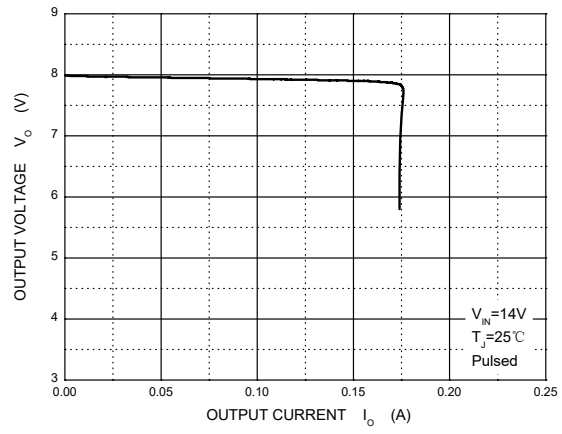
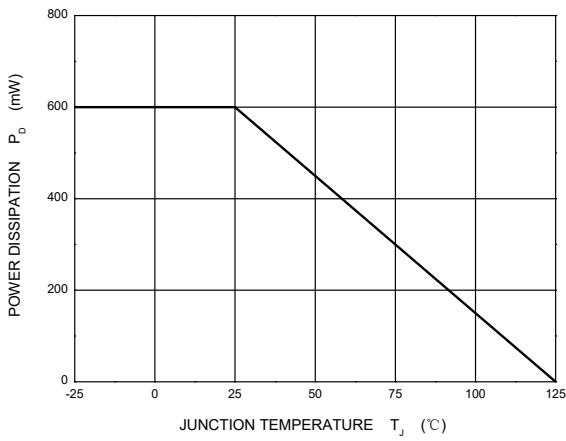


Fig.7 Power Derating Curve



## Ordering Information

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

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