

## 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)

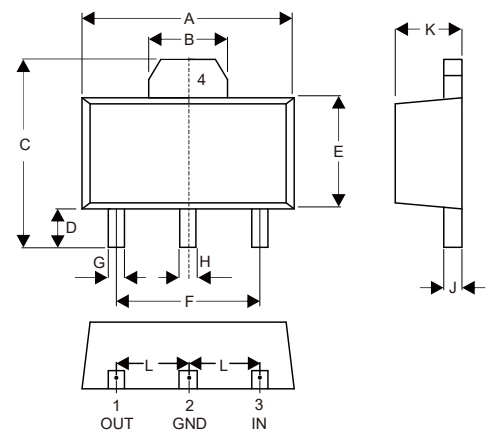
## Maximum Ratings

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.

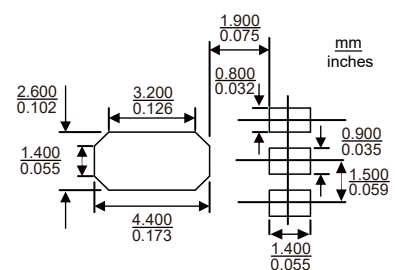
# Three-Terminal Low Current Positive Voltage Regulators

## 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**

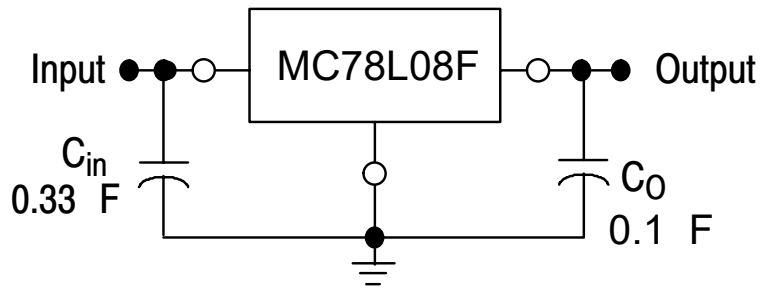
 ( $V_i=14V$ ,  $I_o=40mA$ ,  $0^\circ C < T_j < 125^\circ C$ ,  $C_i=0.33\mu F$ ,  $C_o=0.1\mu F$ , Unless Otherwise Specified)

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

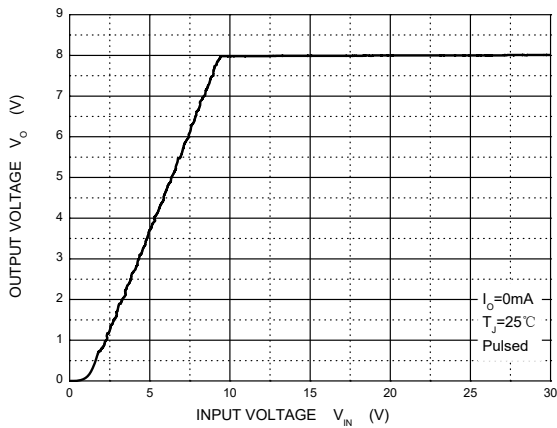


Fig.2 Dropout Characteristics

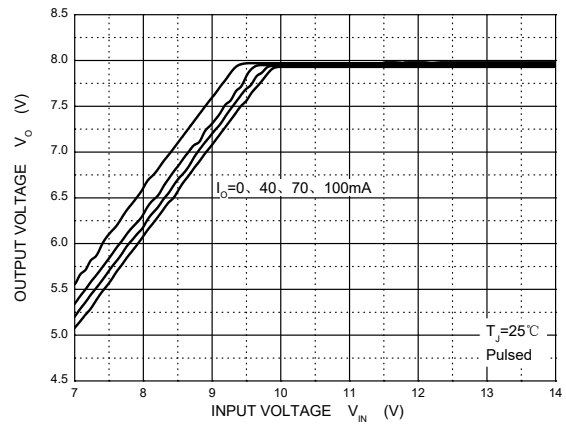


Fig.3 Quiescent Current vs Input Voltage

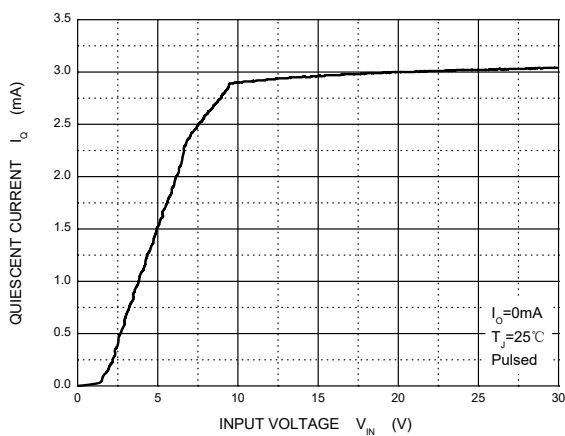
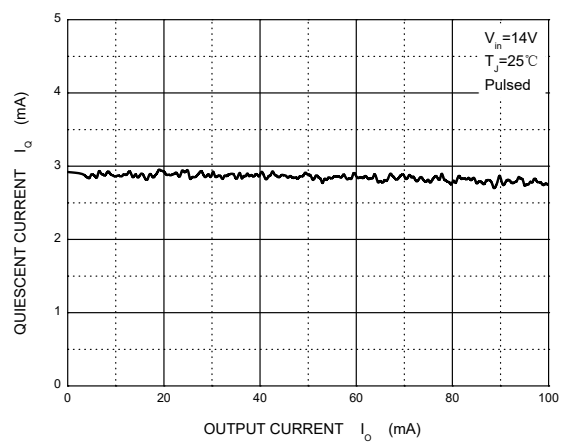


Fig.4 Quiescent Current vs Output Current



## Curve Characteristics

Fig.5 Output Voltage vs Junction Temperature

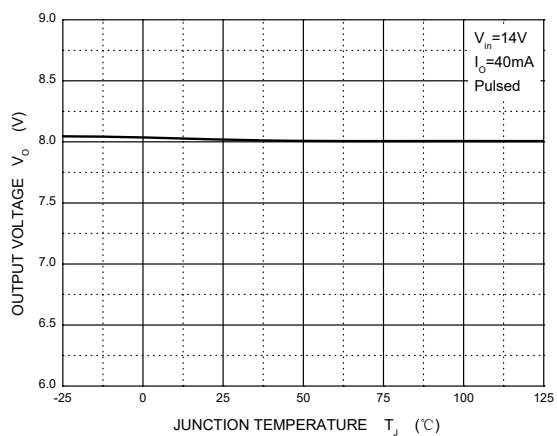


Fig.6 Current Cut-off Grid Voltage

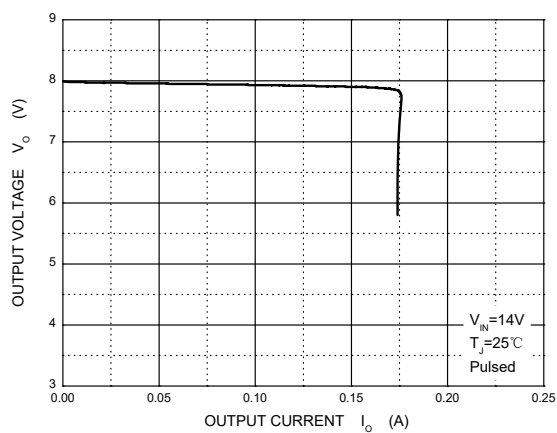
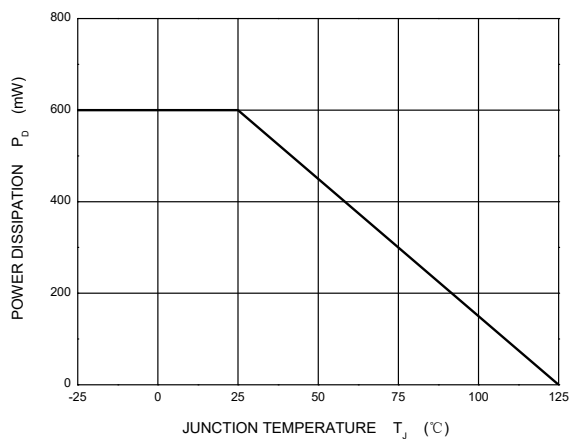


Fig.7 Power Derating Curve



## Ordering Information

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

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